Review of Economic Analysis 16 (2024) 409-422 1973-3909/2024409

Effects of Parental Encouragement on Their Child's Academic Performance and Poverty Alleviation

YUI NAKAMURA
Faculty of Economics, Fukuoka University *

Parental encouragement improves a child's academic performance, which reflects the individual accumulation of human capital and can prevent the child from becoming poor in the future. We provide a model to clarify the mechanism by which parental encouragement influences the child's efforts by considering parental time preference, wages, and background. We find that parents who have a child with low innate ability, high wages, strong time preference, and were given little encouragement from their parents in the past hesitate to encourage their child and tend to give them assistance for survival. We also imply that the influence of parental encouragement to children's academic performance is strong in early grades rather than in late grades. Moreover, we indicate that educational institutes such as schools and local governments can reduce parents' time preference and provide information about opportunities that stimulate children's efforts at schools. These actions urge the parents who hesitated to encourage their children to begin to encourage them. Furthermore, these actions increase the effectiveness of parental encouragement and realize the child's efforts at school, which results in improving their wages in the labor market in the future.

Keywords: encouragement, assistance, opportunity cost, time preference, poverty, school policy

JEL Classifications: D61, I20, I28

1 Introduction

According to the human capital theory proposed by Becker (1964), increasing accumulation of human capital improves individual wages in the labor market. Therefore, schoolteachers and parents support children to improve their academic performance, which reflects the level of individual human capital which can prevent them from becoming poor in the future.

Numerous studies have shown the positive effects of parental involvement on children's performance. Parental involvement generally includes school-based activities such as attending parent-teacher conferences, home-based involvement like reading with children and discussing school activities and assignments, as well as resource-based involvement such as fiscal

* Faculty of Economics. nakamuray@fukuoka-u.ac.jp

expenditures on private tutoring and school materials. Henderson and Mapp (2002) show that family support is effective in improving student's academic performance, attendance, and behavior, especially in middle and high schools. El Nolali et al. (2010) indicate that parental involvement declines children's problem behaviors and improves their social skills in elementary school. Hill and Craft (2003) explain the positive relationship between parental school involvement and students' school performance by focusing on ethnic variations. Chuha and Heckman (2008) focus on the sensitive periods of parental involvement in the development of cognitive and noncognitive skills, noting that the sensitive period for the former occurs earlier in the life cycle than for the latter. Dernbusch et al. (1987), Garg et al. (2005), and Newman et al. (2015) compare the results of students' academic performance by dividing parenting styles into authoritarian and permissive, and analyze the optimal parenting style.[1] Hill and Tyson (2009) and Sankaran et al. (2020) compare the impacts on children's academic performance among various parental involvements and show several parental involvements except help with homework are helpful to increase children's performance.

Parental encouragement similarly involves parents investing their time in their child's education, but unlike parental involvement, it does not include resource-based involvement such as fiscal expenditures. For example, parents may recommend their children read books to gain knowledge or seek opportunities to communicate with someone who speaks a different language to understand the importance of learning foreign languages. Additionally, parents might encourage their children to engage in career experiences and emphasize the need to learn what is necessary at school to succeed in the labor market. Parents also praise their children's daily achievements and encourage them to explore their interests. Steinberg et al. (1992) and Gunderson et al. (2013) indicate the positive effects of parental encouragement on children's academic performance. Darolia and Wydick (2011) clarify that students who are given encouragement from their parents show more effort at school compared to students who are given assistance, such as money and cars. Fan (2001) implies that parents' encouragement for their children's education attainment has a positive impact on growth of children's academic performance.

Although the impacts of parental involvement and parental encouragement have attracted much attention, few studies have focused on the amount of parental encouragement based on parents' types as considering parents' time preferences and their backgrounds. Some parents have a strong time preference; that is, they consider the current situation to be more important than the future, whereas others have a weak time preference; that is, they consider things in the long term. Moreover, as Van Ijzendoorn (1992) and Belsky et al. (2009) show, parenting styles are transmitted from parents to their children. Some parents are familiar with ways to encourage

[1] Altalib et al. (2013) classify parenting into four styles: authoritarian, authoritative, permissive, and democratic, and state that sociologists consider authoritative parenting to be the best in general.

their children because they were encouraged by their own parents in the past, and vice versa. These differences may generate various amounts of parental encouragement for their child as well as parenting styles, resulting in differences in children's efforts and their academic performance.

In this study, we provide a model to clarify the types of parents whose encouragement affects children's efforts by considering the level of parents' time preferences and backgrounds. Moreover, we examine the effects of the differences in parents' wages because we assume that parents' utility includes their consumption, as well as their children's future incomes.[2]

From the model, we find that parents who have a child with high innate ability, low wages, and weak time preferences, and who were given enough encouragement by their parents tend to encourage their child. On the contrary, parents who have a child with low innate ability, high wages, and strong time preferences, and who were given little encouragement by their parents in the past tend not to encourage their child.

Next, we indicate some remedies for poverty alleviation by classifying the types of children based on the results from our model. Educational institutions such as schools and local governments can reduce parents' time preferences and increase the effectiveness of parental encouragement. These actions encourage parents to give their children optimal encouragement which can be a remedy for poverty alleviation.

In the following section, we analyze a model that explains the relationship between parental encouragement and a child's effort to increase academic performance under perfect and imperfect information of a child's innate ability. In Section 3, we classify the types of parents and show their children's academic performance, which is based on their efforts. In Section 4, we classify the types of children and examine the optimal remedies for poverty alleviation in each case. Section 5 provides concluding remarks.

2 The Model

2.1 Perfect Information of a Child's Innate Ability

To increase income, individuals must make an effort to increase their accumulation of human capital during childhood. We can observe the level of individual human capital based on their academic performance at school. Parental encouragement is effective in encouraging children to make efforts. The encouragement can act as a trigger to increase their children's motivation to study, efforts at school, accumulation of human capital, and future incomes. At the same time, encouragement consumes parents' time. Parents have to observe their children, check the

[2] Some previous studies assume that parents are altruistic and that their utility does not include their consumption.

available options to increase their motivation, and decide which kind of encouragement is optimal for their children.

We propose a model based on Darolia and Wydick (2011) to clarify which types of parents tend to encourage their children to make efforts to increase their children's future incomes.[3] If the child's optimal effort is not significant enough to earn an income to survive, *I*, parents give them assistance, such as money, commodities, and cars.

First, we consider the situation of perfect information about a child's innate ability. That is, each child knows their own innate ability as well as that of their parents. The utility function of child i is formed as:

$$U_i^C = \delta_i^C(\theta_i \ln(e_i) + d_s S_i) - e_i \tag{1}$$

where δ_i^C is the discount present value of a child's utility and $0<\delta_i^C<1$ is satisfied. When the child has a weak time preference, the discount rate is low while the discount present value is high and vice versa. e_i is the level of child i's effort and $\ln(e_i)$ is child i's academic performance. θ_i is a child's innate ability and $\theta_i \ln(e_i)$ is a child's future income and d_s is a dummy variable. S_i is the amount of assistance provided by the parents.

We are not considering the option that a child may avoid making an effort from the start just because they lack the income to live on, as long as their parents provide the amount of assistance. Parents can be assured of their child's abilities, and whether the child has made an effort or not can be monitored by their income. Therefore, by assuming that if the effort is lower than its optimal level, the parents' support will also be zero, the child will always make the optimal effort. When $\theta_i \ln(e_i^*) \geq I$ is realized, parents do not give their child any assistance and $\mathrm{d}_s = 0$ is satisfied. By contrast, when $\theta_i \ln(e_i^*) < I$ is realized, the parents give assistance to their child, $\mathrm{I} - \theta_i \ln(e_i^*)$, and $\mathrm{d}_s = 1$ is satisfied. Hence, S_i is written as follows:

$$S_i = I - \theta_i \ln(e_i) \text{ if } I - \theta_i \ln(e_i) > 0 \tag{2}$$
$$S_i = 0 \text{ if } I - \theta_i \ln(e_i) \leq 0$$

The derivation of (1) for e_i is as follows:

$$\frac{\partial U_i^C}{\partial e_i} = \frac{\delta_i^C \theta_i}{e_i} - 1 = 0 \tag{3}$$

[3] We introduce factors that affect the amount of encouragement, such as parents' time preference, wages, and backgrounds. Moreover, we assume that parents include their own consumption in their utility, while Darolia and Wydick (2011) assume that parents are altruistic, and that their utility function incorporates their children's utility and excludes their own consumption.

Therefore, the optimal effort level for child i, e_i^*, is the same as the discount present value of innate ability. In other words, $e_i^* = \delta_i^C \theta_i$ is satisfied.

Since the child's effort is decided based on the discount present value of their innate ability, parental encouragement is not effective in increasing their child's effort under perfect information.

2.2 Imperfect Information of a Child's Innate Ability

In this section, we assume imperfect information about a child's innate ability. That is, a child does not know their own ability, whereas the parents do. Therefore, the child guesses it based on the amount of encouragement from their parents which determines the optimal level of effort. We classify the types of parents into nine groups, focusing on their backgrounds, time preferences, and wages, to clarify which type effectively increases children's future incomes.

To simplify, we indicate that parents who were given enough encouragement from their parents to earn incomes to survive, I in the past, are EN, while parents who were not given enough encouragement to earn I and were given assistance to survive are AS. Next, we imply that parents who have strong time preferences are STP, whereas parents who have weak time preferences are WTP. Finally, we denote that parents whose wages are high are HW, and parents whose wages are low are LW.

Table 1 is the classification of the types of parents. Parents who belong to Type 9 earn too little income to share their time for giving their children enough encouragement to realize the child's income to survive, I, regardless of their backgrounds and levels of time preference. We refer to these parents as LLW.

The utility function of the parents j is represented as

$$U_j^p = \delta_j^p(\theta_i \ln(e_i) - d_s C_j^s) + w_j(T - E_j) \tag{4}$$

where δ_j^p is the discount present value of a parent's utility and $0<\delta_i^C<1$ is satisfied. C_j^s denotes the assistance cost. T is the parents' time in their lives, and E_j is the hours of parents j 's encouragement for their child and $1<E_j<T$ is satisfied. That is, $T - E_j$ is the number of working hours.[4]

A child makes an effort based on the amount of parental encouragement, which is denoted as $E_j^{A_j}$, where A_j is the effectiveness of encouragement and that $A_j > 1$ is satisfied. Therefore, $e_i = E_j^{A_j}$ is satisfied, and (4) can be rewritten as:

[4] Although there is time for household chores and leisure in real life, we omit them from the model because the main results are the same regardless of time.

Table 1: The classification of the types of parents

Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8	Type 9
EN WTP HW	EN WTP LW	AS WTP HW	AS WTP LW	EN STP HW	EN STP LW	AS STP HW	AS STP LW	LLW

$$U_j^p = \delta_j^p(\theta_i \ln\left(\mathrm{E}_j^{A_j}\right) - d_s C_j^s) + w_j(T - E_j) \tag{5}$$

The value of A_j is determined based on the parents' background. Parents who were given encouragement from their parents in the past are familiar with some options, features, and advantages of providing encouragement. Therefore, their value of A_j is large and their encouragement effectively stimulates their child's effort. On the contrary, parents who were not given much encouragement from their parents in the past do not know their options well and their encouragement of their child becomes ineffective. Therefore, their value of A_j is low.

The child determines the optimal level of effort by guessing the value of θ_i as observing the amount of encouragement from their parents, $\mathrm{E}_j^{A_j}$. The derivation of (5) for E_j is as follows:

$$\frac{\partial U_j^p}{\partial E_j} = \frac{\delta_j^p \theta_i A_j}{E_j} - w_j = 0 \tag{6}$$

That is, we obtain the parents' optimal hours for encouragement as

$$E_j^* = \frac{\delta_j^p \theta_i A_j}{w_j} \tag{7}$$

Each child guesses the own innate ability from the amount of encouragement shown by (7), when the child knows the parents' wages, background, and time preference and determines the optimal level of effort, e_i^{**}, where $e_i^{**} = \delta_i^c \theta_i$ is satisfied.

From (5), when $e_i^{**} = \delta_i^c \theta_i \geq E_j^{A_j}$ is satisfied, optimal parental encouragement is efficient. In contrast, it becomes inefficient under $e_i^{**} = \delta_i^c \theta_i < E_j^{A_j}$, because some of the encouragement does not work.

We notice that parental encouragement affects their children's academic performance only when the children do not know their own innate ability. From this fact we obtain the following proposition.

Proposition 1 *Parental encouragement can affect their children's academic performance in early grades rather than in late grades*.

Proof. The children come to know their innate ability by some test results or report cards as the school year progresses. Therefore, the uncertainty of children's innate ability decreases and a power of influence of parental encouragement diminishes in late grades.[5]

3 Parental encouragement and child's effort

From the (7), we obtain the following four propositions:

Proposition 2 *High-ability children tend to be given encouragement from their parents, whereas low-ability children tend not to be given encouragement.*

Proof. From (7), we obtain that the parents' hours for encouragement of their child, E_j, is the increasing function of the child's innate ability, θ_i. Therefore, high-ability children receive more encouragement from their parents, and vice versa.

This result is the same as that proposed by Darolia and Wydick (2011). Regardless of the assumption that parents are altruistic or not, parents tend to encourage their children with high innate ability because children with high innate ability can increase their incomes more than children with low innate ability and realize the higher utility of their parents.

Proposition 3 *Parents with high wages (Types 1, 3, 5, and 7) hesitate to encourage their child, while parents with low wages (Types 2, 4, 6, and 8) tend to encourage their child.*

Proof. From (7), we obtain that the parents' hours for encouragement of their child, E_j, is the decreasing function of the parents' wage, w_j. Therefore, parents with high wages do not spend their time on encouragement compared with parents with low wages.

Proposition 3 indicates that the opportunity costs of parents with high wages are large, and that they prefer working to encourage their child and vice versa. This result indicates that parental encouragement can alleviate the children's achievement gap based on the differences of parents' incomes.[6] This result may seem counterintuitive, as it suggests that children of higher-income parents are less likely to receive educational support from their parents. This considers the fact

[5] Seror (2022) reveals that the use of television, smartphones, and tablets from early childhood hinders children's development, and emphasizes the need for parental encouragement from an early age instead.

[6] Sankaran et al. (2020) imply the possibility that the reduction of educational inequality caused by the differences of parental levels of education can be realized through engaging in indirect within school parental involvement activities. Falk et al. (2021) also indicate that parental encouragement can have a positive effect on the economic preferences of children from families with low socioeconomic status, which could contribute to an increase in their future income.

that even if parents are not directly involved in their children's education, they may provide support by paying for after-school tutoring or extracurricular activities. It is important to note that the definition of parent encouragement here refers to parents actively spending time engaging in their children's education.[7]

Proposition 4 *Parents with strong time preferences (Types 5, 6, 7,and 8) hesitate to give encouragement to their child, while parents with weak time preferences (Type 1, 2, 3, and 4) tend to give encouragement to their child.*

Proof. From (7), the parents' hours for encouragement of their child, E_j, is the increasing function of the parents' discount present value δ_j^p. As the parents who have strong time preferences have a low value of δ_j^p, they hesitate to devote their time to encouraging their child, while the value of δ_j^p for the parents who have weak time preferences is large and their hours for encouragement become longer.

Proposition 4 indicates that parents who have weak time preferences suffer less from delayed effects of children's performance by their encouragement compared to parents who have strong time preferences.

Proposition 5 *Parents who had experience in obtaining encouragement from their parents (Types 1, 2, 5, and 6) spend a longer time encouraging their children, while parents who were not be encouraged by their parents (Type 3, 4, 7, and 8) spend a shorter time encouraging their children.*

Proof. From (7), we obtain that parents' hours for encouragement to their children, E_j, is the increasing function of the effectiveness of encouragement based on the parent's experience, A_j. Therefore, parents who were given encouragement from their parents in the past spend a longer time for encouragement compared to parents who were not.

In this study, we consider that parents are not altruistic and care about their own incomes as well as their children's future incomes and focus on the opportunity costs of encouragement when the parents give encouragement to their children because these assumptions reflect real society. From these assumptions, we can conclude that parents' opportunity costs, time preferences, and backgrounds also affect the choice of parents, as Propositions 3, 4, and 5 suggest. These results imply that there is a possibility that children with low innate abilities and have parents with high income who have strong time preferences and did not get enough

[7] Del Boca et al. (2014) indicate that parents spending time engaging in their children's education is more effective for their cognitive development than financial expenditures, especially when the children are young.

encouragement from their parents (Type 7) obtain the least encouragement from their parents as well as children whose parents belong to Type 9. Therefore, due to little effort, they become poor and tend to depend on their parents to survive throughout their life.

4 Remedies to Reduce Poverty

From our model, we find that there are several types of children who will not be able to earn enough income to survive in the labor market under imperfect information of a child's innate ability. We divide them into three groups based on the reasons they are poor and consider remedies to reduce poverty in each case (see Table 2).

Table 2: The classification of the types of children

Type A	Children with low innate ability
Type B	Children whose parents belong to Type 7
Type C	Children whose parents belong to Type 9

Remedies for Type A

Children who belong to Type A cannot earn more income than I, even if they show their optimal effort $e^{**} = \theta_i$ because of their low innate ability. For example, a child with disability or a child who does not understand languages used in the classroom belong to this category. In this case, the government and school must support them so that they do not depend on their parents throughout their lives.

The Australian government considers that job training for disabled students is one of the features of education and supports students who face disabilities, learning difficulties, and autism through an educational program called Technical and Further Education (Yamanaka, 2006).[8] According to the Individuals with Disabilities Education Improvement Act (2004), the legislative act of the United States also mandates programs that provides individualized support to children with disabilities for future education, employment, and independent living during post-secondary education.

The public schools of Brookline in Massachusetts hire specialists of literacy and provide their special class for children who are not able to catch up with their usual class. For example, a child who does not understand English can receive English language education by the specialist in a small group. After the child attains a certain level after the special lesson, the

[8] The New South Wales Department of Education and Training (1998) shows that a teacher, school counselor, and specialist in transition programs from education to work hold meetings to make plans for individual students through the program.

child returns to the usual class. This program is helpful for the children to obtain higher knowledge and show high academic performance even if their innate ability is not high.

Remedies for Type B

Children cannot be given enough encouragement from their parents to obtain income I because of the conditions of parents' backgrounds, wages, and time preferences. Although governments and schools cannot intervene in others' backgrounds and wages, they can reduce parents' individual time preferences.

Ifcher and Zarghamee (2011), Pyone and Isen (2011), and Drichoutis and Nayga (2013) indicate that positive affect results in exhibiting greater patience toward money and reduces time preference. Guven and Hoxha (2015) show that happier people take more time to make decisions and are more concerned about the future than the present.

From these results, the school and local government can decrease parents' time preference by giving them happiness and introducing more encouragement. That is, it is necessary for the school or local government to increase the parents' utility, which is formed by their present income, their children's future income, and costs for assistance. While the school cannot change the children's and parents' incomes directly, it can increase the effectiveness of encouragement and thereby, indirectly affect children's incomes as well as it can provide children with any assistance such as food and school supplies. By providing parents with information on several available options, which increases children's motivation to make efforts [9], parental encouragement can be more effective. Therefore, parents can realize a higher future income of their child and increase their utility. This results in a decrease in parents' time preference. Furthermore, we can point out that children's time preference may be affected by parents' time preference, which becomes less when parents' time preference becomes weak. This tendency can increase the child's discount present value of innate ability. That is, children make more effort than before and increase their future income.

Remedies for Type C

Children who belong to Type C cannot obtain optimal encouragement from their parents because the parents need to work for their survival and cannot spend enough time providing encouragement and cannot realize the optimal encouragement E^*. Children lose the possibility of not being poor in the future because of the family's poverty. The government supports them by providing foods, school supplies, uniforms, and education subsidies, and lets them go to

[9] Teachers can inform each parent about what their children are interested in at school and which books are appropriate for each child's level, as well as introduce or arrange opportunities for learning outside of school.

school.[10] Schools implement effective school policies that stimulate them to make efforts instead of their families.

There are many studies, in addition to parental encouragement, on ways to boost children's motivation to learn, and peer effects continue to attract attention as one of the factors. Dee and West (2011) and Olalekan (2016) indicate that peer groups make students feel comfortable and alleviate their boredom and anxiety. Since peer groups affect students' motivation to study and their academic performance, maintaining good classroom environment is necessary. Hoxby (2000), Falk and Ichino (2006), and Bruce (2011) analyze the conditions under which positive peer effects are observed.

Adjusting class size can also contribute to enhancing children's motivation to learn. Glass and Smith (1979), Finn and Achilles (1990), Grissmer (1999), Biddle and Berliner (2002), Kruger (2003), Browning and Heinesen (2007), and Nakamura and Dev (2022) show a positive impact of students' academic performance in a smaller class and prove that class-size reduction is one of the school policies for boosting individual motivation.

Through the good educational environments and several options to increase motivation to study provided by schools, children can increase their efforts at school and earn sufficient income to survive in the future even if their parental encouragement is not enough to boost their efforts.

5 Conclusion

In this study, we examine the effects of parental encouragement on children's academic performance by considering the effects of parents' backgrounds, wages, and time preferences. We then clarify the types of parents who tend to encourage their child or hesitate to encourage their child and causing their child to become poor in the future. Moreover, we consider remedies for poverty alleviation provided by the government and schools, focusing on parents' types and child's innate ability.

The findings indicate that parents who have a child with high innate ability, whose wages are low, who have a weak time preference, and who were given enough encouragement from their parents tend to encourage their child. On the contrary, parents who have a child with low innate ability, whose wages are high, who have a strong time preference, and who were given assistance from their parents hesitate to encourage their child and tend to give them assistance for survival. Moreover, the influence of parental encouragement is strong in early grades rather than in late grades.

[10] Schools sometimes assume the aspect of social security in the United States. For example, the public schools in Massachusetts in United States provides free breakfast and lunch to all children from starting a pandemic of coronavirus diseases 2019 (COVID-19) up to the present date.

To prevent children from becoming poor in the future and to allow them to live independently without parental assistance, we propose some remedies. It is difficult for educational institutes, such as schools and local governments, to access parents' backgrounds and wages. However, these institutions can reduce the parents' time preferences. Moreover, they can increase the effectiveness of encouragement from parents by providing information about opportunities that stimulate children's efforts at schools. These actions encourage parents to encourage their child more and realize the child's efforts at school, which results in improving their wages in the labor market in the future.

References

Altalib, H., Abusulayman, A., and Altalib, O., (2013), *Good Parenting: What is it and How do We Begin?*, Parent-Child Relations, International Institute of Islamic Thought.

Becker, G. S. (1964), *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education,* University of Chicago Press.

Belsky, J., Conger, R., and Capaldi, D. (2009), The intergenerational transmission of parenting: introduction to the special section, *Developmental* Psychology*, 45*(5), 1201–1204.

Biddle, B. J., and Berliner, D. C. (2002), Small Class Size and Its Effects, *Educational Leadership*, Vol.59(5), 12-23.

Browning, M. and E. Heinesen (2007), Class Size, Teacher Hours and Educational Attainment, *Scandinavian Journal of Economics*, 109(2), 415–438.

Bruce, S (2011), Peer Effects in Education: How Might They Work, How Big Are They and How Much Do We Know Thus Far?, Chapter 04 in *Handbook of the Economics of Education*, Vol.3, pp 249-277, Elsevier.

Cunha, F. and Heckman, J. (2008), Formulating, Identifying and Estimating the Technology of Cognitive and Noncognitive Skill Formation, *Journal of Human Resources*, Vol. 43(4), 738-782.

Darolia, R. and Wydick, B. (2011), The Economics of Parenting, Self-esteem and Academic Performance: Theory and a Test, *Economica* 78, 215--239.

Dee, T. S., and West, M. R. (2011), The Non-Cognitive Returns to Class Size, *Educational Evaluation and Policy Analysis*, Vol.33(1), 23-46.

Del Boca, D., Finn, C., and Wiswall, M. (2014), Household Choices and Child Development, *The Review of Economic Studies*, Vol. 81(1), 137-185.

Dernbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., and Fraleigh, M. J. (1987), The Relation of Parenting Style to Adolescent School Performance, *Child Development*, Vol.58(5), 1244-1257.

Drichoutis, A. C. and Nayga, R. M. (2013), Eliciting Risk and Time Preferences under Induced Mood States, *Journal of Socio-Economics*, Vol. 45, 1-27.

El Nolali, N. E., Bachman, H. J., Votruba-Drzal, E. (2010), Parent Involvement and Children's Academic and Social Development in Elementary School, *Child Development*, Vol.81(3), 988-1005.

Falk, A and Ichino, A. (2006), Clean Evidence on Peer Effects, *Journal of Labor Economics*, Vol. 24(1), 39-57.

Falk, A., Kosse, F., Pinger, P., Schildberg-Hörisch, H, and Deckers, T. (2021), Socioeconomic Status and Inequalities in Children's IQ and Economic Preferences, *Journal of Political Economy*, vol.129 (9), 2504-2545.

Fan, X. (2001), Parental Involvement and Students' Academic Achievement: A Growth Modeling Analysis, *The Journal of Experimental Education* 70(1), 27-61.

Finn, J. D. and Achilles, C. M. (1990), Answers and Questions about Class Size: a State Wide Experiment, *American Educational Research Journal*, Vol.27(3), 557-577.

Garg, R., Levin, E., Urajnik, D. and Kauppi, C. (2005), Parenting Style and Academic Achievement for East Indian and Canadian Adolescents, *Journal of Comparative Family Studies*, Vol.36(4), 653-661.

Glass, G. V., and Smith, M. L. (1979), Meta-Analysis of Reaserch on Class Size and Achievement, *Educational Evaluation and Policy Analysis*, Vol.1(1), 2-16.

Grissmer, D. (1999), Conclusion-Class Size Effects: Assessing the Evidence, Its Policy Implications, and Future Research Agenda, *Educational Evaluation and Policy Analysis*, Vol.21(2), 231-248.

Gunderson, E. A., Gripshover, S., Romero, C., Dweck, C. S., Goldin-Meadow, S. and Levine, S. C. (2013), Parent Praise to 1- to 3- Year Olds Predicts Children's Motivational Frameworks 5 Years Later, *Child Development*, Vol.84(5), 1526-1541.

Guven, C. and Hoxha, I. (2015), Rain and Shine: Happiness and Risk-Taking, *The Quarterly Review of Economics and Finance*, Vol. 57(C), 1-10.

Henderson, A. T. and Mapp, K. L. (2002), *A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement*., Austin, TX: Southwest Educational Development Laboratory.

Hill, N. E. and Craft, S. A. (2003), Parent- School Involvement and School Performance: Mediated Path among Socioeconomically Comparable African American and Euro-American Families, *Journal of Educational Psychology*, Vol.95(1), 74-83.

Hill, N. E. and Tyson, D. F. (2009), Parental Involvement in Middle School: A Meta-Analytic Assessment of the Strategies that Promote Achievement, *Developmental Psychology*, 45(3), 740-763.

Hoxby, C. (2000), Peer Effects in The Classroom: Learning From Gender and Race Variation, NBER Working Paper 7867.

Ifcher, J. and Zarghamee, H. (2011), Hapiness and Time Preference: The Effect of Positive Affect in a Random-Assignment Experiment, *American Economic Review*, Vol. 101(7), 3109-3129.

Individuals with Disabilities Education Improvement Act. (2004). Individuals with Disabilities Education Improvement Act. Retrieved from http://www.ldonline.org/features/ idea2004

Krueger, A. B. (2003), Economic Considerations and Class Size, *Economic Journal*, Vol. 113(485), 34–63

Nakamura, Y. and Dev, Smitha. (2022), Effects on Class-Size Reduction on students' Performance, P*ertanika Journal of Social Science & Humanities*, 30(2), 797-812.

Newman, J., Gozu, H., Guan, S., Lee, J. E., Li, X., and Sasaki, Y. (2015), Relationship between Maternal Parenting Style and High School Achievement and Self-esteem in China, Turkey, and U.S.A. , *Journal of Comparative Family Studies*, Vol.46(2), 265-288.

New South Wales Department of Education and Training (1998), *Special Education Handbook for Schools*. Authour, Sydney, Australia.

Olalekan, A. B. (2016), Influence of Peer Group Relationship on the Academic Performance of Students in Secondary Schools: A Case Study of Selected Secondary Schools in Atiba Local Government area of Oyo State, *Global Journal of Human-Social Science*, Vol.16(4), 89-94.

Pyone, J. S. and Isen, A. M. (2011), Positive Affect, Intertemporal Choice, and Levels of Thinking: Increasing Consumer's Willingness to Wait, *Journal of Marketing Research*, Vol. 48(3), 532-543.

Sankaran, C., Sorrentino, O., and Hernandez, E. (2020), I'll See You in School: A Multiple proxy Analysis of the Role of Parental Involvement in K-12 Education and Improves Student Outcomes, Boston College Working Paper BC EC WP 1016.

Seror, A. (2022), Child development in Parent-Child Interactions, *Journal of Political Economy*, Vol. 130 (9), 2462-2499.

Steinberg, L., Lamborn, S. D., Dornbusch, M., and Darling, N. (1992), Impact of Parenting Practices on Adolescent Achievement: Authoritative Parenting, School Involvement, and Encouragement to Succeed, *Child Development*, Vol.63(5), 1266-1281.

Van Ijzendoorn, M. (1992), Intergenerational transmission of parenting: A review of studies in nonclinical populations, *Developmental Review*, Vol. 12(1), 76-99.

Yamanaka, S. (2006), Economic Rationalism and Educational Reform: Vocational Education and Training for Students with Disabilities in New South Wales, Australia (in Japanese), *Japanese Association of Special Education*, Vol. 44(4), 219-227.