

Private Expenditure on Education and Its Impact on Learning (A Comparative Study Based on Tamil Medium Plantation and Urban Secondary Schools in the Ratnapura Education Zone)

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ABSTRACT

In the 21st century, with the rapid development of education, technological advancement, and social changes, private expenditure on education has reached a significant level. The increase in private expenditure on education has an impact on student enrollment, dropout rates, subject choice, learning persistence, the desire to continue higher education, and educational path planning. The purpose of this study is to examine the impact of private expenditure on education on student learning in plantation area schools and urban schools. A sample of 116 students, 116 parents, 19 teachers, and 10 principals were selected from Tamil Moho Moola 1AB 1C and VuluPnu 2 schools under the Ratnapura Education Zone, and this study was conducted as a mixed-method study following a descriptive quantitative research design. Data were collected through questionnaires, interviews, and document analysis, and descriptive statistics were analyzed using the LuPlulu software. The data were interpreted. The results of the study reveal that the continuous increase in private spending has negative effects, such as a lack of learning support, a decline in learning engagement, low attendance, and poor student achievement. The study also highlights that as a result of the increase in private spending on education, the gap in educational development between urban and rural schools, learning inequality, teacher-parent expectations, and conflicts are emerging. Therefore, the results of the study emphasize the need for education policy, planning, school development plans, financial allocation, and ensuring equity-based educational opportunities.

Keywords: Education, Private Expenditure, Learning, Impact

BACKGROUND TO THE STUDY

Education is a fundamental pillar for individual and social progress. The quality and equity of a country's education are largely affected by the amount, type, and distribution of its education expenditure. However, in recent times, a new trend has emerged in which private education expenditure by families has increased significantly, which calls into question the ultimate objective of free education. In Sri Lanka, education expenditure is generally divided into two broad categories: government (public) expenditure and private expenditure. Government expenditure is the budgetary funds allocated to the education sector through the Ministry of Finance, which are used for the operating costs of schools, teacher salaries, textbooks, food programs, etc. On the other hand, private expenditure is the direct expenditure that families make on the education of their children. This includes school fees, private textbooks, stationery, transportation, accommodation costs, etc. In Sri Lanka, government funding for the public education sector has declined over time. The government allocation for education is estimated to be only 1.86% of the GDP (GDP) by 2025 (Kunaraiwa, 2025). This under-funding of public education has placed the burden of education costs on families. As a result, out-of-pocket expenditure on education by families has increased significantly in recent years (Pallegedara & Sisira Kumara, 2020). In particular, the cost of private tuition is very high Private tuition accounts for 48% of the average monthly expenditure on education by a family. Moreover, private tuition expenditure by families has been steadily increasing with income growth over time, reflecting the growth of the current trend of education expenditure (Pallegedara & Sisira Kumara, 2020).). It has become a common practice and is now considered a "major expense" even though parents cannot afford it (Pyaadatanapanananayasayaya 2012). Thus, private tuition expenditure is a socio-economic pressure to increase educational achievement. Rising household

income and changing expectations about education. Parental frustration with improving the quality of learning in government schools and the pressure of competitive examinations (Damayanthi, 2018).. While such a positive impact on expenditure ratios may provide unequal benefits to all rural and urban students. Although some articles present evidence that private tuition helps to improve students' test scores, education authorities in Sri Lanka do not have sufficient resources to improve government schools, especially because parents are investing most of their wealth in private tuition (Human Rights Watch, 2025). This may undermine the objective of the free education policy, which is to provide equal, quality education to all. Although urban students who receive additional educational support at their own expense can benefit from many benefits, it has become difficult for low-income plantation students, which can lead to various educational opportunity gaps.

This study aims to compare the socio-economic educational inequities and the new cost impacts of education, especially the increase in private education costs and their impact on learning outcomes, and to identify the impact it has on students' academic performance. In addition to approaching equity theories regarding education costs and educational quality and making key recommendations for policy classes, this study will also examine the trend of private education costs and their impact on learning for students in the Senior Secondary Section (Grade 11) of Tamil-medium plantation and urban schools in the Ratnapura Education Zone, Sabaragamuwa Province.

Research Problem Statement

The private expenditure of students studying in Tamil-medium plantation and urban schools in the Ratnapura Education Zone is increasing, and this is having an adverse impact on learning. With the increasing private expenditure of students studying nationally and internationally, various studies have been conducted on its adverse impact on learning. Accordingly, it has been confirmed that it plays an important role in influencing student admission, dropout, subject choice, higher education, and school choice. Similarly, the extent, causes, and impact of this private expenditure on secondary students in Tamil medium urban and plantation schools in the Ratnapura Educational Zone of the Sabaragamuwa Province selected by the researcher have been found to have an adverse impact on learning outcomes.

Aim of the Research Objectives

To identify the impact of private expenditure on education on learning, students' nutritional and health status and basic needs related to education

Research Questions

- 1) What is the impact of private expenditure on education on students' learning?
- 2) What is the impact of private expenditure on students' nutritional and health status?
- 3) How does the impact of private expenditure on education on the fulfillment of basic needs related to education differ between urban and rural areas?

LITERATURE REVIEW

Theoretical Literature Review

Theoretical and empirical literature related to the study of private expenditure on education and its impact on learning was reviewed from two perspectives. The theories related to this study were selected because they were closely related to the theme of the study.

Maslow's Hierarchy of Needs and Social Learning Theory. The above theories provide evidence on how private expenditure on education affects students' learning performance. Therefore, these theories were used by the researcher as the basic framework for creating the theoretical framework for this study. In that way, national and international studies that are similar to the purpose of this study were reviewed. Among them, the relationships between private expenditure on education, parental socio-economic status, school environment, and student

academic development have been emphasized by the primary studies. Therefore, these empirical studies were used as evidence to confirm the direction and position of this study.

Empirical Literature Reviews

Learning Achievements of Rural and Urban School Students and Private Expenditure on Education is seen as a key condition for harnessing the potential for socio-economic development, and therefore, both the public and private sectors are keen to invest in education (World Bank, 2011). A child has to pay various fees for joining school and continuing his/her school education. This varies from country to country (Akaguri, 2011). Private expenditure on education is a major factor in ensuring an individual's educational progress. Although the government provides extensive infrastructure at low cost, individuals still need to carry out their own expenditure for various needs (Mukherjee & Sengupta, 2021). Investment in education is seen to provide double benefits to the individual and the society (Pallegedara & Kumara, 2020). They found that children's academic performance increased when parents were more concerned about their children's education expenses (Johnson & Persico, 2015). Although there are government grants, free textbooks, food programs, and student loan assistance, they do not work in a way that is accessible to all (World Bank, 2018). Due to the lack of free education, parents are unable to provide the necessary educational support for their children, and students face obstacles in their learning progress because they do not have access to the necessary educational resources (Tilak, 2002). Mother's educational aspirations, family assets, and residence in Seoul significantly affect the likelihood of incurring private education expenses, while the child's birth order has a negative impact. These also significantly affect the level of private education expenses (Na & Yoon, 2011).

Special education has a significant positive impact on students' academic development (Dongre & Tewary, 2014). Private class's help students learn subjects in depth and prepare for exams (Bray, 2003). However, children from economically disadvantaged families face various challenges in accessing private education opportunities (Foondun, 2002). Only economically affluent parents are more likely to be able to enter special education. This affects educational equity. Children from disadvantaged families are disadvantaged in their education because they cannot participate in these classes (Beegle et al., 2006).

Private expenditure on education and its impact on learning

Many parents withdraw their children from schools because they cannot afford the cost of education in rural schools compared to urban schools (Gasson et al., 2016). Students from low-income families have a significant gap in reading, mathematics, and science skills compared to students from high-income families. One of the main factors for this gap is the inability to afford the out-of-pocket costs of education (Wahyuni & Reswita, 2018). School supplies are fundamental resources in a student's educational journey. Various types of supplies, such as books, stationery, science instruments, and technology equipment, play a key role in a student's engagement in education and academic performance. Inadequate physical facilities also have negative impacts on students' academic achievement. Studies show that school facilities can explain up to 16% of the difference in the performance of primary school students (Yangambi, 2023). Children from economically disadvantaged families often go to school without access to these types of equipment. This prevents them from actively participating in learning activities (Puralavayakalal In particular, feelings of being left behind and thoughts of dropping out of school increase (Jensen, 2013). Students' learning performance is affected when they do not have access to adequate educational resources (Puyalalan Nov. 2016). Economic challenges and the high cost of learning materials are barriers for poor families, leading to school dropout and psychological challenges (Noora, 2023). Direct costs such as school fees, registration fees, books and uniform costs can make it impossible for poverty-stricken families to send their children to school (Pipna Piper et al., 2015). Digital divide is crucial factor in improving quality of Education in plantation area schools (Athirathan, 2025).

METHODOLOGY

This chapter fully explains the research methodology of the study entitled Private Expenditure on Education and its Impact on Learning: A Comparison of Tamil Medium Urban and Plantation Schools in the Ratnapura Education Zone. This chapter examines in detail the data collection methods, sampling techniques, data analysis procedures, and ethical considerations to ensure the reliability and validity of the study. A mixed-method

research design was used to achieve the main objectives of the study. This approach helps to understand the research problem in depth from multiple perspectives by integrating quantitative and qualitative data. In particular, the study seeks to gain a deeper understanding of the experiences of parents, teachers, and principals, along with quantitative data related to education expenditure and learning. The main objective is to explain in detail each stage of the research process. This includes the geographical and socio-economic context of the study area, the study design and sampling methods, the data collection instruments, the data analysis methods, and the challenges faced in the study. This detailed explanation is essential for the reliability and validity of the study findings. Considering the unique educational environment of the Ratnapura Education Zone, the study sampled secondary school students, their parents, teachers, and principals studying in urban and plantation schools. Both purposive sampling and stratified random sampling techniques were used to represent the diversity of the target population. Data collection was carried out through four main instruments. A structured questionnaire for students, an expenditure and family background questionnaire for parents, an experience-based questionnaire for teachers, and an in-depth interview guide for principals. This multidisciplinary approach enables the study problem to be examined from multiple perspectives. Data analysis was carried out using the software 26.0 using various statistical methods, including descriptive statistics, t-test, correlation analysis, and regression analysis. The data were analyzed through thematic analysis. It also explains the methodological aspects of the study. This includes informed consent of the participants, protection of privacy, and data integrity. The study was conducted in accordance with the guidelines and approval of the University Ethics Committee, which is appropriate for the academic environment of Sri Lanka. Finally, the chapter addresses the challenges and limitations faced in the study. Its transparency is essential for the reliability of the study results and guidance for future studies. The methodology chapter fully explains each stage of the research process, ensuring the transparency and reproducibility of the study.

DISCUSSION AND CONCLUSIONS

Private expenditure on education, in-school and out-of-school learning, students’ nutritional-health status, and basic needs related to education; Impact on urban and plantation basis. The above objective has been analyzed based on the following subheadings.

1. Data related to private education expenditure used.
2. Data related to students’ learning achievements.
3. Data related to socio-economic situation and school resources
- 5.1. Data related to private education expenditure used.

Parent-related Expenditures Based on the information provided by parents, the categories of private expenditure on students’ education were categorized as follows: Ø Transportation cost, Extra tuition/tuition fees, Cost of learning materials and educational equipment – books, stationery, test materials, etc.) Ø Internet/digital usage cost. These categories were used as indicators to measure the financial burden that parents bear for students’ learning. 5.1.2 Student-related learning variables. The variables related to students’ learning status, access to resources, and academic performance were as follows. Variables such as access to learning support and educational resources, nutritional deficiencies and their resulting barriers to learning, difficulties faced by students in learning, participation in extra classes, access to internet and devices, absence from school (days missed), academic performance, and examination scores were used to understand the relationship between learning benefits and private expenditure.

Table 1: Family income pattern

Variable- Income	Type	Frequency	Percentage (%)
Income Group (Monthly) (LKR)	≤ 60>000	52	44.8

Income Group (Monthly) (LKR)	60>001–120>000	44	37.9
Income Group (Monthly) (LKR)	> 120>000	20	17.2

This analysis indicates economic diversity. The students participated in the study in a balanced proportion. Most of the families are from middle and low income groups. The occupation, having a direct relationship with monthly income, can affect the ability to afford education.

Income status and expenditure analysis and economic implications of education

Average fixed cost of education for parents

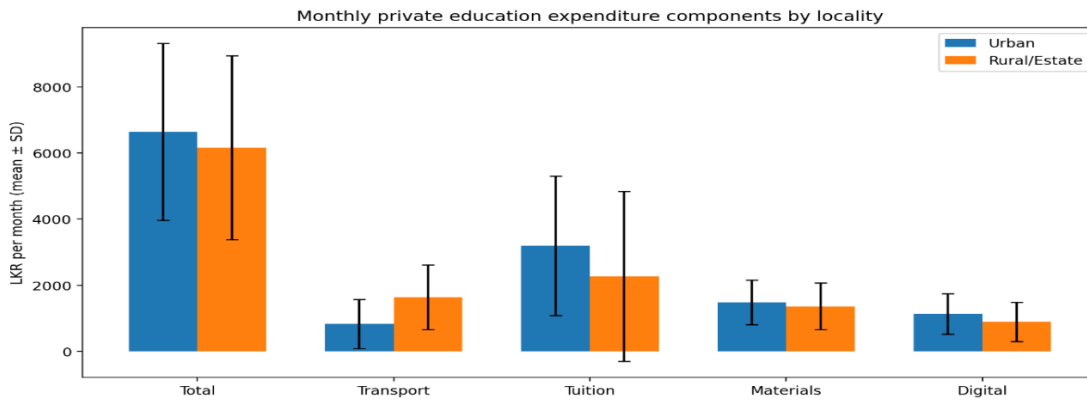


Figure 1: Comparison of monthly private expenditure components on education

This graph shows the total private expenditure on education divided into five components: transport, private classes, learning materials, and digital facilities, and compares between urban and rural and plantation areas. The black lines ($\pm s$) in each bar indicate the extent of the difference in those expenditures. It clearly shows that private expenditure on education varies by region. While higher expenditure in urban areas improves learning opportunities, in plantation areas, the lack of transport and resources can hinder students' learning. Therefore, this illustration emphasizes the need for government interventions to ensure educational equity. Urban households have higher expenditure on digital and extra-curricular activities. Transport costs are higher in plantation areas, reflecting the distance to school and the lack of transport infrastructure. On average, extra-curricular activities are the main financial burden.

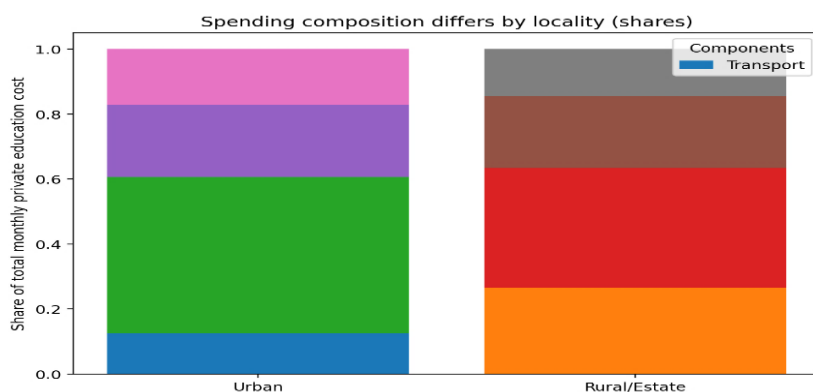


Figure 2: Distribution of Private Expenditure on Education by Region

This figure shows how monthly private expenditure on education is distributed by region in urban and plantation areas. The results reveal that the nature and priorities of education expenditure vary depending on the region. Private classes play a significant role in private expenditure on education in urban areas. This can be attributed to the greater competitiveness, higher educational expectations, and easier access to additional learning opportunities in urban areas (Bray, 2009; Dang & Rogers, 2008). This is followed by expenditure on learning

materials and digital resources. This suggests that urban students make greater use of technological resources (Selwyn, 2016). In contrast, transport costs account for a larger share of private expenditure on education in plantation areas. Due to the remoteness of schools and additional learning centers, the basic costs of accessing education become a major burden for families (World Bank, 2018). The low share of expenditure on private classes and digital facilities in these areas indicates a gap in access to learning resources

Detailed Analysis of Monthly Education Expenses Table (Monthly Expenses)

Table 3: Total Monthly Expense Range (Rs. per month)

<i>Total Monthly Expense Range (Rs. per month)</i>	<i>Urban</i>	<i>Plantation</i>	<i>Total;</i>
0–2>000	5	7	12
2>001–4>000	9	12	21
4>001–6>000	13	14	27
6>001–8>000	14	12	26
8>001–10>000	12	9	21
10>001+	5	4	9
Total	58	58	116

Most families spend between LKR 4,001 and 8,000 on education. This shows that there is a moderate economic slack and financial burden on education. Some families spend over 10,000 on exams, extra classes, and digital device needs.

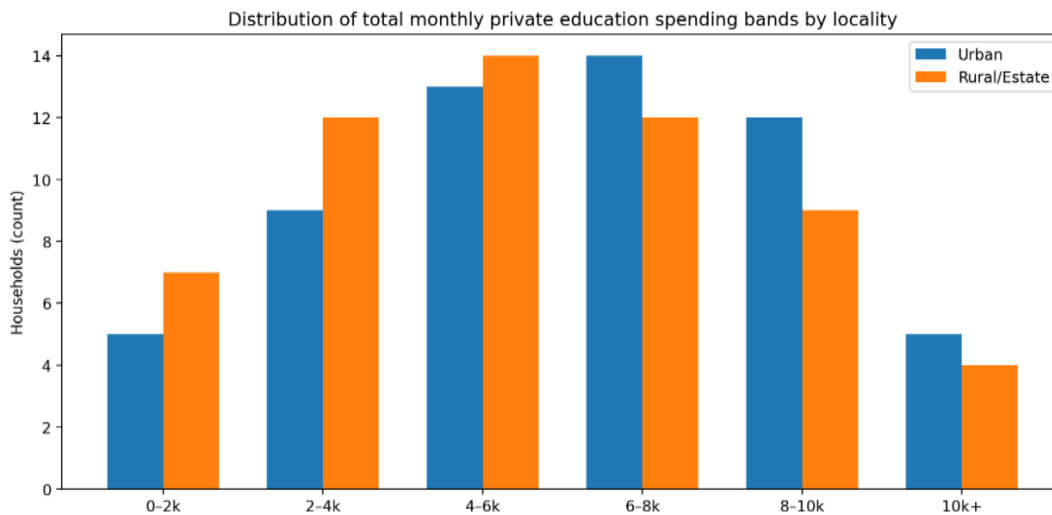


Figure 3: Total monthly private expenditure on education by region

The total monthly private expenditure on education in urban and plantation areas is distributed into different expenditure bands. This indicates that urban households have the economic capacity to invest more in private education. This increases the chances of urban students receiving additional private lessons, improved learning resources, and digital facilities (Bray, 2009; OECD, 2019). Students in plantation areas are at risk of falling behind in accessing learning resources (World Bank, 2018; UNESCO, 2020). Figure 5.3 clearly shows that the level and expenditure of private expenditure on education vary by region. This situation confirms that, despite the practice of “free education” in the Sri Lankan context, the economic status of families is a major determinant of students’ learning experience

Comparison of Parents' Income and Expenses Table

Monthly Income Limits

Distance to school (km)	Urban sector	Plantation sector	Total
0-5	33	12	45
6-10	15	11	26
11-15	6	18	24
16-20	0	11	11
21-25	4	5	9
25+	0	1	1
Total	58	58	116

Plantation areas have lower incomes and higher education expenditure ratios, indicating inequality and limited access to education.

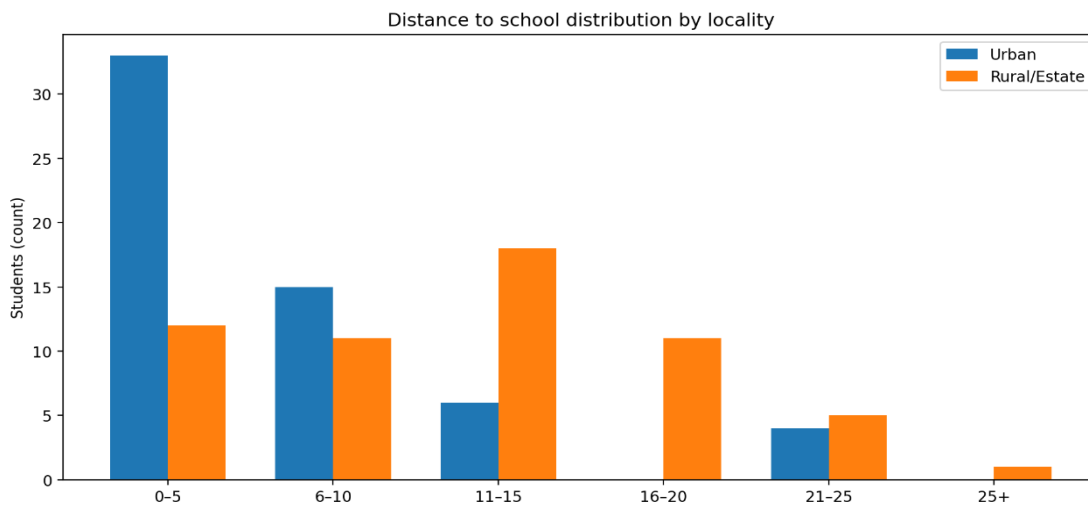


Figure 5.4: Distance to School - Cost Comparison by Region

This shows how students living in urban and plantation areas spend money on their distance to school. Shorter distances to school improve student attendance, time management, and learning engagement (Davison et al., 2008; World Bank, 2018; Ruzhasatana Team, 2018). Longer distances can increase the risk of student fatigue, late arrival, and school dropout (UNESCO, 2020; Smith et al., 2025). Figure 4.4 reveals that school accessibility and travel distance vary significantly by region. This confirms that despite Sri Lanka's free education system, geographical and structural factors are important determinants of students' educational experience. Urban parents are found to have higher expectations of education. In plantation areas, resource scarcity, stress, and economic burden are more prevalent. This is a key indicator of social inequality. Private education expenditure directly affects family income. Economic backwardness and deficiencies in educational services are clearly visible in plantation areas. Examination-based educational pressure is a major factor driving up expenditure.

Academic Indicators of Urban Plantation Students. This section compares the differences in learning indicators, difficulty components, and performance between urban and plantation students. The results are presented below based on the mean and standard deviation (SD).

Table 5.5 the mean and standard deviation of the academic indicators of each student

(Mean > SD; n = 116)

Variable (measure)	Urban Average	%	Plantation Average	%
Learning Support Index (1–5)	3.10	0.54	2.52	0.57
Nutritional Malnutrition Index (1–5)	2.56	0.61	3.19	0.58
Learning Difficulty Index (1–5)	2.34	0.54	3.16	0.57
Days of Absent (0–10)	0.88	0.70	1.74	0.81
Exam Score (0–100)	65.83	9.42	57.40	9.02

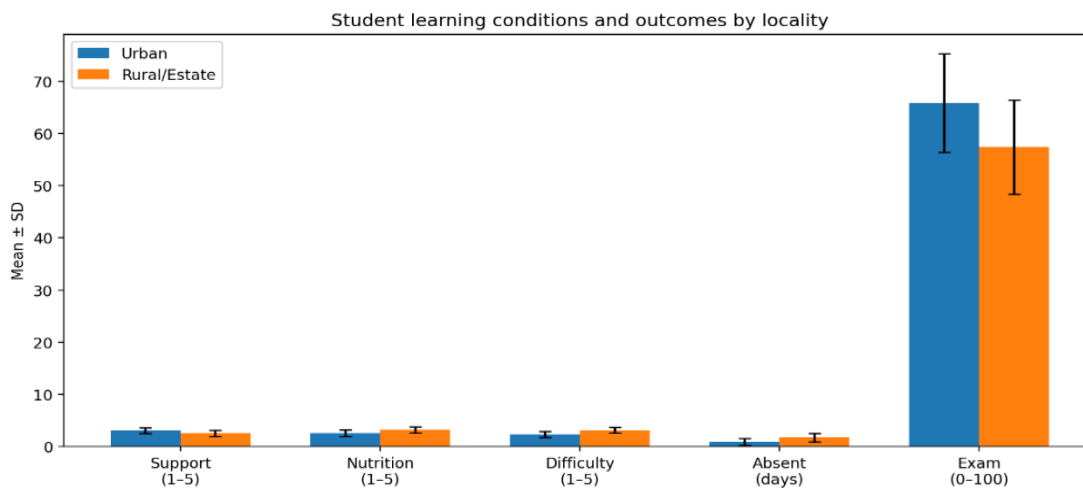


Figure 5.5: Learning Environments and Educational Outcomes of Students by Region

The data in the table helps to understand the educational status of students on a student-by-student basis. Learning Support index urban = 3.10 > Plantation = 2.52. Learning support services, family guidance, and educational environment are relatively improved in urban areas. Lack of nutrition plantation, 3.19 Urban, 2.56. Environmental conditions, transportation, and lack of academic support at home increase the difficulty. Absenteeism Plantation 1.74, urban 0.88. Long-distance travel, heavy household chores, and economic problems increase absenteeism. Examination achievement Urban 65.83%, Plantation 57.40%. Lack of learning support and great difficulty affect the scores of Plantation students. Learning Difficulty plantation 3.16, urban 2.34. Environmental conditions, transportation, and lack of educational support at home increase the difficulty.

Figure 5.5 shows the mean values (mean ± standard deviation) of the learning environments and educational outcomes of students studying in urban and plantation areas. It includes five key indicators: parental school support, nutritional status, learning difficulties, days of school absence, and examination scores. According to the figure, urban students have relatively higher mean values in terms of parental and educational support levels and nutritional status. This can be explained by factors such as household income, health facilities, and easy access to educational resources in urban areas. Such favorable learning environments improve students' academic engagement and learning ability (OECD, 2019; World Bank, 2018). In contrast, students studying in plantation areas exhibit higher mean values in terms of learning difficulties and days of school absence. This may be related to factors such as low educational support, malnutrition, long travel distances, and family economic challenges. Such circumstances can affect students' continued school attendance and learning performance (UNESCO, 2020). Urban students have higher average scores than plantation students in terms of examination results. This clearly shows that regional differences in learning environments are directly reflected in educational outcomes. The figure also confirms that environments with higher levels of support and nutrition,

and lower levels of learning difficulties and absenteeism, lead to higher academic achievement. These results are directly related to the research question “How do students’ learning environments (support, nutrition, attendance) affect educational outcomes?” The figure clearly shows that urban students in particular achieve higher examination results due to favorable learning environments, while plantation students face the risk of falling behind due to various structural and socio-economic barriers. Overall, Figure 4.5 indicates that students’ learning environments and educational outcomes vary significantly by region. This situation confirms that even under Sri Lanka's free education system, social and economic inequality acts as a major factor determining students' educational experience and achievements.

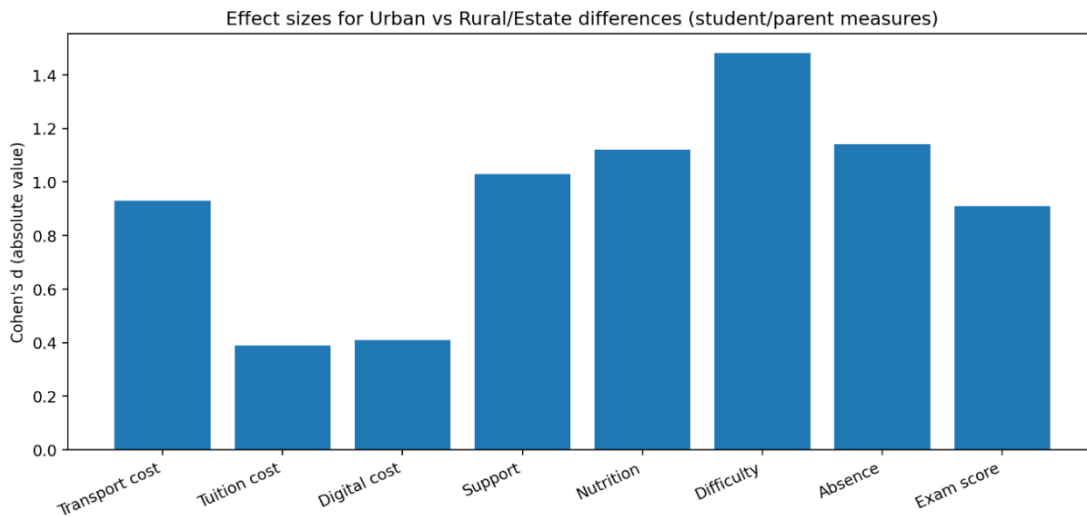


Figure 5.6: Impact of differences between urban and plantation students

Figure 5.6 shows the impact of differences in key educational and family-related indicators between students studying in urban and plantation areas. These variables include transport costs, private tuition costs, digital costs, educational support, nutrition, learning difficulties, school absenteeism, and examination scores. It indicates that plantation students face higher absenteeism, lower nutritional status, and less educational support, which creates significant differences compared to urban students. These factors have a direct impact on students’ learning ability and academic achievement. This confirms that the urban-plantation gap is not just a statistical difference but has a strong educational impact. This makes it clear that such evidence-based evidence should be given more importance than average values in shaping education policies.

ANOVA Results Examining Differences between Groups

In this study, ANOVA statistical analysis was conducted to determine whether there were differences in student spending, learning support, learning difficulties, and academic achievement across the three school education groups, namely 1AB, 1C, and Type 2.

Table 5.6: Education spending, learning conditions and academic outcomes by school type Mean values of groups (n= 116)

Variable	1AB (n=21) Average (SD)	1C (n=67) Average (SD)	tif 2 (n=28) Average (SD)
Total Private expenditure(RS)	6>890 (2>410)	6>330 (2>760)	6>110 (2>980)
Learning support index	3.32 (0.48)	2.71 (0.55)	2.68 (0.56)
Learning Difficulties Index	2.23 (0.50)	2.74 (0.63)	2.97 (0.70)
Examination score	69.10 (8.20)	59.50 (9.30)	58.47 (9.10)

Table 5.6 shows the mean values and standard deviations (\pm standard deviation) of key educational indicators for students studying in 1AB (n = 21), 1C (n = 67), and Type 2 (n = 28) schools. These include four key variables: total monthly private education expenditure, level of learning support, learning difficulty, and test scores. These results indicate that resource constraints, family economic constraints, and school-level structural challenges affect students' academic performance (World Bank, 2018; UNESCO, 2020). The data clearly show that students in 1AB schools, particularly those with higher private spending and stronger learning support, are leading in academic achievement, while students in school types with fewer resources are at risk of falling behind.

Table 7: Differences in educational spending, learning environments and outcomes by school type (ANOVA results)

Variable	F	df	p	η^2	Interpretation
Total Private expenditure(RS)	0.43	(2, 113)	0.650	0.008	No school-type impact
Learning support index	8.84	(2, 113)	<0.001	0.135	School-type has a strong impact
Learning Difficulties Index	8.10	(2, 113)	<0.001	0.125	School-type has a strong impact
Examination score	9.59	(2, 113)	<0.001	0.145	School-type has a strong impact

Table 5.7 presents the results of a one-way analysis of variance conducted to examine the differences in key variables related to students' education based on school type (1AB, 1C and Type 2). This includes the dependent variables of total private education expenditure, learning support index, learning difficulty index, and test scores. This also shows that school type is a strong determinant of students' learning environments and educational outcomes.

Table 5.9: Comparative analysis between school types and learning environment

	χ^2	df	p value (p)	Cramér's V	relationship
Distance	28.53	5	<0.001	0.496	Strong
Total cost	3.68	5	0.597	0.178	Weak
Tuition	8.11	1	0.004	0.264	Mediator
Digital	15.37	1	<0.001	0.364	Strong
Income	7.15	2	0.028	0.248	Mediator

Table 4.14 presents the results of the P-value analysis conducted for the variables found to be statistically significant in the analysis. These P-value results provide a clear and comprehensive answer to the research question "How do differences in learning support and learning difficulties across school types determine educational outcomes?" In particular, the analysis confirms that 1AB schools have an educational environment that is clearly different from other school types, and that this leads to higher educational outcomes.

Table 11: Pearson collation analysis

Variables	TC	Transport	Tuition	Digital	Learning Support	Healthy food	difficult y	Absents	Examination score
TC	1.000	0.355	0.784	0.520	0.246	-0.181	-0.220	-0.095	0.213
Transport	0.355	1.000	-0.112	-0.140	-0.330	0.410	0.400	0.382	-0.294

Tuition	0.784	-0.112	1.000	0.318	0.290	-0.190	-0.220	-0.101	0.183
Digital	0.520	-0.140	0.318	1.000	0.195	-0.140	-0.164	-0.075	0.208
Learning Support	0.246	-0.330	0.290	0.195	1.000	-0.630	-0.690	-0.420	0.549
Healthy food	-0.181	0.410	-0.190	-0.140	-0.630	1.000	0.773	0.502	-0.590
Difficulties	-0.220	0.400	-0.220	-0.164	-0.690	0.773	1.000	0.560	-0.710
Absents	-0.095	0.382	-0.101	-0.075	-0.420	0.502	0.560	1.000	-0.470
Examination score	0.213	-0.294	0.183	0.208	0.549	-0.590	-0.710	-0.470	1.000

Higher levels of learning support (LS) in relation to the learning difficulties are associated with higher achievement. Achievement is significantly lower in the presence of difficulties and malnutrition. That is, residential access to education, the availability of facilities, etc., makes a significant difference. Students who receive learning support achieve higher achievement. Malnutrition, difficulty index, and absenteeism are the main factors that affect the learning outcomes. Therefore, private expenditure on education is not only a cost but also a determinant of the quality of educational opportunities, equity of access, and future achievement of students.

Table 12: Consequences - Regression Coefficients (Modeling)

The variables exam scores are: Higher levels of learning support (LS) in relation to the learning difficulties, and higher achievement. Achievement is significantly lower in the presence of difficulties and malnutrition. That is, residential access to education, the availability of facilities, etc., makes a significant difference. Students who receive learning support achieve higher achievement. Malnutrition, difficulty index, and absenteeism are the main factors that affect the learning outcomes. Therefore, private expenditure on education is not only a cost but also a determinant of the quality of educational opportunities, equity of access, future achievement of students.

Consequences (Consequences) – Examination Performance and Learning Difficulties

This section examines the main factors that have consequences on the examination performance and learning difficulties of students.

Table 5.12: Consequences - Regression Coefficients (Modeling)

variable	B	SE	t	p	interpretation
value	78.210	3.210	24.37	<0.001	positive
LSI	4.017	2.256	1.78	0.078	Significant relationship
Tuition fee (Rest.)	0.0010	0.0003	3.30	0.001	001 Small positive impact;
Transport fee (Rest.)	-0.0018	0.0005	-3.51	<0.001	001 Significant negative I Impact
School 1C (Compare with 1AB)	-4.960	2.166	-2.29	0.024	Score lower than 1AB;
School type 2 (compare with 1AB)	-3.969	2.502	-1.59	0.116	Not Significant

Learning Difficulty and; Transport Cost If the level of corruption in the schools is low, it has a negative impact on the exam results. Corruption helps to increase the exam results to a small extent. Urban and rural schools do not show a significant impact.

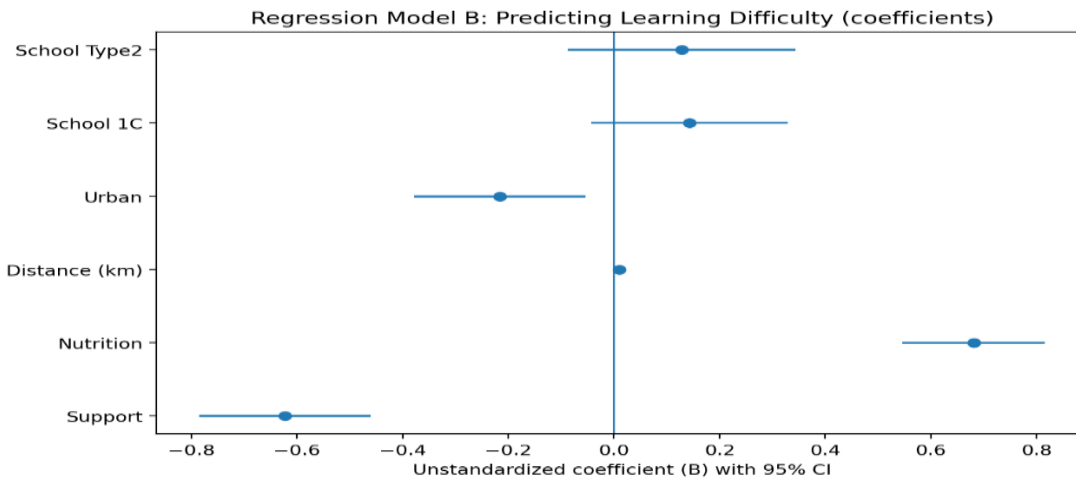


Figure 5.7: The influence of factors predicting students’ learning difficulties

The influence of factors predicting students’ learning difficulties (ratio and 95% confidence interval) is clearly shown. In this, the nutrition variable exhibits a very strong positive effect ($B \approx 0.65$). This means that learning difficulties increase significantly as malnutrition increases. In contrast, educational support exhibits a strong negative effect ($B \approx -0.60$). This confirms that learning difficulties decrease as family, teacher, or school support available to student’s increases. The urban background variable is also found with a negative coefficient ($B \approx -0.25$), indicating that learning difficulties are relatively less for urban students. At the same time, School 1C and School type 2 exhibit positive coefficients. This indicates that learning difficulties may be greater in certain school types. Distance to school shows only a very small impact, suggesting that it is not a significant predictor in this model. Overall, this model provides statistical support for the research question “How do socio-economic, nutritional, and educational support factors determine students’ learning difficulties?” and emphasizes that policy interventions, particularly those that improve nutrition and strengthen educational support, are important in reducing learning difficulties.

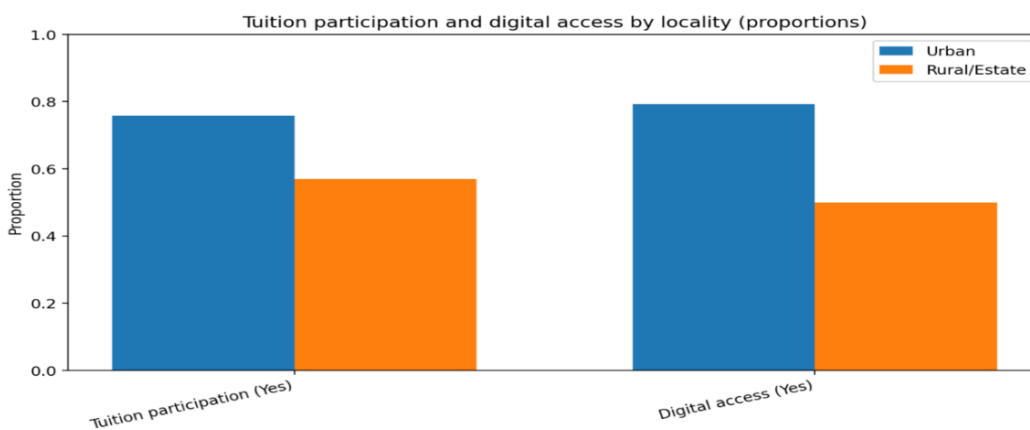


Figure 5.8 Participation in private tutoring by students living in urban and plantation areas

This survey clearly reveals the differences in the proportion of students living in urban and plantation areas in terms of private tutoring participation and digital access. It is seen that about three-quarters of urban students (75%) participate in private tutoring, while it is less so among plantation students (57%). Similarly, this gap is even more pronounced in digital access. While about 79% of urban students have access to digital facilities, only about 50% of students living in plantation areas have access to digital facilities. These findings indicate that socio-economic inequalities exist in access to educational resources and that rural students, in particular, may be affected by the lack of access to digital facilities and additional educational support. Therefore, this survey

provides direct visual evidence to the research question “How does location and access to resources affect students’ academic achievement?”

STUDY CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study reveals that private expenditure on education does not directly and completely determine the quality of students’ learning. As private expenditure on education increases, socio-economic disparities intensify, and the learning gap between students from high-income families and students from low-income families widens. Furthermore, these expenditures cause economic and psychological stress on families, creating negative impacts on the well-being of parents and students. It is clear that if the physical health of students is not protected in the context of increasing private expenditure on education, their learning progress will be affected. Physical health is a fundamental resource for students’ learning. Although private expenditure on education is considered to improve learning, in the presence of deficiencies in physical health, the expected educational benefits are not fully achieved. Therefore, students’ learning difficulties cannot be explained solely in terms of educational expenditure. This study also confirms that the food security of families, physical health priority and socio-economic environment are closely related to each other. It reveals that private expenditure plays an important role in fulfilling basic needs related to education. In an environment where basic needs are not fully met, students’ learning ability, engagement and academic achievement are significantly affected. Even if private education spending increases, it is also certain that the expected learning progress will not be achieved if it is not linked to the fulfillment of basic needs. Therefore, educational gaps arise not only due to the lack of educational resources, but also as a result of the combined effect of families’ economic capacity, spending priorities and ability to fulfill basic needs.

Recommendations

Educational resources and learning facilities in government schools should be improved. Educational grants, free learning resources and digital facilities should be expanded for students from low-income families. Supplementary learning programs and guidance activities should be implemented at the school level. Parents should be made aware of the costs of education and encouraged to avoid unnecessary expenses and make effective educational investments. Furthermore, education policies should be designed to prioritize social equity. The nutritional health of students should be considered as a basic condition for learning in education policies. For this, school meal programs and nutrition improvement programs should be strengthened. Food security schemes linked to education expenditure should be expanded for families living in low socio-economic backgrounds. Awareness programmes should be conducted for parents to ensure that the nutritional needs of students are not neglected when planning education expenditure. Teachers and school administrations should work together to identify students who are lagging behind in learning due to learning disabilities and provide them with appropriate educational and welfare support. School-level textbooks, stationery, uniforms and transport assistance schemes should be strengthened to reduce the burden of private expenditure on meeting basic needs related to education. Education policy makers should consider education as a holistic social investment and integrate welfare schemes that meet basic needs with education programmes. Awareness programmes should be conducted for parents to ensure that basic needs are given balanced priority when planning education expenditure. Furthermore, area-based support should be introduced to reduce the gap in basic facilities between urban and rural areas.

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