



Differential Impact on the Students' Performance in the Grade Five Scholarship Examination in Sri Lanka: Based on the Nuwara-Eliya District

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Abstract

The grade five scholarship examination emerged as one of the three critical examinations in Sri Lanka. It is evident that the Central Province and the Nuwara-Eliya district recorded the lowest performance in the grade five scholarship examination. Those performed well in the examination take opportunities to attend popular schools and are entitled for bursaries to continue secondary education. Recently, this examination has been malformed by an enormous competition that creates unbearable pressure on students at their early ages, and the performances are not up to a better level in some areas. Without a better understanding of the differential impact on children's performance in the grade five scholarship examination, it is scarcely expected to be a good performance. This study attempts to investigate the differential impact on the children's performance in the grade five scholarship examination in Sri Lanka based on the Nuwara-Eliya district. The primary data gathered through a sample survey were employed in this study. A sample of 378 children was selected using multistage stratified sampling. The multiple linear regression technique was applied to achieve the objective. The coefficient of determination and F test of ANOVA were utilised to evaluate the goodness of fit of the fitted model. The fitted model predicts that monthly family income ($\beta=0.002$ with p value=0.000), children's nutritional status ($\beta=-3.54$ with p value=0.002) and enrolment with private tuition ($\beta=6.33$ with p value=0.000) have a significant differential impact on the children's performance in the grade five scholarship examination. Children from higher-income families, those not suffering from low nutritional status, and those attending private tuition are more likely to perform well in the examination than their counterparts. The coefficient of determination (R^2) is 0.888,

which justifies the estimated model adequately fits in the data emphasizing the selected explanatory variables for describing the performance are significant. This study provides guidance to policy implications to increase performance in the grade five scholarship examination by addressing these significant factors.

Key words: *Examination, Grade Five Scholarship Income, Multiple Linear Regression, Nutritional Status, Tuition*

Introduction

In the Sri Lankan education system, primary education is the initial stage of formal education. It comes immediately after nursery education and before secondary education. Primary education continues for five years and belongs to child centered and activity-based education. It emphasises more on mind, basic skills, and ability development than on structure and examinations (Ministry of Education, 2005). At the end of the five years of primary education, its success is evaluated through the grade five scholarship examination. The grade five scholarship examination emerged as one of the three critical examinations in Sri Lanka. The Grade five scholarship examination was introduced to Sri Lanka in 1948 (Abayasekara, 2019). This examination is conducted annually by the Department of Examination, Ministry of Education, Sri Lanka. Those who performed well in the examination take opportunities to attend popular schools and are entitled to bursaries to continue secondary education. Recently, the grade five scholarship examination has been malformed with an enormous amount of competition that creates unbearable pressure on students at an early age.

Many students who are in primary school are, naturally, more likely to be playful and not interested in keen studies. Most of the fifth-grade schoolchildren feel anxious and used to complain about headaches and many other abdominal pains. For these symptoms, any medical basis is not obvious. Psychiatrists have identified the psychological impact of this exam on these schoolchildren (Jazeel, 2018). Many controversial discussions and suggestions came forward from time to time for cancellation or making some adjustments to the grade five examination to decrease the severe psychological burden on grade five schoolchildren. Most parents have no exact idea about this, and they force their children to reach unrealistic targets. They send their children to several tuition classes since they think that it is the only way to reach better performance. The children need to achieve a high score, at least an average of 90 marks per paper to enter the most popular schools with more facilities. However, past results have not shown a satisfactory level of performance in some areas.

Table 1: Performance of the Grade Five Scholarship Examination by Province

| Province | Number sat | Above cut-off marks % | Marks of 100 or Above % |
|---------------|------------|-----------------------|-------------------------|
| Western | 76470 | 13.58 | 67.71 |
| Central | 43021 | 10.29 | 61.63 |
| Southern | 40470 | 15.59 | 69.25 |
| Northern | 18097 | 17.54 | 62.26 |
| Eastern | 29681 | 12.63 | 57.14 |
| North Western | 40042 | 16.06 | 70.49 |
| North Central | 28877 | 16.26 | 66.78 |
| Uva | 22832 | 16.13 | 65.41 |
| Sabaragamuwa | 30774 | 16.24 | 69.47 |
| Island | 326264 | 14.46 | 66.11 |

Source: Department of Examination, 2020

Table 1 shows that only 14.46% of the children who sat for the exam have obtained above-cutoff marks considering overall Sri Lanka. It is less than one fifth, less than 20%. The percentage of children who obtained marks of 100 and above is less than 75%. Even though the grade five scholarship examination has become a critical exam and the parents are sending their children to several tuition classes, spending more money without even a nutritious meal on time for the children, the performances are not up to a better level. Without a better understanding of the differential impact on children's performance in the grade five scholarship examination, it is scarcely expected to be a good performance. Very little is known about the differential impact of various factors on children's performance in the grade five scholarship examination. This has not received proper attention from scholars, and research studies on this are rare in the previous literature. The objective of this study is to investigate the differential impact on the children's performance in the grade five scholarship examination in Sri Lanka based on the Nuwara-Eliya district.

Comparing all the provinces, central province recorded the least performance (10.29%) in the grade five scholarship examination in terms of above-cutoff marks (Department of Examination, 2020). The percentage of children who obtained marks of 100 and above is 61.63% (Department of Examination, 2020) and is less than 75%.

Table 2: Performance of the Grade Five Scholarship Examination in the Central Province by District

| District | Number sat | Above cut-off marks % | Marks of 100 and above % |
|--------------|------------|-----------------------|--------------------------|
| Kandy | 21979 | 10.45 | 64.91 |
| Matale | 8380 | 11.3 | 65.29 |
| Nuwara Eliya | 12662 | 9.35 | 53.52 |

Source: Department of Examination, 2020

According to Table 2, considering three districts in the central province, both the percentage of marks above the cutoff (9.35%) and the percentage of marks 100 and above (53.52%) are lowest in the Nuwara Eliya district. Therefore, Nuwara Eliya district was selected as the study area, and it is timely to investigate the differential impact on the children's performance in the grade five scholarship examination. Grade 6 is the immediate class where the students are studying and showing their performance in the grade five scholarship examination. Therefore, grade 6 children in the government schools in the Nuwara Eliya district were considered in selecting the sample for the study.

Literature Review

According to the previous empirical literature, many researchers and philosophers have identified the differential impact of income, nutritional status, enrollment with private tuition, daily school attendance, gender, age, mothers' educational level, fathers' educational level and many other factors on students' performance in education.

Asmare et al. (2018) have verified an association between monthly income and academic performance. According to Ali et al. (2013), in the study of graduate students at a university, income was found to be a significant factor contributing to their academic performance. As found in the cross-sectional study conducted by Ayalew et al. (2020) using primary school students in Lalibela town, income from 550 to 2999 ETB increased academic achievement. Farooq et al. (2011) conducted a study with secondary school students in Pakistan and revealed that socioeconomic status is an important predictor of the students' academic performance. Further, they found that the high and average socio-economic status influence the students' academic performance more than the lower-level socio-economic status. According to Sothan (2019), socio-economic status seemed to be positively associated with academic performance among the university students in Cambodia. By contrast, the results of the study conducted by Hijazi and Naqvi (2006) have proved a negative and insignificant relationship between income and the academic performance of students in Pakistan.

The relationship between the nutritional status of children and their schooling seems to be of increasing importance in developing countries. Malnutrition in terms of stunting was found to be related to educational achievement in developing countries (Aturupane et al., 2011). According to Asmare et al. (2018), the prevalence of undernutrition is common among school children. According to Prado and Dewey (2014), undernutrition and stunting influence lower achievement in education. Malnutrition was associated with lower school achievement (Faught et al., 2017; Izidoro et al., 2014). Duyar and Pelin (2010) pointed out that undernutrition is a key challenge in the context of public health, influencing educational achievement in schools. According to Shariff et al. (2000), low and poor educational achievements exist among stunted children due to their low ability to learn at school. According to Asmare et al. (2018), malnourished children are more likely to have a low level of educational performance than those among normal children. According to Haile et al. (2016), stunting is significantly associated with academic performance. Aluyor and Uwameiye (2017) investigated the different impacts of categories of nutritional status on the academic performance of public secondary school food and nutrition students in Edo State.

Aturupane et al. (2011) conducted a study on determinants of academic performance using primary school students in Sri Lanka and found that enrollment in private tutoring classes causes an increase in education performance. According to Farg et al. (2015), average hours per day for revision have influenced the academic achievements of the students studying at the Faculty of Sciences and Humanities at Thadiq, Shaqraa University, KSA. By contrast, according to Ali et al. (2013), tuition was not a significant factor contributing to the academic performance of the students. According to Aturupane et al. (2011), high daily attendance causes an increase in educational performance. A significant positive effect of students' attendance on their academic performance was found by Fernando (2017) in the study of undergraduates in the faculty of management studies and commerce at the University of Sri Jayewardenepura in Sri Lanka. According to Sothan (2019), attendance at classes seemed to be positively associated with academic performance among university students in Cambodia.

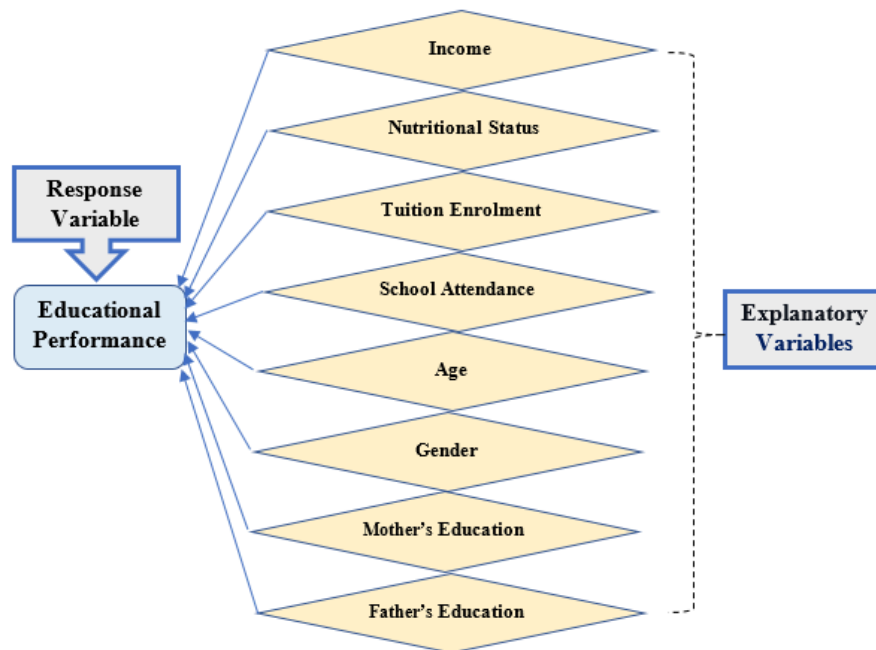
Gender is another factor influencing academic performance, as found in many studies. Farooq et al. (2011) found that gender is a significant predictor of students' academic performance and further revealed that academic performance among girls is better than that of boys. Gutman et al. (2002) investigated whether gender plays a role in academic achievement among African American students and revealed that females had higher achievement in academic tasks than did males. Further, they confirmed that females show higher performance compared to males. However, Sothan (2019) observed that the evidence is insufficient to show a significant association between gender and academic performance among university students in Cambodia. By contrast, according to Ali et al. (2013), gender was not a significant factor contributing to the academic performance of the students. A significant relationship between gender and students' performance was not apparent among university students in Malaysia (Remali et al., 2013). According to

Goni et al. (2015), a significant difference between gender and academic performance among college students has not appeared. Asmare et al. (2018) has verified an association between a child's age and academic performance in Ethiopia using a fitted logistic regression model. According to Ali et al. (2013), in the study of graduate students at a university, age was found to be a significant factor contributing to their academic performance. However, Sothan (2019) observed that the evidence is insufficient to show a significant association between age and academic performance among university students in Cambodia.

Aturupane et al. (2011) found that educated parents caused an increase in education performance in a study conducted on determinants of academic performance using primary school students in Sri Lanka. Farooq et al. (2011) have found that parents' education has a significant impact on the students' academic achievement. Farg, et al. (2015) found that father's and mothers' educational levels have influenced the academic achievements of the students studying at the Faculty of Sciences and Humanities at Thadiq, Shaqraa University, KSA. As found in the cross-sectional study conducted by Ayalew et al. (2020) using primary school students in Lalibela town, the high status of maternal education caused an increase in academic achievement. According to Hijazi and Naqvi (2006), a mother's educational level seems to have a positive relationship with the academic performance of the students in Pakistan. However, Sothan (2019) observed that the evidence is insufficient to show a significant association between parents' education and academic performance among university students in Cambodia.

Figure 1 given below, demonstrates the conceptual framework designed for the differential impact on children's performance in education.

Figure 1: Conceptual Framework



Source: Developed by the Author, 2022

Hypothesis 1:

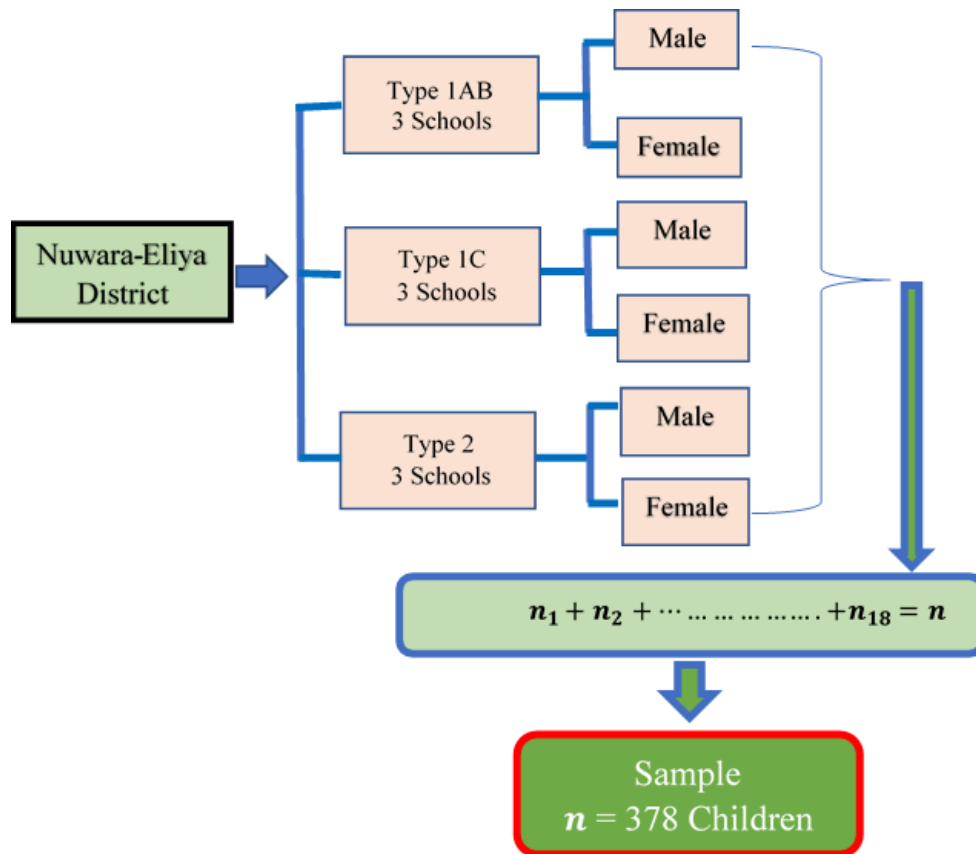
Null: There is not a significant differential impact of different factors on children's performance in the grade five scholarship examination in Sri Lanka

Alternative: There is a significant differential impact of different factors on children's performance in the grade five scholarship examination in Sri Lanka

Materials and Methods

This study followed the quantitative research approach. Primary data collected through a structured questionnaire were used in this study. In the Sri Lankan educational system, four types of schools (Type 1AB, Type 1C, Type 2, and Type 3) exist (Ministry of Education, 2019). The target population of this study is the total number of grade 6 school children studying in government schools in the Nuwara Eliya district. The size of the population is 12963 school children studying in grade 6 in government schools in Nuwara Eliya district (PDE, 2021). They belong to 3 types of schools: Type 1AB (4366), Type 1C (5158), and Type 2 (3439), since the Type 3 schools do not hold grade 6 classes (PDE, 2021).

Figure 2: Sampling Procedure



Source: Developed by the Author, 2022

The sample size for this study is 378 and it was decided based on Krejcie–Morgan table. The multistage stratified sampling technique was applied to draw the sample of grade 6 school children as shown in Figure 2. Three schools from each type of school were selected randomly based on equal allocation. Final units to the sample were selected representing both male and female from grade 6 children of selected schools using the proportional allocation. The survey was conducted from 01st May 2021 to 30th June 2021.

The multiple linear regression model was derived to investigate differential impact on the performance in the grade five scholarship examination. The multiple linear regression equation for predicting Y can be expressed as follows.

$$PGE = \beta_0 + \beta_1 INC + \beta_2 NUS + \beta_3 EPT + \beta_4 GEN + \beta_5 FAE + \beta_6 MOE + \beta_7 DSA + \beta_8 ACH + \varepsilon$$

β_0 = intercept

β_i = Slope coefficients (Regression coefficients)

Dependant variable (Y) = Performance of the grade five scholarship examination

Independent variables (X_i):

INC = Monthly Family Income

NUS = Nutritional Status

EPT = Enrollment with Private Tuition

GEN = Gender

FAE = Fathers' Education

MOE = Mothers' Education

DSA = Daily School Attendance

ACH = Age of Child

ε = Error term

The response (dependent) variable (Y) is the performance of the grade five scholarship examination, measured by the marks obtained by the students in the grade five scholarship examination, which was held on 11th October 2020. Income, nutritional status, enrolment in private tuition, gender, father's education, mother's education, daily school attendance, and age of the child were considered as explanatory variables. The explanatory variable, monthly family income, was considered a continuous variable, while nutritional status, enrollment in private tuition, daily school attendance, gender, age of the child, mothers' education, and fathers' education are categorical or dummy variables. The nutritional status of the children was measured using the WFH (Weight for Height) z score. WFH scores less than -2 z was defined as malnutrition, and it was considered to have low nutritional status in this study.

Results and Discussion

The key requirement for applying the multiple linear regression technique is satisfying several underlying assumptions. The major assumptions of linearity, no multicollinearity, no autocorrelation, homoscedasticity, and normality were checked for the multiple linear regression model. Firstly, the assumption of no multicollinearity was checked before fitting the model.

Table 3: Checking Multicollinearity among Independent Variables

| Determinants | Nutritional status | Enrollment with private tuition | Daily school attendance | Gender |
|---------------------------------|---------------------------------------|---------------------------------------|-----------------------------------|---------------------------------------|
| Enrollment with private tuition | Chi-Square (p value=0.962) | | | |
| Daily school attendance | Chi-Square (p value=0.000) | Chi-Square (p value=0.000) | | |
| Gender | Chi-Square (p value=0.484) | Chi-Square (p value=0.673) | Chi-Square (p value=0.255) | |
| Age of child | Chi-Square (p value=0.000) | Chi-Square (p value=0.000) | Chi-Square (p value=0.956) | Chi-Square (p value=0.099) |
| Mother's education | Chi-Square (p value=0.000) | Chi-Square (p value=0.381) | Chi-Square (p value=0.095) | Chi-Square (p value=0.013) |
| Father's education | Chi-Square (p value=0.000) | Chi-Square (p value=0.484) | Chi-Square (p value=0.574) | Chi-Square (p value=0.003) |
| Income | T test (p value=0.099) | T test (p value=0.053) | T test (p value=0.000) | T test (p value=0.850) |
| Determinants | Age of child | Mother's education | Father's education | Income |
| Mother's education | Chi-Square (p value=0.075) | | | |
| Father's education | Chi-Square (p value=0.004) | Chi-Square (p value=0.000) | | |
| Income | T test (p value=0.004) | ANOVA (p value=0.003) | ANOVA (p value=0.007) | |

Source: Sample Survey Data analysis, 2022

Table 3 shows the results of various tests for multicollinearity among all explanatory variables considered for the multiple linear regression model. The highlighted figures indicate that a significant correlation exists among the corresponding variables. The variables; daily school attendance, age of the child, mothers' education, and fathers' education initially considered were removed from the model building due to the presence of high collinearity among them.

Table 4 depicts the results of the fitted multiple linear regression model to investigate the differential impact on the performance of the grade five scholarship examination using only monthly family income, nutritional status, enrolment in private tuition, and

gender of the child as explanatory variables without violating the assumption of no multicollinearity.

Table 4: Results of Multiple Linear Regression Model

| Model 1 | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---------------------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-----------|
| | B | Std. Error | | | | Beta | Tolerance |
| (Constant) | 59.043 | 1.623 | | 36.376 | .000 | | |
| Nutritional status | -3.541 | 1.108 | -.060 | -3.197 | .002 | .855 | 1.169 |
| Enrollment with private tuition | 6.330 | 1.360 | .084 | 4.655 | .000 | .924 | 1.082 |
| Gender | -1.767 | .928 | -.033 | -1.903 | .058 | .980 | 1.020 |
| Income | .002 | .000 | .893 | 47.006 | .000 | .830 | 1.205 |

Source: Sample Survey Data Analysis, 2022

The statistical significance of each parameter in the model was tested using the t-statistic. Based on the above results, it is evident that nutritional status, enrollment in private tuition, and monthly family income have a statistically significant impact on the performance of the grade five scholarship examination at the 0.01 significance level. It indicates that gender is not statistically significant and had no direct effect on the performance of the grade five scholarship examination.

Goodness of Fit

Goodness of fit of the fitted model was checked using R^2 (Coefficient of determination) and ANOVA (Analysis of Variance) tests as given below.

Table 5: R^2 (Coefficient of Determination)

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|------|----------|-------------------|----------------------------|---------------|
| 1 | .943 | 0.888 | 0.887 | 8.89478 | 1.774 |

Source: Sample Survey Data Analysis, 2022

Table 5 discloses that R^2 and adjusted R^2 values are 0.888 and 0.887, respectively. It concludes that 88% of the total variation in the marks obtained in the grade five scholarship examination can be explained by the fitted explanatory variables. It justifies the fact that the selected model adequately fits the data.

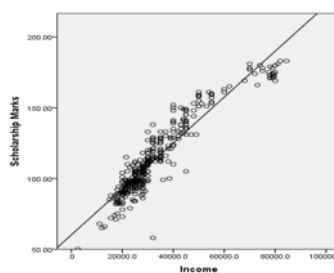
Table 6: ANOVA (Analysis of Variance) with F test

| Model | SV | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|---------|------|
| 1 | Regression | 234946.41 | 4 | 58736.601 | 742.401 | .000 |
| | Residual | 29510.663 | 373 | 79.117 | | |
| | Total | 264457.07 | 377 | | | |

Source: Sample Survey Data Analysis, 2022

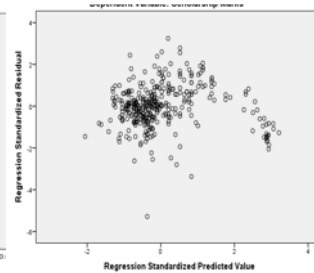
Table 6 provides that the p-value (Sig.) for the F test is less than 0.001 implying that overall, the fitted model is statistically significant.

Figure 3: Checking Linearity



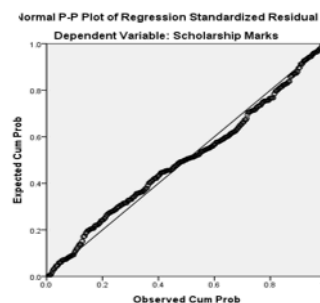
Source: Sample Survey Data Analysis, 2022

Figure 4: Checking Homoscedasticity (Equal Variance of Residuals)



Source: Sample Survey Data Analysis, 2022

Figure5: Checking Normality of Residuals (Residuals are Normally Distributed)



Source: Sample Survey Data analysis, 2022

The key requirement for applying the multiple linear regression technique is satisfying several underlying assumptions. The major assumptions of linearity, no multicollinearity, no autocorrelation, homoscedasticity, and normality were checked for the multiple linear regression model. Figure 3 shows the scatter plot for linearity for the marks obtained in the grade five scholarship examination and monthly family income. It revealed that the linearity assumption is satisfied for those variables. Figure 4 emphasises that the assumption of homoscedasticity (equal variance of residuals) of the fitted model is satisfied because the residual dots do not fan out in a triangular fashion. The PP plot given in Figure 5 emphasises that the assumption of normality (residuals are normally distributed) is satisfied. Once the model was fitted, the VIF value and tolerance

value given in Table 4 ensured that the assumption of no multicollinearity was satisfied. According to Table 5, Durbin-Watson's value is 1.774, and it is close to 2, satisfying the assumption of no autocorrelation for the model.

According to Table 4, the results of the multiple linear regression model point out that the regression coefficient associated with nutritional status is -3.541, indicating that there exists a negative relationship between nutritional status and the performance of the grade five scholarship examination. Further, it predicts that approximately 4 (3.541) marks are less in the grade five scholarship examination for a child who suffers from low nutritional status than a child who does not suffer from low nutritional status. These findings were supported by the results of several previous studies conducted by different researchers (Asmare et al., 2018; Faught et al., 2017; Izidoro et al., 2014). Endalew et al. (2015) have identified that malnutrition affects the learning ability of children.

As revealed in Table 4, the regression coefficient associated with income is 0.002, indicating that there exists a positive relationship between income and the performance of the grade five scholarship examination. Further, it predicts that increasing the income by one rupee causes an increase in the marks by 0.002 in the grade five scholarship examination, and it points out that being a child in a higher-income family is more likely to perform well in the examination than being a child in a low-income family. Results from this study agree with previous work by Ayalew et al. (2020). According to Ali et al. (2013), income was found to be a significant factor contributing to their academic performance. By contrast, the results of the study conducted by Hijazi and Naqvi (2006) have proved an insignificant negative relationship between income and academic performance.

As given in Table 4, the regression coefficient involved with enrollment with private tuition is 6.330 indicating its positive relationship with the performance of the grade five scholarship examination. Further, it predicts that approximately 6 (6.330) marks are higher in the grade five scholarship examination for a child who enrolled with private tuition than a child who did not enroll with private tuition. Similar findings were observed in the previous study conducted by Aturupane et al. (2011). Further, Farg, et al. (2015) found that average hours per day for revision have influenced the academic achievements of the students. In contrast, as found by Ali et al. (2013), tuition was not a significant factor contributing to the academic performance of the students.

Table 4 shows that gender is not statistically significant enough to explain the variability of the performance of the grade five scholarship examination. It indicates that the gender of the student does not directly affect the performance of the grade five scholarship examination. Parallel to these findings, Ali et al. (2013), Sothan (2019), and Remali et al. (2013) found that gender was not a significant factor contributing to the academic performance of the students. According to Goni et al. (2015), a significant difference between gender and academic performance among college students has not appeared. In contrast, Farooq et al. (2011) found that gender is a significant predictor of a student's academic performance and further revealed that academic performance among girls is

better than that of boys. Gutman et al. (2002) found that females had higher achievement in academic tasks than males.

Conclusion and Recommendations

This study investigated the differential impact on children's performance in the grade five scholarship examination in Nuwara-Eliya district, Sri Lanka based on primary data. The study applied multiple linear regression to investigate the differential impact. Nutritional status, enrollment in private tuition, and monthly family income have a statistically significant impact on the performance of the grade five scholarship examination. Nutritional status, enrollment with private tuition and monthly family income have statistically significant impact on the performance of the grade five scholarship examination. The assumptions of multiple linear regression were checked and R^2 value ensured that the model adequately fits the data in this study.

Child malnutrition has a statistically significant negative impact on performance in the grade five scholarship examination. The low nutritional status lessens performance. A child not suffering from low nutritional status is more likely to perform well in the examination. The children in the study area have the risk of insufficient nutritious food. They are involving economic activities due to prevailing poverty in the family and being absent from school. Foods with micronutrients and macronutrients are essential for children's brain development, cognitive capabilities and overall body function. Through these, low nutritional status might be related to poor performance in the grade five scholarship examination in the study area. Children from higher-income families are more likely to perform well in the examination than a children from low-income families in the study area. Well-financed families are able to provide more educational resources and create a stress-free positive atmosphere for their children's learning process. On the contrary, less-financed families may fight to survive their lives before spending money on their children's education. This situation may create poor performance in the grade five scholarship examination for children from low-income families in the study area. Further, the study pointed out that attending private tuition is a leading factor in performing well in the grade five scholarship examination. In private classes, the teacher gives students special attention, raising their motivational level and effectiveness in clarifying complicated concepts. Children who do not attend private classes lose this opportunity. Therefore, performance in the grade five scholarship examination might be lower for the children without attending private tuition than for those attending in the study area.

This study attempted to fill the prevailing research gap in investigating the differential impact on children's performance in the grade five scholarship examination in Nuwara-Eliya district, Sri Lanka. The study suggests that the government should strengthen its nutritional intervention and provide efficient food assistance in the schools enabling children to get nutritious food intake. Better food relief programmes should be implemented in the study area. The government should implement policies to

generate innovative income sources in the study area. Counseling programmes should be launched for household heads to refrain from unnecessary expenses (alcohol and smoking) to increase financial investment in their children's education. They should be emphasised the importance of child's education to break both poverty and malnutrition cycles. The government should strengthen, formalize and reform free education to refrain from tuition. Fair education opportunities for all children from low and high-income families should be provided. This study guides policy implementors to increase performance in the grade five scholarship examination by addressing these factors.

References

- Abayasekara, A. (2019). *Sri Lanka's Grade Five Scholarship Examination: An Evaluation of its Effectiveness and Relevance*. Health & Education Research Series No. 200, Institute of policy studies of Sri Lanka
- Ali, S., Haider, Z., Munir, F., Khan, H. & Ahmed, A. (2013). Factors Contributing to the Students' Academic Performance: A Case Study of Islamia University Sub-Campus. *American Journal of Educational Research*, 1(8), 283-289
- Aluyor, P. & Uwameiye, B.E. (2017). Relationship between Categories of Nutritional Status and Academic Performance of Food & Nutrition Students in Secondary Schools in Edo State. *ATBU Journal of Science, Technology & Education (JOSTE)*, 5 (2), 160-165
- Asmare, B., Taddele, M., Berihun, S. & Wagney, F. (2018). Nutritional status and correlation with academic performance among primary school children, northwest Ethiopia. *BMC Res Notes*, 11(805), 1-6
- Aturupane, H., Glewwe, P. & Wisniewski, S. (2011). The impact of school quality, socioeconomic factors, and child health on students' academic performance: evidence from Sri Lankan primary schools. *Education Economics*, 21(1), 2-37
- Ayalew, M., Bayray, A., Bekele, A. & Handebo, S. (2020). Nutritional Status and Educational Performance of School-Aged Children in Lalibela Town Primary Schools, Northern Ethiopia. *International Journal of Pediatrics*, 2020 (5956732),1-9.
- Department of Examination (2020). *Grade 5 Scholarship Exam 2020 Cut-Off Marks*. <https://www.gazette.lk/2020/11/grade-5-scholarship-exam-2020-cut-off-marks.html>
- Duyar, İ. & Pelin, C. (2010). Estimating body height from ulna length: need of a population-specific formula. *Eurasian Journal of Anthropology (EJA)*, 1(1), 11–17.
- Farg, M. H. M., Khalil, F. M. H., Al-Mutery, M. & Salih, H I. (2015). An investigation of factors affecting students' academic achievement in the light of the multinomial logistic model–A case study of the faculty of science and humanities at Thadiq, Shaqraa university, KSA. *International Journal of Engineering Sciences & Research Technology*, 4(4), 92-110

Farooq, M.S., Chaudhry, A.H., Shafiq, M. & Berhanu, G. (2011). Factors Affecting Students' Quality of academic performance: A case of secondary school level. *Journal of Quality and Technology management*, 7 (2), 01-14

Faught, E., Williams, P., Willows, N., Asbridge, M. & Veugelers, P. (2017). The association between food insecurity and academic achievement in Canadian school-aged children. *Public health nutrition*, 20(15):2778-2785.

Fernando, R. L. S. (2017). Determinants of academic performance of undergraduates of the faculty of management studies and commerce of the university of Sri Jayewardenepura in Sri Lanka. *International Journal of Social Sciences*, 3(2), 1077-1101.

Goni, U., Wali, S.B.Y., Ali, H.K. & Bularafa, M.W. (2015). Gender Difference in Students' Academic Performance in Colleges of Education in Borno State, Nigeria: Implications for Counselling. *Journal of Education and Practice*, 6(32), 107-114

Gutman, L. S., Sameroff, A. J. & Eccles, J. S. (2002). The Academic Achievement of African American Students During Early Adolescence: An Examination of Multiple Risk, Promotive, and Protective Factors. *American Journal of Community Psychology*, 30(3), 367-399

Haile, D., Nigatu, D., Gashaw, K. & Demelash, H. (2016). Height for age z score and cognitive function are associated with Academic performance among school children aged 8–11 years old. *Arch Public Health*, 74, 17 (2016).

Hijazi, S.T. & Naqvi, S.M.M. (2006). Factors affecting students' performance: A case of private colleges. *Bangladesh e-Journal of Sociology*, 3(1), 1-10.

Izidoro, G.S.L., Santos, J.N., Oliveira, T.S.C. & Martins-Reis, V.O. (2014). The influence of nutritional status on school performance. *Revista CEFAC*, 16(5), 1541-1547.

Jazeel, A.M. (2018). *Differential academic involvement of parents and achievements of students in grade five scholarship examination in Sri Lanka*. Proceeding, The 3rd Research Symposium 2018, University of Vocational Technology.

Ministry of Education (2005). *Education for economic development and prosperity*. Ministry of Education, Sri Lanka. https://planipolis.iiep.unesco.org/sites/default/files/ressources/sri_lanka_moe_profile_english.pdf

Ministry of Education (2019). Annual School Census of Sri Lanka Final Report – 2019. Available from: <http://www.statistics.gov.lk/Education/StaticalInformation/SchoolCensus/2019>

PDE (Provincial Department of Education) (2021). School Census Report 2021, Provincial Department of Education, Central Province.

Prado, E.L. & Dewey, K.G. (2014). Nutrition and brain development in early life. *Nutrition reviews*, 72(4), 267-284.

Remali, A.M., Ghazali, M.A., Kamaruddin, M.K. & Kee, T.Y. (2013). Understanding academic performance based on demographic factors, motivation factors and learning styles. *International Journal of Asian Social Science*, 3(9),1938-1951.

Shariff, Z.M., Bond, J.T. & Johnson, N.E. (2000). Nutrition and educational achievement of urban primary schoolchildren in Malaysia. *Asia Pacific Journal of Clinical Nutrition*, 9 (4), 264-273.

Sothan, S. (2019). The determinants of academic performance: evidence from a Cambodian University. *Studies in Higher Education*, 44(11), 2096- 2111.