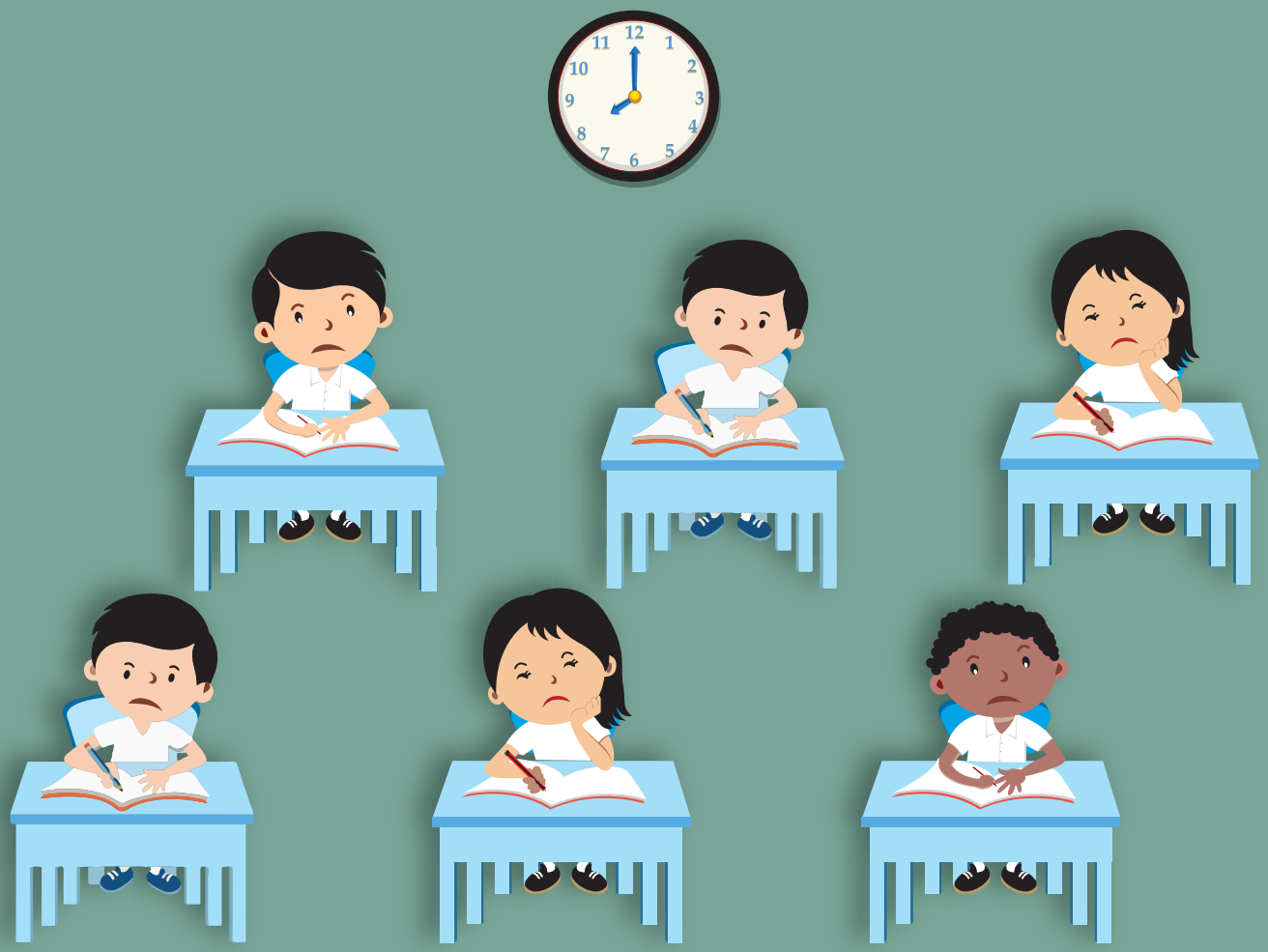

June 2019
Health & Education Research series No. 200

Sri Lanka's Grade Five Scholarship Examination: An Evaluation of its Effectiveness and Relevance

ASHANI ABAYASEKARA

INSTITUTE OF POLICY STUDIES OF SRI LANKA

ISBN 000-000-0000-00-0

National Library and Documentation Services Board -Cataloguing-In-Publication Data

Ashani Abayasekara
Sri Lanka's Grade Five Scholarship Examination:
An Evaluation of its Effectiveness and Relevance
Left Behind in Sri Lanka - Colombo:
Institute of Policy Studies of Sri Lanka, 2019
36p.; 28 cm. - (Health & Education Research Series; No. 200)

ISBN 000-000-0000-00-0

i. 331.544095493 DDC23 ii. Title
iii. Series

1. xxxxx
2. xxxxxxx

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List of Abbreviations

BEd	Bachelor of Education
DOE	Department of Examinations
GCE	General Certificate of Education
GOL	Generalised Ordered Logit
MOE	Ministry of Education
NCOE	National Colleges of Education
NDT	National Diploma in Teaching
NEC	National Education Commission
NIE	National Institute of Education
OLS	Ordinary Least Squares
ORL	Ordered Logit Model
PPAs	Past Pupil Associations
SLEAS	Sri Lanka Education Administration Service
SLPS	Sri Lanka Principals Service
SLTS	Sri Lanka Teachers Service
UGC	University Grants Commission

Acknowledgements

I am grateful for overall guidance and valuable comments from Dr. Nisha Arunatilake, Director of Research, Institute of Policy Studies of Sri Lanka (IPS), who encouraged me to embark on this study and provided important feedback up until its completion.

I would like to thank the Ministry of Education and the Department of Examinations for providing secondary data sources required for this study, including School Census data and data on grade five Scholarship Exam and G.C.E. Advanced Level examination results. I am also grateful to all interviewees who provided primary data for the analysis, to Mr. Ananda Rupasinghe and Mr. Nath Sajeewa for assistance in identifying respondents and facilitating the primary interview process, and to Ms. Dilshani Ranawaka and Ms. Thisali de Silva for assistance in data collection.

Useful comments from attendees at presentations at the IPS and the Ministry of Education, and the support in editing, formatting, and printing this publication provided by the Publications Unit at the IPS, are also gratefully acknowledged.

Funding was received from the International Development Research Centre (IDRC) through its Think Tank Initiative (TTI).

Executive Summary

Sri Lanka's grade five scholarship examination, introduced in 1948, aims to meet two main objectives: (1) admitting talented students to popular and more prestigious schools; and (2) providing bursaries to bright, but economically disadvantaged students. Regardless of its specific purposes, the exam is taken by students in both privileged and underprivileged schools, as well as across different socioeconomic groups. However, according to the Department of Examinations of Sri Lanka (DOE), only around 10% of students who sit for the exam obtain sufficient marks to qualify for bursaries and/or to apply for better schools, each year. The predictive validity of the scholarship exam has also come under scrutiny, given its large focus on rote learning and memorization. While the limitations of the scholarship exam have long been discussed in education policy circles, there is a dearth of systematic analysis of existing data to substantiate these concerns and inform policy decisions.

This study aims to fill such gaps, and examines specific reasons as to why the scholarship exam's goal of providing access to quality education to talented students is not fully realized. The link between school-level resources and scholarship exam performance is analyzed via Ordinary Least Squares and Ordered Logit regression models to test the hypothesis that poor-quality primary education places poor students at a disadvantage when competing at the scholarship exam. To test the predictive validity of the scholarship exam, the relationship between scholarship exam scores among a selected sample of high-scoring students and performance of the same cohort of students at the General Certificate of Education Advanced Level GCE (A-Level) examination, nine years later, is examined.

Data sources include the annual School Census of government schools conducted by the Ministry of Education (MOE) for the year 2017, and two datasets on 2008 scholarship exam performance from the MOE and 2017 GCE(A-Level) results from the Department of Examinations. Additionally, primary interviews among recent scholarship exam takers are conducted to obtain views on the validity and relevance of the exam.

Secondary data analysis reveals that the enabling environment and the structuring of the exam does not ensure that its main target group—talented and poor students—have a fair chance of exploiting the opportunities presented, thereby rendering its goals unachievable. Key issues include; (1) an insufficient number of good secondary schools across the country to provide opportunities to well performing students at the scholarship exam; (2) limited beneficiaries of financial bursaries; (3) an inadequate number of schools offering good quality primary education, which constrain deserving students in underprivileged schools from performing well at the scholarship exam; (4) a deficit of qualified and experienced primary teachers and supervisors in primary schools; and (5) poor validity of the exam in identifying and measuring intelligence. The most commonly perceived advantage of the exam among interviewees is the training received in perseverance, while stress caused by the competitive nature of the exam is identified as the key disadvantage, across both high- and low-income households. Over half of the sample believes that the exam fails in meeting its objectives, in line with findings from secondary data. Exam questions are perceived: (1) to focus more on the cognitive sphere, with elements such as leisure, play, and personality development receiving much less focus; and (2) as inadequate in measuring true ability.

Extending on respondent's suggestions, as well as based on findings from the secondary data analysis, the study proposes several measures to be adopted in improving the effectiveness and relevance of Sri Lanka's grade five scholarship exam. Immediate-term measures include making the exam voluntary—so that only students who have the highest potential of benefitting from it sit for the exam—, reserving a larger number of quotas for students to enter grade six via scholarship exam results in privileged schools, and increasing the financial allowance for qualifying students and ensuring timely delivery. Changing the structure of the scholarship exam—including reducing the exam syllabus and improving the exam's validity in measuring true talent—, postponing it to grade eight or nine when students are better able to handle a competitive exam, and eliminating or regulating tuition targeting the exam are identified as important short-to-medium term measures. The ultimate ideal long-term objective, however, should be to improve the quality of school and teacher resources across the entire country, via investments in both physical infrastructure and systematic teacher training and financial and other incentives, which would reduce the intense demand for distant schools overtime, and eventually the need for the exam altogether.

විධායක සාරාංශය

1948 දී හඳුන්වා දෙනු ලැබූ ශ්‍රී ලංකාවේ පහ වසර ශිෂ්‍යත්ව විභාගය ප්‍රධාන අරමුණු දෙකක් සාක්ෂාත් කර ගැනීම උදෙසා හඳුන්වා දෙනු ලැබූ විභාගයකි. එම අරමුණු වනාහි (1) ජනප්‍රිය සහ වඩාත් කීර්තිමත් පාසල් වලට දක්ෂ සිසුන් ඇතුලත් කර ගැනීම (2) ආර්ථික වශයෙන් අවාසිදායක තත්වයක සිටින දක්ෂ ළමුන්ට ශිෂ්‍යාධාර ලබා දීම, යනාදියයි. මෙම නිශ්චිත අරමුණු කෙසේ පැවැතිය ද මෙම විභාගය සඳහා පහසු සහ අපහසු පාසල් යනාදි කාණ්ඩ දෙකෙහිම ඉගෙනගන්නා සිසුන් පෙනී සිටින අතර විවිධ සමාජ ආර්ථික කණ්ඩායම් වලට අයත් සිසුන් ද පෙනී සිටිති. කෙසේ වුවද, ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුවේ සංඛ්‍යාලේඛණවලට අනුව විභාගයට පෙනී සිටින සමස්ත ශිෂ්‍ය සංඛ්‍යාවෙන් වර්ෂයකට 10 %ක් වැනි කුඩා ප්‍රමාණයක් ශිෂ්‍යත්ව ආධාර ලබාගැනීම සඳහා සහ/ හෝ වඩාත් හොඳ පාසල් වලට ඇතුල්වීම සඳහා ඉල්ලීම් ඉදිරිපත් කිරීමට සුදුසුකම් ලබති. මෙම විභාගය පුනරුච්චාරණ ඉගෙනුම් ක්‍රම සහ කට පාඩම් කිරීම කෙරෙහිය වැඩි බරක් තබා ඇති තත්වයක් තුළ මෙම විභාගයේ අපේක්ෂිත වලංගුභාවය පිළිබඳව ද ප්‍රශ්න මතු වී ඇත. දීර්ඝ කාලයක් මුළුල්ලේ අධ්‍යාපන ප්‍රතිපත්ති පිළිබඳ සිදුකරනු ලැබූ සාකච්ඡාවලදී ශිෂ්‍යත්ව විභාගයේ දක්නට ලැබෙන අඩුපාඩුකම් පිළිබඳව සාකච්ඡාවට බඳුන් වී තිබුණ ද, මෙම අඩුපාඩුකම් සනාථ කිරීමටත් ප්‍රතිපත්තිමය තීරණ තීන්දු සඳහා ඒවා දැන්වීමටත් ක්‍රමවත් විශ්ලේෂණයක් නොතිබීමේ විශාල අඩුවක් දක්නට ලැබේ.

මෙම අධ්‍යනය එම හිඩැස පිරවීම සඳහා අරමුණු කොටගත් අධ්‍යයනයක් වන අතර දක්ෂ සිසුන්ට ගුණාත්මක අධ්‍යාපනයක් ළමා දීම පාදක කොටගත් ශිෂ්‍යත්ව විභාගයේ අරමුණු මුළුමනින්ම යථාර්ථයක් කරගැනීමට නොහැකි වීමට හේතුවූ නිශ්චිත කාරණා අධ්‍යයනයට බඳුන් කරනු ලබයි. ගුණාත්මක තත්වයෙන් ඌන ප්‍රාථමික අධ්‍යාපනක් ලැබීම ශිෂ්‍යත්ව විභාග සඳහා තරග කිරීමේ දී වරප්‍රසාද නොලත් සිසුන් අවාසි සහගත තත්ත්වයකට පත්කරනු ලබයි යන උපන්‍යාසය විමසා බැලීම සඳහා සාමාන්‍ය අඩුතම වර්ග ක්‍රමය හා පටිපාටිගත ලඝුක ප්‍රතිපායන මාදිලි උපයෝගී කරගනිමින් මෙහිදී පාසල් සම්පත් සහ ශිෂ්‍යත්ව විභාගයේ කාර්ය සාධනය අතර දක්නට ලැබෙන සම්බන්ධතාවය විශ්ලේෂණයට ලක් කෙරෙයි. ශිෂ්‍යත්ව විභාගයේ පුරෝකථ්‍ය වලංගුභාවය පරීක්ෂා කිරීම සඳහා ශිෂ්‍යත්ව විභාගයේ දී ඉහළ ලකුණු ලබාගත් සිසුන්ගෙන් තෝරා ගත් නියැදියක් ශිෂ්‍යත්ව විභාගයෙන් වසර 9 කින් පසුව එළඹෙන අධ්‍යාපන පොදු සහතික පත්‍ර උසස් පෙළ විභාගයේ දී මෙම නියැදිය විසින් ම පෙන්නුම් කර තිබෙන කාර්ය සාධනයත් එකිනෙකට සංසන්දනය කොට පරීක්ෂාවට ලක්කරනු ලැබේ.

මේ සඳහා මූලාශ්‍ර දත්ත වූයේ 2017 දී අධ්‍යාපන අමාත්‍යාංශය විසින් සිදුකරන ලද රජයේ පාසල් පිළිබඳ වාර්ෂික සංගණනය, හා 2008 වර්ෂයේ ශිෂ්‍යත්ව විභාග කාර්ය සාධනය පිළිබඳ අධ්‍යාපන අමාත්‍යාංශයෙන් ලබාගත් දත්ත කට්ටලයක් හා විභාග දෙපාර්තමේන්තුවෙන් ලබාගත් 2017 වර්ෂයේ අපොස උසස් පෙළ විභාග ප්‍රතිඵල දත්ත කට්ටලයකි. මෙයට අමතරව මෙම විභාගයේ අදාලත්වය සහ වලංගුභාවය පිළිබඳව අදහස් ලබා ගැනීම සඳහා මෑතකදී ශිෂ්‍යත්ව විභාගයට පෙනී සිටි සිසුන්ගේ දෙමව්පියන් සමග සම්මුඛ සාකච්ඡා පවත්වන ලදී.

ද්විතීයික දත්ත විශ්ලේෂණය මගින් පෙන්නුම් කරන්නේ බලදායි පරිසරය සහ විභාග ව්‍යුහය එහි ප්‍රධාන ඉලක්ක කණ්ඩායම වන දක්ෂ සහ දිළිඳු සිසුන්ට විභාගයේ ඉඩප්‍රස්ථාවලින් ප්‍රයෝජන ගැනීමට හැකි වීම සහතික නොකරන අතර ඒ තුළින් විභාගයෙන් අපේක්ෂිත පරමාර්ථයන් ලගාකර ගත නොහැකි තත්ත්වයකට පත් කරන බවයි. මේ තත්ත්වය තුළ දක්නට ලැබෙන ප්‍රධාන ගැටළු වනාහි (1) ශිෂ්‍යත්ව විභාගයේ දී විශිෂ්ට හැකියාවන් පෙන්වන සිසුන්ට අවස්ථා ලබාදීම සඳහා ගුණාත්මක තත්ත්වයෙන් යුක්ත ප්‍රමාණවත් ද්විතීයික අධ්‍යාපන පහසුකම් සහිත පාසල් සංඛ්‍යාවක් රටපුරා නොතිබීම(2) ශිෂ්‍යාධාර ලබා ගන්නා ප්‍රතිලාභීන් සීමාවීම (3) වඩාත් හොඳ ගුණාත්මක තත්වයේ ප්‍රාථමික අධ්‍යාපනයක් ලබාදීම සඳහා ප්‍රමාණවත් පාසල් සංඛ්‍යාවක් නොතිබීම හේතුවෙන් ශිෂ්‍යත්ව විභාගයේදී අපහසු පාසල් වල හැකියාවක් ඇති සිසුන්ට විශිෂ්ට කාර්ය සාධනයක් පෙන්වීම සඳහා බාධා ඇතිවීම (4) ප්‍රාථමික පාසල්වල සුදුසුකම් සහ අත්දැකීම්වලින් පරිපූර්ණ ගුරුවරුන් සහ අධීක්ෂකවරුන්ගේ ඌනතාවයක් පැවතීම (5) ශිෂ්‍යත්ව විභාගය බුද්ධි මට්ටම හඳුනාගැනීම හා ඇගයීම සඳහා දුර්වල වලංගු භාවයකින් යුක්ත වීම යනාදිය වේ.

මෙම විභාගය තුළින් ලබාගත් ප්‍රධාන වාසිය ලෙස සම්මුඛ සාකච්ඡාවට සහභාගී වූවන්ගේ පොදු අදහස ලෙස හඳුනාගැනීමට හැකි වූයේ නොපසුබට වීර්යය ප්‍රගුණ කර ගැනීම සඳහා මේ විභාගයෙන් ලැබුණු පුනුණුවයි. විභාගයේ තරගකාරීත්වය තුළින් මතු වන්නා වූ මානසික පීඩනය ප්‍රධාන අවාසියක් ලෙස ඉහළ හා පහළ ආදායම් ලබන පවුල් දෙපාර්ශ්වය අතරේම හඳුනා ගත හැකි මතයක් ලෙස දැක්විය හැක. ද්විතීයික දත්ත මගින් සොයාගන්නා ලද කරුණු හා සමානව මෙම විභාගය එහි අරමුණු සාක්ෂාත් කර ගැනීමට අපොහොසත් වී ඇති බව නියැදියෙන් අඩකටත් වඩා පිරිසක් විශ්වාස කරති. විභාග ප්‍රශ්න දෙස අවධානය යොමුකිරීමේ දී ඒවා (1) බුද්ධිමය කාරණා පිළිබඳ වැඩි අවධානයක් යොමු කරනු ලබන අතර ක්‍රීඩා හා පෞරුෂ වර්ධනය පිළිබඳ කාරණා වලට අඩු අවධානයක් යොමුවී තිබීම (2) සෘජු හැකියාව ඇගයීම කෙරෙහි ප්‍රමාණවත් නොවීම, යනාදී කරුණු වලින් යුක්ත බව දැකිය හැකිය.

සම්මුඛ සාකච්ඡා වලට සහභාගිවූවන්ගේ යෝජනා පදනම් කරගනිමින් හා ද්විතීයික දත්ත විශ්ලේෂණය කිරීමෙන් සොයාගත් කරුණු මත පදනම්ව ශ්‍රී ලංකාවේ පහ වසර ශිෂ්‍යත්ව විභාගයේ අදාලත්වය සහ කාර්යක්ෂමතාවය වැඩිදියුණු කිරීම සඳහා අදාළ කරගත හැකි පියවර රාශියක් මෙම අධ්‍යනයෙන් යෝජනා කරනු ලැබේ. ස්වකැමැත්ත මත විභාගයට පෙනිසිටීමට ඉඩකඩ ලබා දීම තුළින් මෙම විභාගයෙන් ප්‍රතිලාභ ලබාගැනීමට විභවයක් ඇති සිසුන් පමණක් විභාගයට පෙනී සිටීමට හැකි වීම, ශිෂ්‍යත්ව විභාග ප්‍රතිඵල මත පදනම්ව 6 ශ්‍රේණිය සඳහා ජනප්‍රිය පාසල්වලට ඇතුළත්වීම සඳහා විශාල ශිෂ්‍ය සංඛ්‍යාවකට හැකියාව ලැබෙන පරිද්දෙන් පංගුව ඉහළ දැමීම, සහ සුදුසුකම් ලබන සිසුන්ට ලැබෙන මූල්‍යාධාර ප්‍රමාණය ඉහළ දැමීම මෙන්ම ඒවා නියමිත වේලාවට ලබා දීම යනාදිය ද මෙම අරමුණු සාක්ෂාත් කර ගැනීම සඳහා ක්ෂණිකව ගත හැකි ක්‍රියාමාර්ග වලට ඇතුළත් වේ. මෙම විභාගයේ ව්‍යුහය වෙනස්කිරීම, එනම් විභාගයේ විෂය මාලාව ප්‍රමාණයෙන් අඩු කිරීම හා දක්ෂතාවය මැන බැලීම සඳහා විභාගයේ වලංගුභාවය දියුණු කිරීම, මෙහිදී අවධානය යොමු කළ හැකි කෙටි හා මධ්‍යකාලීන පියවරක් වේ. මෙම විභාගය සිසුන්ට වඩාත් හොඳින් තරඟ විභාග වලට පෙනී සිටීමට සූදානම් විය හැකි ඉහළ ශ්‍රේණියක දී එනම් 8 ශ්‍රේණිය හෝ 9 ශ්‍රේණියේ දී මෙම විභාගය පැවැත්වීම, පහ වසරේ ශිෂ්‍යත්ව විභාගය ඉලක්ක කරගත් අමතර පන්ති සම්පූර්ණයෙන් අහෝසි කිරීම හෝ නියාමනය කිරීම යනාදී කරුණු වෙනත් කෙටි හා මධ්‍යකාලීන වැදගත් පියවර ලෙස හඳුනාගෙන තිබේ. කෙසේ වෙතත් වඩාත් සුදුසු දීර්ඝකාලීන අරමුණ විය යුත්තේ භෞතික යටිතල පහසුකම් හා ක්‍රමානුකූල ගුරු පුහුණුව සඳහා ද මූල්‍ය හා අනෙක් දිරිගැන්වීම් සඳහා ද ආයෝජනය කිරීම තුළින් රට පුරාම ඇති පාසල්වල සහ ගුරුවරුන්ගේ ගුණාත්මක බව වැඩි කිරීමයි. එවිට ඈත පිහිටා තිබෙන ජනප්‍රිය පාසල් වලට ඇති දැඩි ඉල්ලුම අවම කර අවසානයේ දී මෙවන් විභාගයක අවශ්‍යතාවය නැති කිරීමට හැකි වනු ඇත.

1. Introduction

Sri Lanka's grade five scholarship examination introduced in 1948, aims to meet two main objectives: (1) admitting talented students to schools that are considered as popular and more prestigious; and (2) providing bursaries to intelligent, but economically disadvantaged students. It measures ability and learning potential across 14 specified areas, and tests knowledge on the first language, mathematics, and environment. Regardless of its specific purposes, the exam is taken by students in both privileged and underprivileged schools, as well as across different socioeconomic groups. Children are coached from as early as grade two to achieve high scores, not only in schools and homes, but increasingly in many private tuition classes.

Despite the overzealous preparation, however, according to the Department of Examinations of Sri Lanka (DOE), only around 10% of students who sit for the exam obtain sufficient marks to qualify for bursaries and/or to apply for better schools, each year. This figure is not surprising, given that students need to score around 80% to meet the cut-off mark, while gaining access to more popular schools requires scoring as much as 90%. This is no mean feat for a 10-year old, as it leaves very little margin for error.

The predictive validity of the scholarship exam has also come under scrutiny, given its large focus on rote learning and memorisation, and the relatively early age at which it is administered, when a child's capabilities are not fully developed. Moreover, given the recent emphasis in education policy in assessing multiple intelligences in primary school children and allowing them to enjoy the freedom of childhood, the exam's narrow focus on

"Only around 10% of students who sit for the exam obtain sufficient marks to qualify for bursaries and/or to apply for better schools, each year."

cognitive abilities alone is concerning. The critical need for developing strong human capital foundations at an early stage in other areas including socio-behavioural skills such as teamwork and empathy, and skill combinations that enable adaptability such as perseverance, reasoning, and self-efficacy, is also highlighted in the World Bank's 2019 World Development Report, which focuses on the changing nature of work.

The limitations of the scholarship exam have long been discussed in education policy circles. The National Education Commission (NEC), in its 2003 Proposals for a National Policy Framework on General Education in Sri Lanka, highlights the inadequacies of the scholarship exam and calls for a restructuring of the exam (NEC, 2003). Nevertheless, there is a dearth of systematic analysis of existing data, as well as perceptions of those directly involved in the examination process to substantiate these concerns and inform policy decisions.

This study aims to fill these gaps, via an evaluation of the effectiveness and relevance of the scholarship exam. With respect to effectiveness, using secondary data, specific reasons are examined as to why the scholarship exam's goal of providing access to quality education to talented students is not fully realised. In doing so, it is hypothesized that the inadequacy of good secondary schools across the country places limits on the numbers that are admitted based on the scholarship exam, which is examined using a descriptive analysis. It is also hypothesized that poor-quality primary education—including school infrastructure and teacher resources—places poor students at a disadvantage when competing at the scholarship exam. This hypothesis is tested using; (1) an ordinary least squares (OLS) estimation and an ordered logit model (ORL), to examine the link between school-level resources and scholarship exam performance; and (2) a descriptive analysis of teacher quality and distribution across schools. The scholarship exam's effectiveness is further tested by investigating how valid it is as a predictor of intellectual ability—given its stipulated aim of identifying bright students—by examining the relationship between scholarship exam scores and performance of the same cohort of students at the General Certificate of Education (GCE) Advanced level examination (A-Levels), nine years later. Lastly, views on the validity and relevance of the exam, its perceived positives and negatives, and the best way forward are obtained via primary interviews among recent scholarship exam takers.

The remainder of the paper proceeds as follows. Section 2 provides an overview of Sri Lanka's school system, the primary education curriculum and the grade five scholarship exam. Section 3 describes the data and methods. Results of secondary data analysis are presented and discussed in Section 4, while Section 5 discusses findings based on primary interviews. Section 6 concludes and offers policy implications.

2. School System, Primary Education Curriculum, and the Scholarship Exam

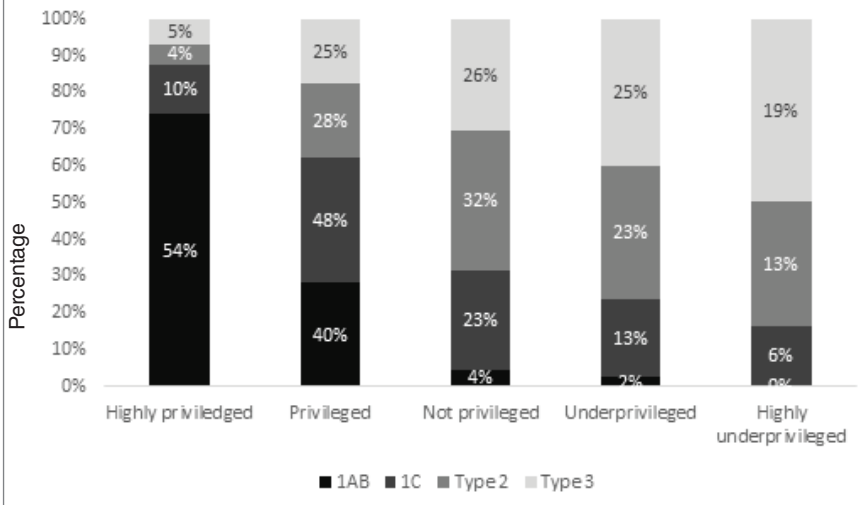
2.1 School System

Sri Lanka's school education system commences at age five, and consists of 13 years of schooling, organised into four levels: primary (grades one–five), junior secondary (grades six–nine), senior secondary (grades 10 and 11), and collegiate (grades 12 and 13). While students progress automatically from the primary to the secondary level, the scholarship exam is sat by a majority of students at the end of the primary cycle/level. Senior secondary education culminates in the GCE Ordinary level examination (O-Levels). Subject to performance at the O-Levels, students proceed to the collegiate level, at the end of which they face the A-Levels.

Several classifications exist for Sri Lankan public schools, which differentiate 'good' schools from 'bad' ones. One categorisation is based on the number and type of functioning classes. Schools that offer classes up to grade 13—termed 'all-through' schools—are classified as either 1AB or 1C; the former offer A-Level classes in all three subject streams of Science, Commerce, and Arts, while the latter offer A-Levels only in the Commerce and/or Arts streams. Type 2 schools have functioning classes up to grade 11 which terminate after the O-Levels, and Type 3 schools function only up to either grade five or eight. 1AB schools are considered to be the best among this classification.

A second categorisation is in terms of a school's controlling authority. National schools—a majority of which are elite and old central colleges that were established during the colonial period—fall under the purview of the Central Ministry of Education (MOE). Provincial schools fall under the purview of the Provincial Ministries and the Provincial Departments of Education. There are nine provincial ministries of education, one per each province. As such, schools come under 10 different administrative units—the Central MOE and the nine provincial ministries of education. These education ministries are responsible for the planning, implementation, and management of all education programs (De Silva, 2003). Several stringent criteria for listing a school as a national school were established in 1985, which are reflective of schools with superior educational and other related facilities offering good-quality education. While only 18 schools qualified as national schools at the time, over the years this number has risen significantly and stands at 353 at present, although still accounting for only 3% of the total number of schools. However, part of this increase appears to be the result of mere name changes of schools—likely backed by political influence—rather than due to any tangible improvements (NEC, 2003). For instance, although having A-Level science education is a pre-requisite to being classified as a national school, i.e. being a 1AB school, according to the 2017 School Census, 27 1AC

Figure 2.1: Share of Schools by Status and Type, 2017



Source: Own calculations based on 2017 School Census data.

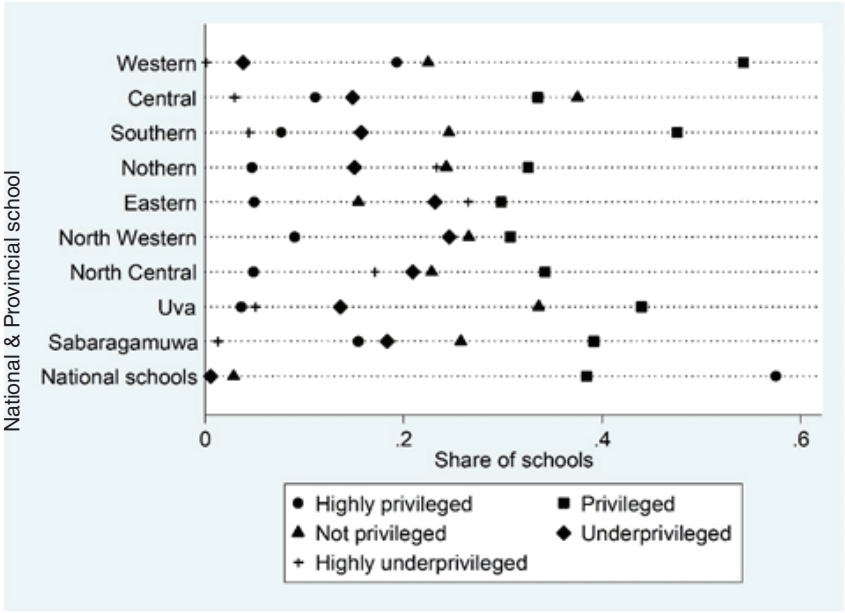
The criteria are: (1) a student population equal to or exceeding 2,000; (2) a student population exceeding 200 in the A-Level Science stream; (3) of the number of students sitting for the A-Levels during the previous three years, a qualification rate of one third for admission to universities each year; (4) adequate buildings, desks and chairs for all students; (5) adequate facilities for teaching technology related subjects; (6) adequate laboratory facilities to meet the requirements of all O-Level and A-Level students; (7) annual income from facilities and services' fees exceeding Rs.15,000; (8) considered by residents as a leading school in the locality; (9) presence of an effective school development society; and (10) presence of an active past pupils' association.

schools and three Type 2 schools are classified as national schools.

A third categorisation is based on school resources, amenities, and ease of access to a school. Circular 1 of 2005 of the MOE categorises schools into five categories; namely, highly privileged, privileged, not privileged, under privileged and highly under privileged (MOE, 2005). Factors that are taken into account when categorising schools include basic facilities at school (i.e., access to electricity, water, telephones and library facilities); availability of usable type writers, televisions, photocopy machines; availability of usable computers, available toilets as a share of toilets needed, temporary buildings in use as a share of total building spaces, whether school has the minimum physical facilities, availability of teachers, distance to the nearest road with public transport, and distance to the nearest divisional and zonal education office. As its name suggests, highly privileged schools are the best schools, equipped with superior physical and human resources.

As expected, Figures 2.1 and 2.2 illustrate that the 'good' schools based on these different ranking systems are interrelated. Figure 2.1 shows that an overwhelming share (94%) of 1AB schools belongs to the highly privileged and privileged status groupings, whereas 70% of Type 3 schools are either not privileged or underprivileged. Similarly, Figure 2.2 shows that highly privileged schools are heavily concentrated among national schools, accounting for close to 60% of the total number of national schools.

Figure 2.2: Share of Schools by Status and Controlling Authority, 2017



Note: The nine provinces refer to provincial schools in each respective province.
Source: Own calculations based on 2017 School Census data.

2.2 Primary Education Curriculum

The curriculum for primary education is designed separately from those for subsequent stages of education. The current primary education system has its origins in the education reforms of 1997 under the recommendations of the NEC, with minor modifications being implemented in 2003 and 2007. Over the five years of primary education, a child is required to develop basic competences across seven broad areas: (1) communication, including literacy, numeracy, graphics, and information technology proficiency; (2) social, biological and physical environment; (3) ethics and religion; (4) use of leisure, enjoyment, and recreation; (5) learning to learn; (6) personality development; and (7) preparation for the world of work. These competencies are linked with the 'subjects' in primary education, of which there are six: first language, second language, English (from grade three), mathematics, religion, and environment studies.

The teaching and learning process include three elements, namely guided play, activities, and deskwork (Widanapathirana et al., 2016), and the primary curriculum is divided into three key stages, accordingly. At the first key stage which applies to grades one and two, most time is devoted to play and learning through activities, with minimal deskwork. Key stage 2 applies to grades three and four, where all three methods receive equal emphasis. The final stage at grade five focuses primarily on deskwork. Both the first language (Sinhala or Tamil) and English are introduced orally from grade one, while it is introduced as a formal subject from grade three. The second language (Sinhala for Tamil medium students and Tamil for Sinhala medium students) is also introduced from grade 3. Circular 2012/2013 of the MOE states that a separate teacher should be appointed in charge of each stage, with the responsibility to ensure that students have mastered the stipulated set of skills at each stage (MOE, 2012a).

Student assessments in Sri Lanka involve three components: classroom assessments, national assessments, and national examinations. At the primary level, class teachers carry out classroom assessments of key stage competencies, under the supervision of in-service advisors. Additionally, teachers administer tests after each curriculum unit and end of term tests. At the end of the primary cycle, most students sit for the nationally qualifying grade five scholarship examination.

2.3 Grade Five Scholarship Exam

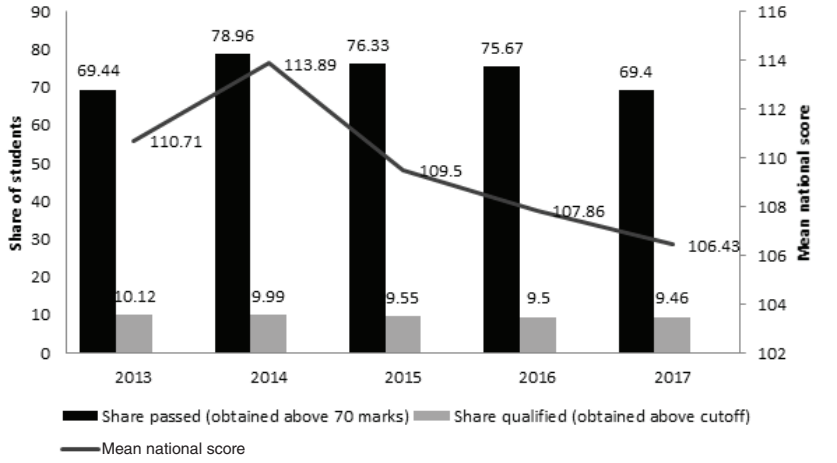
The grade five scholarship exam originated in the 1940s as the 'Central Colleges Scholarship Examination' for admission of bright students to Central Colleges, which were established offering high-quality and fully organised secondary education in the English medium. This coincided with the passing of the Free Education Act of 1945, with the intention of making education accessible to all, irrespective of social status. However, its immediate consequence was that affluent parents continued to send their children to good government schools without paying fees, while the masses "continued to receive free the poor-quality education that had all along been free to them" (Jayasuriya, 1979, p.45). A system of scholarships was subsequently introduced to address this situation, which became the forerunner to the present-day scholarship exam. In 1952, the earliest year for which records are available, 23,806 students sat for the exam. This number has gradually increased over the years, and stood at 350,462 in 2017.

Until 1995, the exam consisted of two papers in the first language and mathematics, designed to measure proficiency in literacy and numeracy, respectively (DOE, 2018). From 1995, the two papers were renamed as Paper I and Paper II. Paper I, designed to measure general intelligence, is of 45 minutes duration and measures learning abilities and potential in the areas of substitution, interpretation, prediction, translation, problem solving, seeing relationships, identification of cause and effect, organisation of information, perception, observation, interrelations, reasoning, seeing spatial relationships, and following instructions. Paper II focuses on subject matter including the first language and English (grammar and comprehension), mathematics, environment studies, and writing skills (measured via an essay), spanning 75 minutes (Sedere et al., 2016).

To pass the exam, a student needs to obtain at least 35 marks for each paper. However, the requirement to qualify for either bursaries or entry to better secondary schools is much more stringent, with students having to score around 160, or 80%, to meet the cutoff.[2] Cutoff marks are determined based on the quality and rankings of secondary schools and the districts to which they belong. They also differ marginally based on the gender of the school (boys, girls or mixed) and between Sinhala and

Tamil medium students. In 2017, for instance, while 69.4% of the 350,462 students who sat for the exam passed, only 9.4% scored above the cutoff mark (Figure 2.3). The average national scores and the share of students qualifying to receive its benefits also appear to be declining over the years.

Figure 2.3: Performance at the Grade Five Scholarship Exam, 2013-2017



Source: DOE, 2018, Reviewing of Performance at Grade Five Scholarship Examination – 2017.

[2]To qualify for bursaries, in addition to scoring above the cutoff mark, a student needs to be from a family earning an annual income less than Rs. 50,000.

3. Data and Methods

3.1 What are the Chances of Entering Good Schools?

A descriptive analysis is adopted to examine the chances available for students to enter good schools via the scholarship exam, using 2017 School Census data. The School Census is conducted annually by the MOE and provides detailed data on schools as well as teachers. School information reports all physical and human resources of each school, while teacher information ranges from demographic information of teachers to their academic qualifications and experience. The School Census also provides information on the composition of grade six students in a school, based on means of admission. Such means include automatic progression from grade five in the same school, admission based on scholarship exam results, admission based on quotas given for children of past pupils and siblings, admissions from primary feeder schools, and other means. The study looks at the share of grade six students who enter national schools and privileged provincial schools based on scholarship exam results as well as through the quota for past pupils and siblings, as this quota is also partially based on scholarship exam results.[3]

3.2 Which Schools Perform Better at the Scholarship Exam?

3.2.1 Ordinary Least Squares(OLS)

A standard OLS estimation technique is employed to examine scholarship exam performance for different school categorisations, and to identify key factors determining student outcomes, using the 2017 School Census which covers all 10,194 public schools in the country. The study sample which focuses on scholarship exam performance, consists of 8,481 schools. Schools which have no primary section (1,001), and those for which missing values are recorded are excluded from the analysis.

The following OLS model is estimated for a cross-section of schools for the year 2017:

$$Y_i = \alpha + \boldsymbol{S'}_i\beta + \boldsymbol{T'}_i\gamma + \boldsymbol{D'}_i\delta + \varepsilon_i$$

where *Y* is the share of students out of the total number who sat for the scholarship exam in 2016 obtaining marks above the cutoff in school *i*; *S* is a vector of school and student socioeconomic characteristics potentially affecting exam performance; *T* is a vector of variables capturing teacher and principal quality; *D* is a vector of district-level socioeconomic characteristics; and ε is an error term.

The *S* vector includes: (1) five dummy variables for the five groupings of school status; (2) three dummy variables for the three school types; (3) a dummy variable for the ethnicity of the school which equals one if the school is of Sinhala ethnicity; and (4) two proxy variables for the general socioeconomic status of students in a school, given the unavailability of student-level socioeconomic data. One is the share of funds a school receives from parents, well-wishers, and past pupil associations (PPAs). Existing literature indicates that schools attended by children with more affluent parents attract more funds (Arunatilake and Jayawardena, 2013). Another proxy is a dummy variable indicating whether a school has a functioning school meal program. Such programs target poor and food insecure areas to improve nutrition levels of children (World Bank, 2014), and hence are more likely to be operational in schools attended by students of low socioeconomic status.

The teacher quality variables included in the ***T*** vector are the shares of infield and experienced general primary teachers, infield and inexperienced teachers, and other teachers,[4] out of recommended teacher numbers. Dummy variables are also included for the existence of primary-level qualified supervisors and sectional heads in a school, where these variables equal one if the school has at least one primary education qualified supervisor/sectional head, and zero otherwise. Given the potential importance of teacher commitment or motivation in determining student performance, teacher leave is also controlled for, measured as the average number of days of leave taken by teachers in a school as a proportion of the total number of school days.

Principals in Sri Lanka are categorised into several classes based on educational and professional qualifications, experience in administration and teaching, as well as problem-solving, logical thinking, and communication skills (MOE, 2014a; MOE, 2015). The Classes are, in descending order of ranking: (1) Sri Lanka

[3] While scoring above the cutoff is generally not required for admissions based on past pupil and sibling quotas, it is still required that a student scores reasonably well at the scholarship exam to be considered for admission.

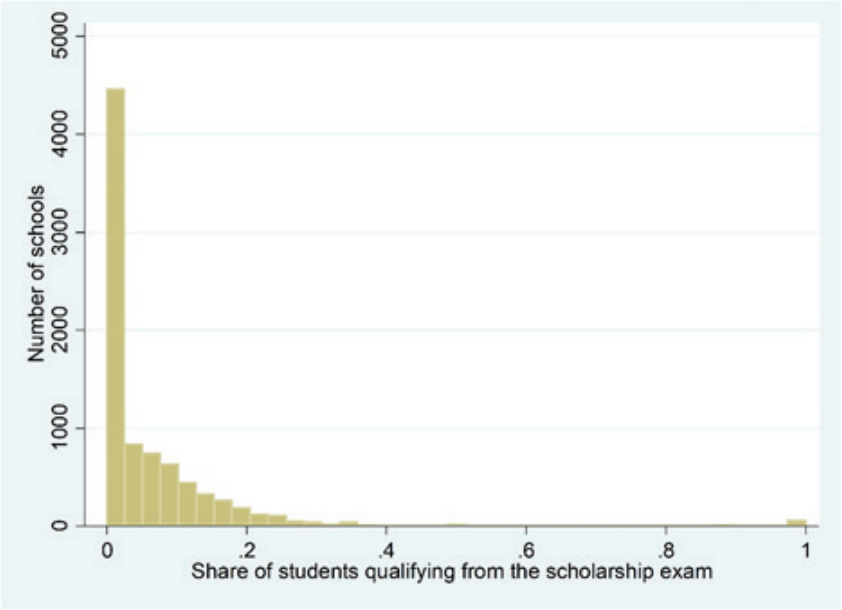
Education Administration Service (SLEAS); (2) Sri Lanka Principals Service (SLPS); (3) Sri Lanka Teachers Service (SLTS);[5] and (4) those not absorbed into Teacher Service. Categories (3) and (4) are combined in the analysis, which both account for a low number of observations, and subsequently include three dummy variables for the SLEAS, SLPS, and the combined SLTS and non-teacher service grades to account for the quality of principals in a school.

The final set of independent variables included in vector *D* consists of district-level factors that reflect the socioeconomic status of the district each school belongs to. These include GDP per capita,[6] the poverty headcount ratio, the unemployment rate and population density.[7]

3.2.2 Ordered Logit Model (ORL)

Using OLS to model outcomes of a dependent variable that is a proportion can be problematic, since the model can predict values that lie beyond the zero-one range (Long, 1997). Further, the OLS assumption of independent and identically distributed errors can be violated when the dependent variable takes the form of several ordered categories, especially when the probability of the dependent variable varies widely (Pohlman and Leitner, 2003). A recommended approach to deal with this problem is to treat the dependent variable as a binary response and estimate a non-linear model such as a logistic or probit regression (Long, 1997). Given that exam performance rates in schools can take values across different categories of a meaningful sequential order, an ORL model is estimated, which allows for more than two (ordered) response categories of the dependent variable.

Figure 3.1: Distribution of Schools by Share of Students Qualifying from the Scholarship Exam, 2017



Source: Own calculations using 2017 School Census data.

The model consists of three categories of *Y*: "poor" performance, "average" performance, and "good" performance. Threshold points for each grouping are defined based on natural cutoff points observed in the distribution of scholarship exam performance (Figure 3.1). The poor category consists of schools that fail in producing any students who qualify for bursaries or admission to better schools, which, at 4,212, account for 50% of the total sample of schools. The second category of average performers comprises of schools that record a qualified rate of over 0 through 40%, up to which qualifying rates gradually decline. Good performers are schools that record qualified rates above 40%, and account for just 2% of total schools. In fact, the number of schools reporting qualifying rates of over 40% is virtually non-existent, with a few being clustered at close to 100%.

The ORL model takes the form:

$$P(Y_i > j) = \frac{\exp(\alpha_j + X_i \beta - \kappa j)}{1+[\exp(\alpha_j + X_i \beta - \kappa j)]}, j = 1, 2, \ldots, M-1 \quad (2)$$

where κ are the threshold points defining each category, and M are the number of categories in the dependent variable.

An assumption underlying ordered logistic regression is that the relationship between each pair of outcome groups is identical. In other words, the coefficients that describe the relationship between the lowest category (poor) versus all higher categories (average and good) of the dependent variable are the same as those that describe the relationship between the combined lower categories (poor and average) versus the good performance category. This is known as the "proportional odds" or "parallel regression" assumption, where all βs are the same across the levels of j

[4] In-field and experienced teachers are defined in Section 3.3.
[5] This category is the same as the Teacher Service class categorisation discussed above for teachers.
[6] District-level statistics for GDP are not available; provincial information is therefore used, where the same values are assigned for all districts in a given province.
[7] A full list of variable definitions and sources is provided in Appendix A.

(see Equation (2)). If this was not the case, different models are needed to describe the relationship between each pair of outcome groups. In such situations, a generalised ordered logit (GOL) model – which allows for different slopes describing relationships between different outcome categories – is more appropriate than the ORL model (Williams, 2010).

Likelihood ratio tests of whether the coefficients are equal across categories indicate that the parallel lines assumption is violated in the ORL model for several variables in the sample. Consequently, the ORL is extended to a GOL model, where the βs are allowed to vary across the levels of j, as shown in Equation (3):

$$P(Y_i > j) = \frac{\exp(\alpha_j + X_i \beta - \kappa j)}{1 + [\exp(\alpha_j + X_i \beta - \kappa j)]}, j = 1, 2, \ldots, M - 1 \quad (3)$$

Table 3.1 presents descriptive statisticsof the dependent and independent variables. [8] A full list of variable definitions and sources is provided in Appendix A.

Table 3.1: Descriptive Statistics of School Census Data

Variables	Mean	Std deviation	Minimum	Maximum
Dependent variables				
Share qualifying from the scholarship exam (OLS)	0.07	0.13	0	1
School characteristics				
Highly privileged schools	0.07	0.26	0	1
Privileged schools	0.30	0.46	0	1
Not privileged schools	0.28	0.45	0	1
Underprivileged schools	0.21	0.41	0	1
Highly underprivileged schools	0.14	0.34	0	1
1AB schools	0.04	0.20	0	1
1C schools	0.17	0.38	0	1
Type 2 schools	0.37	0.48	0	1
Type 3 schools	0.42	0.49	0	1
Ethnicity	0.68	0.47	0	1
Student socio-economic characteristics				
Share of Parent and PPA funds	0.16	0.22	0	1
School meal programme	0.93	0.25	0	1
Teacher characteristics				
In-field and experienced general teachers	0.46	0.33	0	3.6
In-field and inexperienced general teachers	0.12	0.19	0	2.2
Other general teachers	0.25	0.28	0	2.25
Primary supervisors	0.04	0.20	0	1
Primary sectional heads	0.12	0.33	0	1
Teacher leave	0.14	0.04	0	0.46
Principal characteristics				
SLEAS	0.03	0.16	0	1
SLPS	0.67	0.47	0	1
SLTA/No Teacher Service	0.30	0.46	0	1
District characteristics				
GDP per capita	1.41	0.84	0.66	4.16
Poverty	4.93	3.14	0.90	18.2
Unemployment	4.67	1.41	2.5	7.6
Population density	0.58	0.71	0.04	3.49

[8] Missing values in the sample are observed for the student socioeconomic indicators: information on the shares of parent and PPA funds is not available for 93 schools, while 77 schools report missing values for the existence of a school meal program. These values, however, amount to only 1% of the total sample, and therefore do not present a significant problem for the analysis.

3.3 Are there Adequate Quality Primary Teachers and are they Distributed Equally?

Using the same data source, a descriptive analysis is conducted to examine the adequacy of good quality teachers in primary classes and teacher allocation across schools. In line with prior literature, teacher quality is defined based on both qualifications and experience, which capture the knowledge and mastery of content, as well as the ability to teach, or pedagogical skill (Ingersoll, 2002; Peske and Haycock, 2006).

There are four main categories of primary level teachers in Sri Lanka: (1) 'general' teachers, who are responsible for teaching all subjects in the primary curriculum with the exception of English and the second language; (2) English teachers, who teach English as a second language; (3) Second language teachers, who teach Tamil to Sinhala medium students and Sinhala to Tamil medium students; and (4) teachers who function as primary-level supervisors. General primary teachers form the largest share of primary teachers, accounting for 89% of the total number of primary teachers in 2017, who are the focus in this analysis.

Teachers in Sri Lanka are recruited to teacher service under four criteria: (1) graduate teachers; (2) trained teachers; (3) untrained teachers with two to three-year diplomas; and (4) novice teachers who are not yet absorbed into teacher service (MOE, 2014b). Each of these different types of teacher recruits is also categorised according to subject knowledge. The study consider steachers who hold a PhD, Masters, or Bachelors of Education (BEd) with a primary education component, or have been specially trained to teach at the primary level (criteria 1 and 2), as "in-field" teachers—i.e. teachers with good knowledge and training in primary education.

Recruitments to teacher service are also carried out at different levels, referred to as "Classes" (Ibid). Teachers who do not hold a degree in education are recruited to Class 3 of teacher service. Depending on their educational qualifications, Class 3 teacher recruits are again categorised into Class 3–Grade I(a) (those with a degree), Class 3–Grade I(b) (pedagogy trained teachers), Class 3–Grade I(c) (those with diplomas), and Class 3–Grade II (those with only A-Levels). Teachers with a BEd are directly recruited to Class 2–Grade II. Conditional on their initial recruitment, those who have been recruited to Class 3 need to obtain three to five years' experience in teaching and pass an efficiency bar exam to be promoted to Class 2–Grade II. This recruitment structure suggests that all Class 2 teachers hold subject and pedagogical knowledge, as well as at least three years of experience. Teachers of Class 2–Grade II and higher are therefore considered as to be "experienced" teachers.

Teacher adequacy is measured by comparing available primary teacher numbers with recommended numbers in each school. The MOE, under Circular No. 01/2016, determines teacher cadres for each school, based on the number of classes in a school, the number of subjects taught in the school, and the medium (i.e., Sinhala, Tamil or English) of instruction (MOE, 2016). The principal in each school first determines the number of teachers needed for each grade, for each subject and for each medium of instruction, and then obtains approval for this estimated teaching cadre, either from the Zonal Director of Education relevant to the school (for provincial schools or the Secretary to the MOE (for national schools).Teacher adequacy is compared in terms of overall teachers as well as in-field and experienced teachers, across different school categorisations.

3.4 How Valid is the Scholarship Exam as a Predictor of Intellectual Ability?

Two datasets on 2008 scholarship exam high scorers from the MOE and 2017 A-Level results from the DOE are combined, to examine the relationship between performance at the 2008 scholarship examination and the 2017 A-Level examination, among the same set of students. In particular, among a selected sample of scholarship exam top scorers, the shares of students qualifying for university admission as well as those who actually gained admission, across different A-Level subject streams are examined, in schools accommodating the largest numbers of scholarship holders. Average university qualifying and admission shares in schools between scholarship exam high scorers and low scorers are also compared, via two-sample *t*-tests.

3.5 What are the Perceptions of the Exam among Recent Participants?

Primary interviews are conducted among 77 parents whose children recently sat for the scholarship exam from the Colombo and Kandy districts, to gain insights into their perceptions about the effectiveness, relevance, and validity of the exam,

as well as to identify the best way forward. A snowball sampling technique is adopted to select the sample, where potential participants are first identified among acquaintances, and then assistance is sought from these participants in identifying further respondents based on their acquaintances, who then in turn contact their acquaintances.[9]

[9] While snowball sampling is a non-probability sampling method, it provides a convenient means of identifying potential participants who are more likely to willingly take part and provide useful information partly due to the close-knit network through which they are recruited, as opposed to randomly identifying unknown individuals who are less likely to oblige.

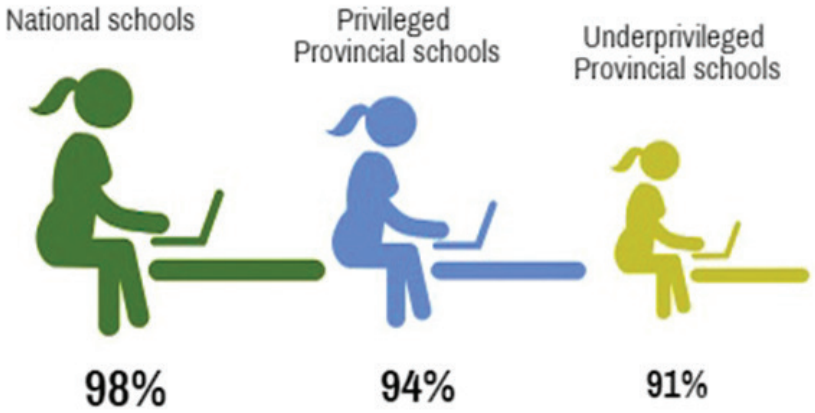
4 Results: Secondary Data Analysis

4.1 Trends in Scholarship Exam Participation, Performance, and School Transitions

4.1.1 Exam Participation

As mentioned before, although the scholarship exam is not compulsory and is of most relevance to low-income students and those attending low-quality or standalone primary schools, a vast majority of grade five students sit for the scholarship exam, irrespective of school quality or income level. In 2017, for instance, according to School Census data, 92.6% of grade five students sat for the scholarship exam across the country. As depicted in Figure 4.1, the highest share of scholarship exam participants is in fact recorded in national schools, which consist of the best schools in the country, where taking the exam is of least relevance. Over 90% of grade five students in provincial schools, both privileged and underprivileged, also sat for the exam. Section 5, based on primary interviews, discusses some reasons as to why many students (in good schools) take the exam.

Figure 4.1: Share of Grade Five Students that Sat for the Scholarship Exam, 2017

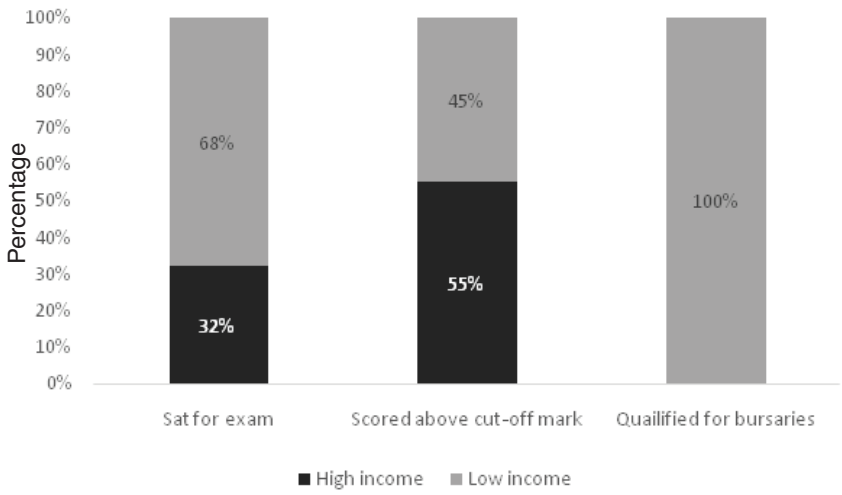


Source: Own calculations using 2016 and 2017 School Census data.
Note: Privileged provincial schools refer to highly privileged and privileged provincial schools. Underprivileged provincial schools refer to provincial schools that are either not privileged, underprivileged, or highly underprivileged.

4.1.2 Exam Performance

Figure 4.2 shows the shares of students who sat for the exam in 2017, scored above the cut-off mark, and qualified for bursaries, by household income level. While a majority of 68% of those who sat for the exam are from low income families, over 50% of students who scored above the cutoff mark are from non-poor families. The DOE (2018) speculates that higher educational status of parents and their ability to provide children with more educational opportunities contribute to better performance of students from higher income families. As should be the case, all bursaries are awarded to students from low-income families.

Figure 4.2: Share of Students by Performance at the Grade Five Scholarship Examination, 2017



Source: DOE, 2018, *Reviewing of Performance at Grade Five Scholarship Examination* – 2017.

4.1.3 School Transitions

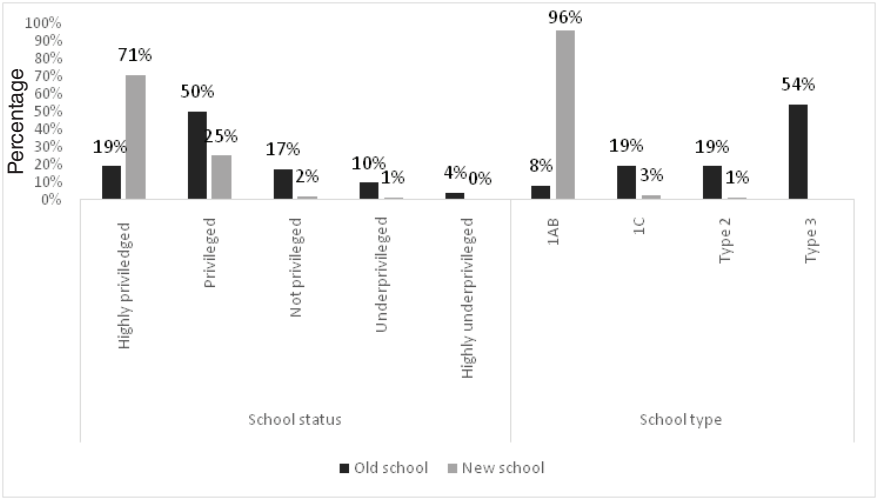
As mentioned before, 33,163 students scored above the respective cutoff marks in 2017 and qualified for bursaries and/or admission to better schools. 8,645 students did not move to new schools, and while specific reasons are not available, it is likely that these students are already in good schools, hence making a move redundant: data show that 83% of non-movers are from highly privileged or privileged schools, while 72% attend either 1AB or 1C schools. Further, 62% of this sample comprises of high-income students who do not qualify for bursaries, and the largest share is from the Colombo district.

> "Around half of high-scoring students come from privileged schools to begin with, and transition to highly privileged (new) schools."

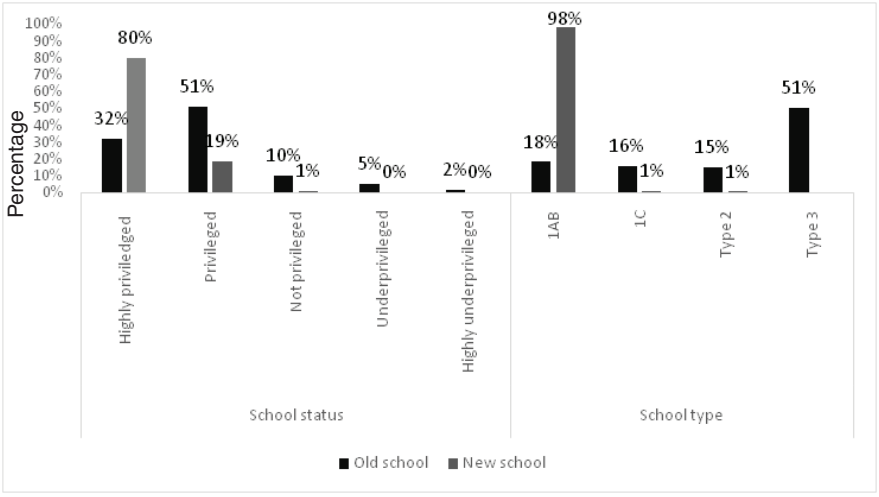
Figure 4.3 pertains to students who transition to different schools and shows trends in enrollment in old schools and the new schools that they moved to, distinguishing between low-income and high-income students. The patterns between the two income groups are largely similar, and show that around half of high-scoring students come from privileged schools to begin with, and transition to highly privileged (new) schools. The numbers qualifying from underprivileged schools are notably low, at around 14% among low income students and 7% among high income students.[10] This observation is of concern, given the exam's aim of facilitating student transitions from underprivileged to privileged schools.

Figure 4.3: Share of Students in Old and New Schools by School Status and School Type, 2017

(a) Low income students



(b) High income students



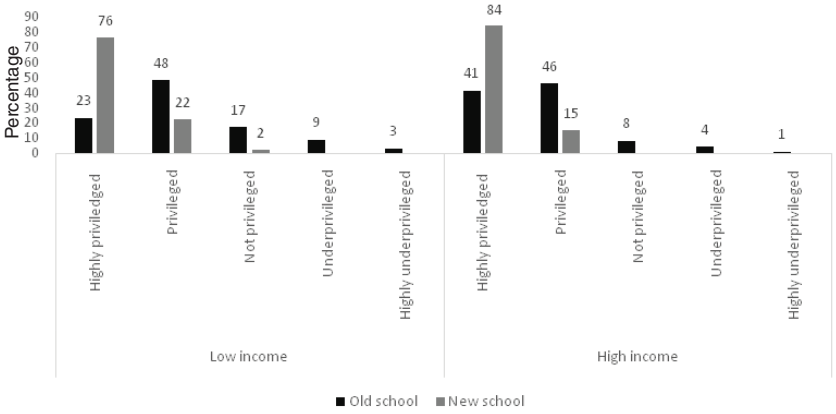
Source: Own calculations based on2017 MOE data.

In terms of school type, over 50% of both low- and high-income students are from Type 3 schools that terminate at either grade 5 or grade 8, while, encouragingly, close to 100% of these students move to 1AB schools.

One possibility is that the large number of transitions that happen from privileged to highly privileged schools is driven by a fair number of privileged Type 3 schools,[11] which, if the case, is less of a concern given the need for students to move from such schools to those offering secondary education. However, analysis of school movements excluding Type 3 schools still points to similar trends as above: a majority of 48% of low-income students and 46% of high-income students still move from old privileged schools, while shares moving from old underprivileged schools, albeit somewhat higher than above, are still relatively low at 26% and 12%, respectively (Figure 4.4).

[10] This finding is also reflected in the regression analysis in Section 4.2.3, where underprivileged schools lag behind their privileged counterparts in terms of scholarship exam performance.
[11] As seen in Section 2.1, 30% of Type 3 schools are either highly privileged or privileged.

Figure 4.4: Share of Students in Old and New Schools by School Status Excluding Type 3 Schools, 2017

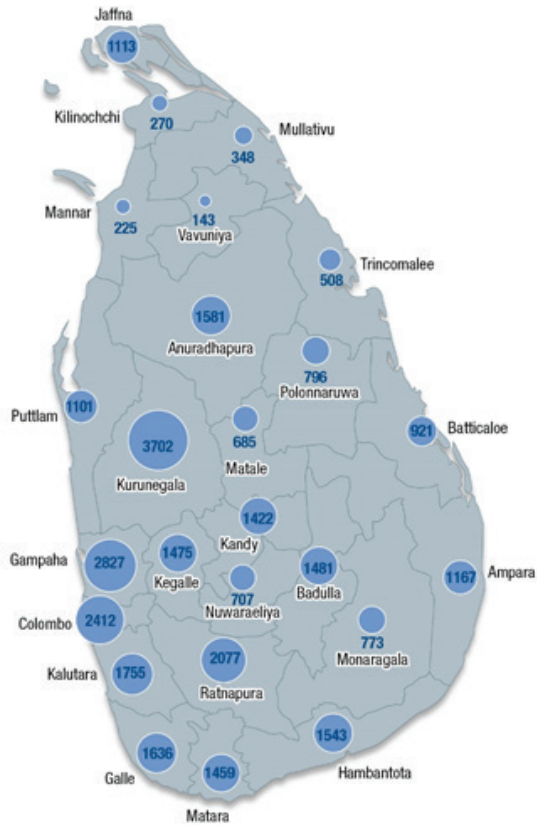


Source: Own calculations based on 2017 MOE data

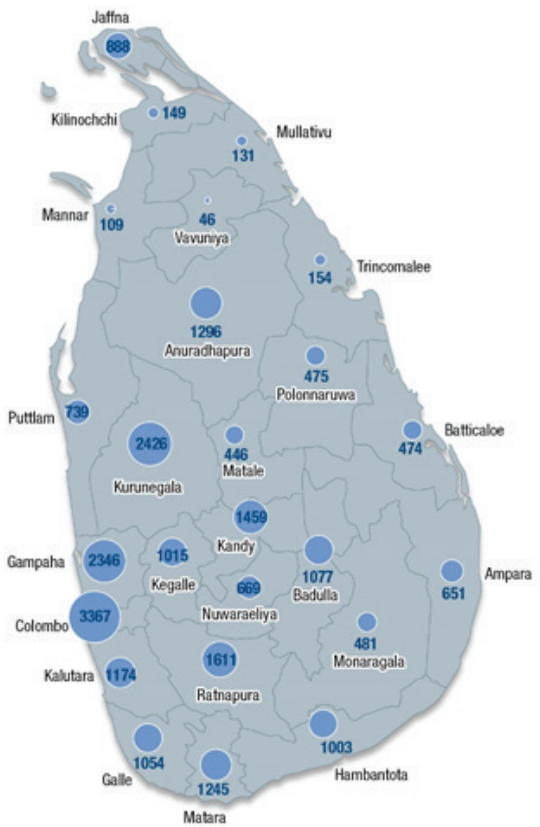
In terms of location, as illustrated in Figure 4.5, the largest numbers of scholarship qualifying students (3,702) are from schools in the Kurunegala district, followed by the Gampaha and Colombo districts in the Western Province. The lowest number is recorded from the Vavuniya district in the Northern Province. Interestingly, the main school locations students subsequently move to are also the Colombo, Kurunegala, and Gampaha districts, suggesting that most school transitions take place within the given districts. This observation is somewhat expected, given that these are 10-year-olds who would preferably continue living at home with their parents.

Figure 4.5: Key School Sources and Destinations of Scholarship Exam Qualifying Students, by District, 2017

a) Source



b) Destination



Source: Own calculations based on 2017 MOE data.

4.2 Why has the Scholarship Exam Failed in Achieving its Intended Objectives?

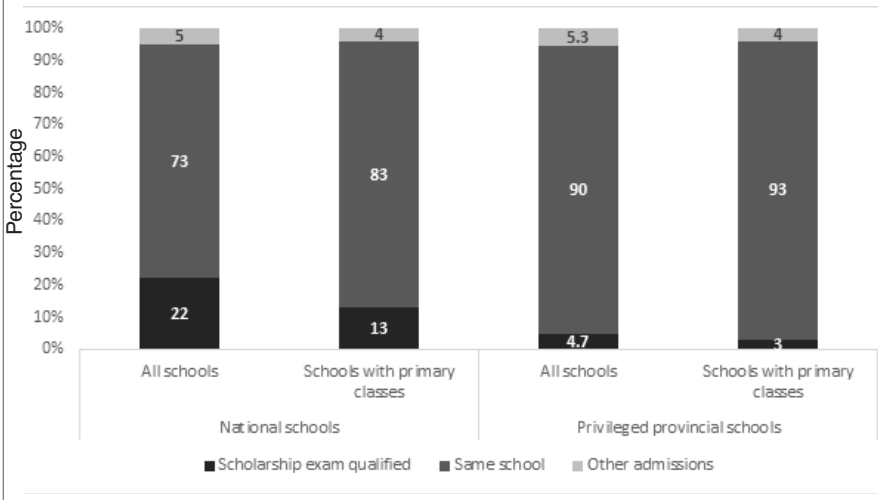
4.2.1 Low Admissions in Grade Six based on Exam Performance

A key objective of the scholarship exam is to facilitate access to better quality schools. Nevertheless, Figure 4.6 shows that the chances of entering good schools based on scholarship exam marks are slim. The share of grade six students admitted to all national schools based on scholarship exam results is 22%. When national schools without a primary section, i.e. schools offering only secondary classes, are excluded, this share falls further to 13%. This is because many students who are in national schools at the primary level automatically continue to grade six, irrespective of performance at the scholarship exam. This trend is seen in the large share of grade six students—73% in all national schools and 83% in national schools with primary classes—who are from the same school. As such, the chances to enter better schools via the scholarship exam are limited. The situation is similar in privileged provincial schools. Those entering through exam results are a mere three–five%, compared to around 90% who automatically enter grade six from the primary level.

The low number of student admissions based on the scholarship exam is largely owing to already filled up student quotas in better schools. Almost all vacancies are filled up at the grade one entry level, leaving little room for admissions in grade six.[12] As stated in Circular 23, 2013 of the MOE, admission into grade one is primarily based on the distance between school and place of residence and receives a weightage of 50% in the selection criteria. Other important factors are whether a parent was a past pupil and whether any siblings attend the given school, which are assigned weights of 25% and 15%, respectively (MOE, 2013). Given that many good schools are located in more affluent urban areas and that a child's present location can often be the same as their parent's, this policy of school admission favours children from more affluent backgrounds.

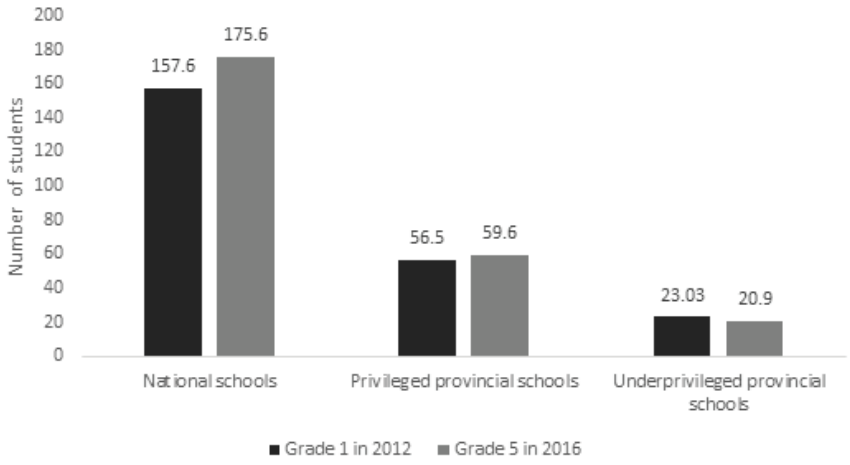
Moreover, in light of the intense competition to get into good schools at the grade one and grade six levels, parents at times find means of admitting their children to these schools in the interim grades. As shown in Figure 4.7, there is a difference between the average numbers of students in grade one in 2012, who are the same as those in grade five in 2016.

Figure 4.6: Composition of Grade Six Students in Schools (%), 2017



Note: The sample excludes schools which terminate at grade 5.
Source: Own calculations using 2017 School Census data.

Figure 4.7: Average Number of Students in Grades 1 and 5, by School Category



Source: Own calculations using 2012 and 2016 School Census data.

[12] Little et al. (2013) note that a child's educational destiny is largely determined at grade one, with those unable to enter a national school at this level having limited access to the system in future years.

The respective numbers of average students increase in both national and privileged provincial schools between the two time periods, whereas they decline in underprivileged schools. This suggests that there is some movement from less privileged to more privileged schools between grades one and five. Figure 4.7 also highlights the significant difference in average student numbers between the three school categories.

4.2.2 Inadequate Financial Aid

The scholarship exam also falls short in meeting its objective of providing sufficient financial assistance to poor students. MOE data indicate that in 2017, 45% of students who scored above the cutoff mark were eligible for bursaries. As a share of all grade five students who sat for the exam, this amounts to a mere 4%.[13] To receive these funds, a child needs to be from a household earning a annual income of less than Rs. 50,000, in addition to scoring above the cut-off mark.

Moreover, the actual amount of funds received stands at a negligible Rs. 500 (~USD 3) per month, especially in comparison to funds spent over the years on private tuition for the scholarship exam, which can cost between Rs. 600 to as much as Rs. 10,000 a month, depending on the quality and the popularity of tuition classes.[14] In light of the higher costs associated with tuition at the secondary level, and additional expenses that are likely to be incurred by students who move to distant locations, the monthly stipend becomes even less significant. Moreover, with inflation, the real value of the monthly stipend falls over time.

4.2.3 Poor Performance of Schools for which the Exam is Most Relevant

Table 4.1 presents OLS estimates of the relationship between school resources and scholarship exam performance in Sri Lanka. The first column displays estimates for the pooled sample. Compared to highly privileged schools—which is the omitted dummy category in the estimations—all other status categories report lower success rates at the scholarship exam, as seen by the statistically significant negative coefficients. The same is true for the different school types—1AB schools perform significantly better than the other school types. This finding is of concern, given that good results are particularly important for students in Type 2 and Type 3 schools to gain access to 1AB and 1C schools. Schools which are of Sinhala ethnicity perform better compared to their Tamil and Muslim school counterparts. The estimates also show that parent and PPA funds have a statistically significant positive effect on exam results, suggesting that schools located in more affluent communities (receiving larger amounts of funds) report better performance. A significant positive association is also observed between the share of highly qualified and experienced teachers and exam results. Teacher leave has a notable negative impact on a school's performance. Principal quality also matters, with schools managed by Sri Lanka Principals Service SLPS and Sri Lanka Teachers Service SLTS category principals performing worse than those managed by Sri Lanka Education Administration Service SLEAS ranked principals. The district-level variables have no impact on how well primary students perform at the scholarship exam.

Columns (2) and (3) present estimates for national and provincial schools separately. Given the substantial differences in terms of school resources and other factors that exist between these two groupings, it is of interest to test whether the effects of the explanatory variables still hold as for the pooled estimations, and whether they differ between national and provincial schools. It is interesting to note that none of the school- and district-level variables have a significant impact on scholarship exam results in national schools, with the exception of ethnicity and teacher leave. This finding suggests that school-level factors are not important in national schools in determining student performance, where, ironically, the best school resources are concentrated. It could also be reflective of less variation in school resources among national schools—which account for just 3% of total schools—compared to more variation across provincial schools based on location and other factors. The estimates for provincial schools, on the other hand, show trends comparable to the pooled sample: school status, school type, ethnicity, community-level funds, qualified and experienced teachers and principals, and teacher leave significantly matter for student performance.

Table 4.2 presents estimates of odds ratios[15] from a GOL model for the pooled sample of schools. An odds ratio of one indicates that a conditional increase in the independent variable is not associated with any change in the dependent variable, while an odds ratio above (below) one indicates that an increase in the independent variable raises (lowers) the dependent variable.

[13] Since 9.4% of the total population who sat for the exam in 2017 scored above the cutoff mark, the share qualifying for bursaries is 9.4%*45%.
[14] More information on tuition costs are provided in Section 5.
[15] Proportional odds ratios for the ordered logit model are obtained by exponentiating the ordered logit coefficients.

Table 4.1: School-Level Determinants of Scholarship Exam Results, OLS Estimates

Specification	Pooled sample	National Schools	Provincial Schools
	(1)	(2)	(3)
Privileged	-0.03***	0.02	-0.03***
	(0.01)	(0.02)	(0.01)
Not privileged	-0.04***	-0.02	-0.04***
	(0.01)	(0.07)	(0.01)
Underprivileged	-0.05***	-	-0.05***
	(0.01)	-	(0.01)
Highly underprivileged	-0.06***	0.07	-0.06***
	(0.01)	(0.15)	(0.01)
1C	-0.04***	-0.11**	-0.03**
	(0.01)	(0.05)	(0.01)
Type 2	-0.05***	-0.12	-0.04***
	(0.01)	(0.09)	(0.01)
Type 3	-0.04***	-	-0.03***
	(0.01)	-	(0.01)
Ethnicity	0.02***	0.06**	0.02***
	(0.00)	(0.03)	(0.00)
Parent and PPA funds	0.02**	0.04	0.02**
	(0.01)	(0.06)	(0.01)
School meal programme	-0.01	-0.02	-0.01
	(0.01)	(0.02)	(0.01)
In-field and experienced teachers	0.02***	0.03	0.02***
	(0.00)	(0.04)	(0.00)
In-field and inexperienced teachers	0.00	-0.04	0.00
	(0.01)	(0.06)	(0.01)
Supervisors	0.01	0.04	0.01
	(0.01)	(0.03)	(0.01)
Sectional heads	0.00	0.01	0.00
	(0.00)	(0.02)	(0.00)
Leave	-0.17***	-0.93**	-0.16***
	(0.03)	(0.39)	(0.03)
SLPS	-0.03***	-0.01	-0.03**
	(0.01)	(0.02)	(0.01)
SLTS/Non-Teacher Service	-0.03***	0.02	-0.03**
	(0.01)	(0.05)	(0.01)
GDP per capita	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)
Poverty	-0.00	0.01	-0.00
	(0.00)	(0.00)	(0.00)
Unemployment rate	0.00	-0.01	0.00
	(0.00)	(0.01)	(0.00)
Population density	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)
Observations	8,278	154	8,124
R^2	0.05	0.26	0.03

Note: The dependent variable is the share of students sitting for the scholarship exam that obtain sufficient marks to be considered for bursaries and admission to good quality schools. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively. Standard errors are shown in parentheses. Coefficients on constants not reported.

Table 4.2: School- and District-Level Determinants of Scholarship Exam Results, GOL Estimates

Specification	Poor	Average
	(1)	(2)
Privileged	0.73***	0.73***
	(0.09)	(0.09)
Not privileged	0.39***	0.83
	(0.05)	(0.19)
Underprivileged	0.32***	0.79
	(0.04)	(0.20)
Highly underprivileged	0.18***	0.79
	(0.03)	(0.22)
1C	0.10***	1.50
	(0.03)	(0.65)
Type 2	0.04***	1.52
	(0.01)	(0.66)
Type 3	0.05***	1.43
	(0.02)	(0.61)
Ethnicity	1.47***	1.47***
	(0.09)	(0.09)
Parent and PPA funds	2.53***	0.65
	(0.29)	(0.26)
School meal programme	0.75***	0.75***
	(0.08)	(0.08)
In-field and experienced teachers	1.79***	0.91
	(0.14)	(0.22)
In-field and inexperienced teachers	1.64***	0.68
	(0.23)	(0.30)
Supervisors	1.31**	1.31**
	(0.17)	(0.17)
Sectional heads	1.11	1.11
	(0.09)	(0.09)
Leave	0.02***	0.02***
	(0.01)	(0.01)
SLPS	0.88	0.40***
	(0.19)	(0.10)
SLTS/Non-Teacher Service	0.61**	0.61**
	(0.13)	(0.13)
GDP per capita	1.00	1.00
	(0.00)	(0.00)
Poverty	0.98*	0.98*
	(0.01)	(0.01)
Unemployment rate	0.97	0.97
	(0.02)	(0.02)
Population density	1.00***	1.00***
	(0.00)	(0.00)
Observations	8,278	8,278
Pseudo R^2	0.13	0.13

Note: The dependent variable is the share of students sitting for the scholarship exam that obtain sufficient marks to be considered for bursaries and admission to good quality schools. Categories of the dependent variable include: (1) poor (0); (2) average (>0—0.4); and (3) good (>0.4). ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively. Standard errors are shown in parentheses. Reported estimates are odds ratios of the ordered logit coefficients. Coefficients on constants not reported.

The logit estimates are broadly comparable to the OLS estimates, although the parallel regression assumption is violated for a fair number of variables,[16] which are highlighted in grey. For instance, similar to the OLS estimates, while the odds of good performance in lower ranked schools—either by status or type—is significantly lower in the poor performing school category compared to the combined average and good categories, this difference is not significantly different between the combined poor and average performers and good performers. This finding also applies with regard to community support and teacher quality. Interestingly, the odds of performance are significantly lower in schools that have an operational meal program irrespective of the grouping combination, a variable that appeared insignificant in the OLS model. The same finding applies to qualified primary level supervisors, whose presence raises a school's performance at the scholarship exam according to GOL estimates.

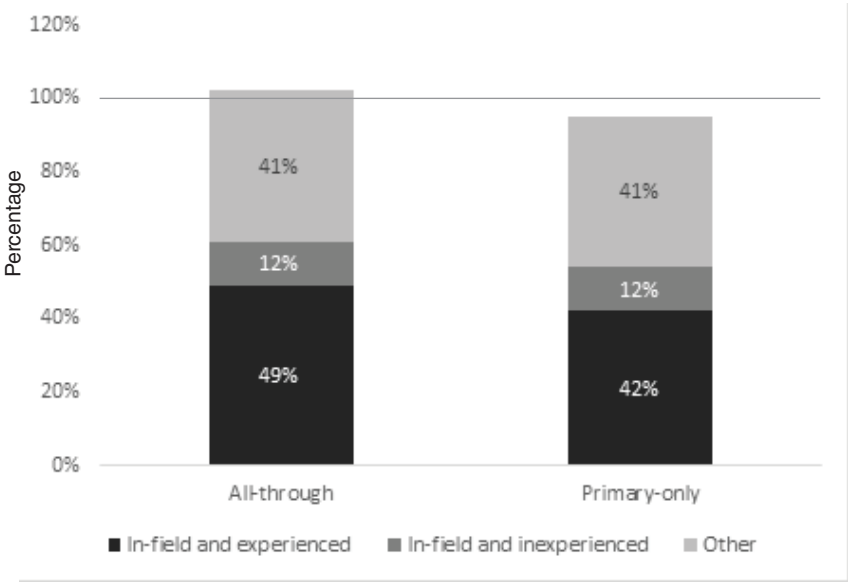
4.2.4 Poor and Unequal Distribution of Teacher Quality

A key school-level factor influencing scholarship exam scores is the qualifications and experience of teachers. A potential reason for low performance in underprivileged and smaller schools could be a shortage and/or unequal allocation of well-trained and experienced teachers, which in turn hinders the effective functioning of the scholarship exam as a tool to promote greater equality in education access.

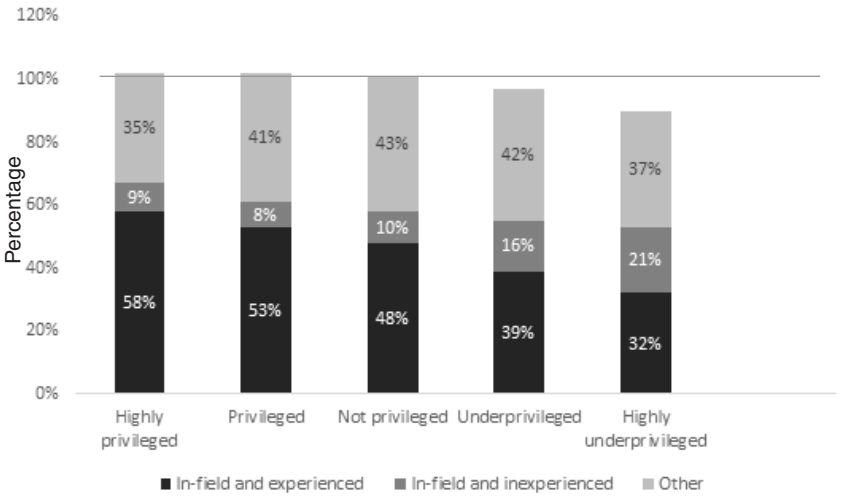
Figure 4.8 depicts the distribution of general primary teachers in terms of the three teacher quality variables used in the regressions. As can be seen in panel (a), over 40% of recommended general primary teachers do not hold qualifications or training in primary education in both all-through and self-contained primary schools. It is also of concern to note that primary-only schools face a shortage of primary level teachers, in comparison to all-through schools that have more than the recommended number, while also having a lower share of both in-field and experienced teachers compared to all-through schools. The

Figure 4.8: Share of Recommended General Primary Teachers, by Grade Span and School Status, 2017

(a) Grade Span



(b) School Status



Note: The line at 100% indicates that available teachers exactly equal the recommended number.
Source: Own calculations based on 2017 School Census data.

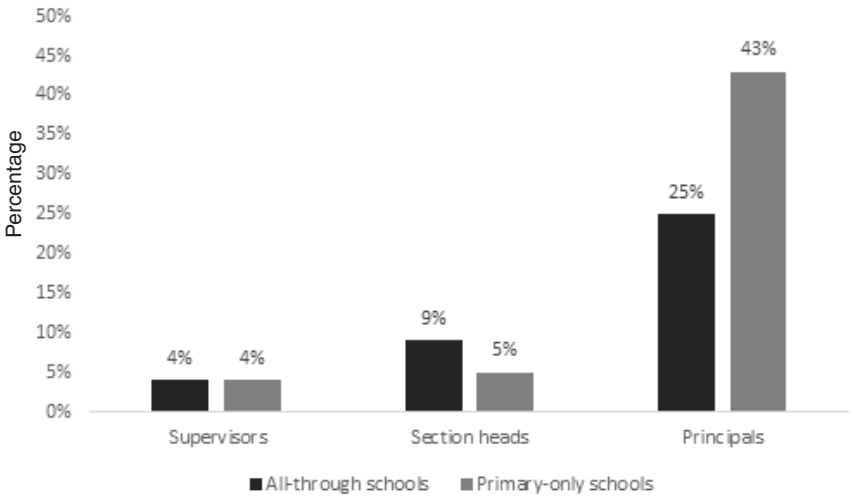
[16] Odds ratios are reported due to several reasons. First, they are relatively easier to interpret than logit coefficients. Second, they possess advantages over marginal effect estimates. The significance of marginal effects can be different to those of the coefficients since marginal effects for non-linear models need to be calculated assuming some specific value for each explanatory variable, unlike for a linear model (Wooldridge, 2002). Odds ratios are also simpler to obtain than marginal effects.

teacher shortages are likely reflective of the inclination for primary teachers to be employed in all-through schools, which provide opportunities of progressing to higher levels of teaching (Little et al., 2013). A similar trend is visible in panel (b), with privileged schools securing over 50% of in-field and experienced recommended general primary teacher numbers, compared to a corresponding figure of below 40% in underprivileged schools. The share of in-field but inexperienced teachers is also disproportionately larger in less privileged schools. Overall teacher numbers are adequate in privielged schools, but inadequate in underprivileged ones.

Sri Lankan schools also lack adequate suitably qualified staff in primary-level management, in charge of overseeing primary level teachers and students and ensuring that primary education is of a high standard. As Figure 4.9 indicates, only 4% of existing primary-level supervisors are qualified in primary education in both all-through and primary-only schools. Sectional heads who hold primary level credentials are also low. The share of primary education qualified principals is comparatively higher at 25% and 43% in all-through and primary-only schools, respectively, but still inadequate. The regression results show that qualified leaders are important for good results. Without suitably qualified staff at the management level, ensuring that primary teachers are qualified and effective in their teaching is not an easy task.

The lack of proper pre-service teacher training avenues is one reason behind poor teacher quality. The main avenue for pre-service teacher training in primary education is a three-year National Diploma in Teaching (NDT) offered at National Colleges of Education (NCOEs). While recruitments to

Figure 4.9: Share of Qualified (In-field) Staff in Primary-Level Management, 2017



Source: Own calculations using 2017 School Census data.

the NCOEs are made among students well-qualified in Arts stream subjects at the A-Levels, they are generally not well-qualified in mathematics and English (Little et al., 2013).[17] Moreover, access to this route is restricted to Arts students, while those passing the A-Levels in the Science stream are not permitted to apply for this course because they do not follow an A-level course in Sinhala or Tamil (Ibid). As such, a teaching career for science and mathematics A-Level qualified individuals is limited to post-secondary grades. Primary classes thus forego the opportunity to be taught by those who have achieved well in mathematics and the sciences, who are generally considered more capable than Arts students.

Pre-serving teacher training is also offered via BEd courses at universities; however, these are only available at the National Institute of Education (NIE), two of the 17 Sri Lankan universities-the University of Colombo and the Eastern University—and the Open University. Further, many of these BEd programmes provide training to teach at the secondary school level: only the Eastern University has a BEd programme specific to preschool and primary education (Sethunga et al., 2016). A related issue is the lack of teacher educators (who teach these courses) with direct experience of teaching at the primary level (Little et al., 2013). It is generally considered that primary teachers require more pedagogical and practical training than secondary teachers, who specialise more in subject-related content (Sethunga et al., 2016). The lack of primary-specific teacher training courses is thus a cause for deep concern. According to School Census data, in 2017, of a total of 74,857 primary teachers, only 2,547 or 3.4% held a BEd. The share of BEd graduates who completed a primary education module as part of their degree was even lower at 2.8%.

4.2.5 Shortcomings in Identifying Intelligent Students

Another question concerns the predictive validity of the scholarship exam in credibly identifying students with su-

[17] Prospective NCOE students currently need only a pass in mathematics and English at the O-Levels.

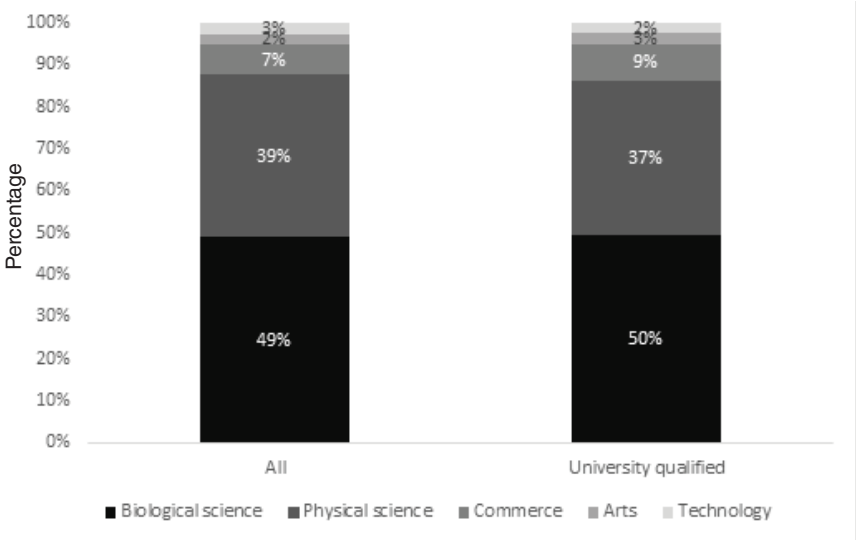
perior intellect, given the exam's aim of providing further educational opportunities to such students. If the exam does correctly identify intellectual superiority among students, one would expect top-performing students at the scholarship exam to continue their stellar performance in subsequent nationally qualifying exams such as the O-Levels and A-Levels. To test this question, from a total of 32,405 students who scored above the cutoff mark at the 2008 scholarship exam, a sample of the highest scoring 859 students is selected, and their A-Level performance in 2017 is examined. Apart from obtaining high test scores at the scholarship exam, other factors considered in selecting this sample include location of the secondary school, total numbers of students in the 2017 A-Level class, and the share out of total top scorers (those scoring above the cutoff mark). This combination of factors is used to ensure that while selecting top performers, sufficient representation is also given to schools from a wide range of districts. In particular, this sample of students represents 34 schools from most of the districts in Sri Lanka,[18] accounts for approximately 3% of the total number of students in the 2017 A-Level class, and is among the top 16% of those who scored above the cutoff at the 2008 exam. The average mark obtained at the scholarship exam among this sample is 155, which ranges from 140 to 180. [19]

Trends in A-Level Performance of Scholarship Exam Top Scorers

Overall, 79% of scholarship exam top-scoring students subsequently passed the 2017 A-Level exam and qualified for university admission, which is an impressive figure. Further, as seen in Figure 4.10, a majority of these students—both those who sat for the A-Levels and those who qualified for university admission—are from the biological and physical science streams, comprising of subjects which are considered important in today's knowledge-driven economy. This observation is also suggestive of the fact that these students have done well at the O-Levels, since good O-Level results, particularly in mathematics and science, is a prerequisite for choosing science streams at the A-levels.[20]

While the fact that a large share of scholarship high scorers qualify for university admission is a positive finding, it is perhaps more important to look at those who actually succeed in gaining admission to university, given that only around 19% of eligible students gain admission each year (University Grants Commission (UGC), 2018). This question is examined by comparing Z-scores obtained by this sample of students to the cutoff Z-scores for university admission issued by the UGC based on the 2017 A-Level results.[21] The UGC determines cutoff marks taking into account the specific field of study within a stream (for example, medicine within the biological sciences), the specific university at which the given course is offered, and the district from which a student sat for the A-Levels. This study considers the minimum cutoff score required to enter a field within the four broad subject streams—biological science, physical science, commerce, and arts[22] —in any local university, for each district. It therefore considers the minimum possible achievable Z-score to enter one of the 15 local universities in any field, within the broad streams.[23]

Figure 4.10: Composition of Scholarship Exam Top Scorers that Sat for the A-Levels and Qualified for University Admission, by Stream of Study



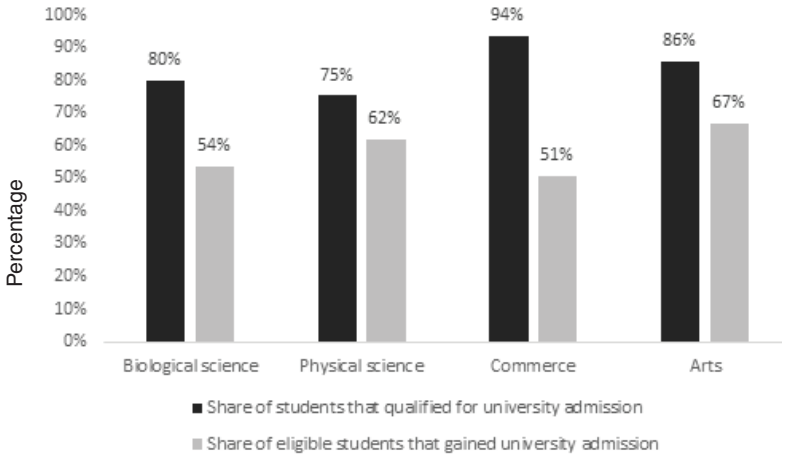
Source: Own calculations using data on 2008 scholarship exam and 2017 A-Level performance from the MOE and the DOE, respectively.

[18] The districts not represented are Mannar, Vavuniya, Mullativu, Killinochchi, Batticaloe, Trincomalee, and Monaragala, given that these districts do not have schools accommodating scholarship exam high scorers.
[19] Statistics for each school are provided in Appendix B (Table B1).
[20] Under Sri Lanka's education system, distinction or credit passes in science and mathematics are required at the O-Levels to pursue A-Levels in the science stream.
[21] The Z-score is calculated by subtracting the raw mark of a subject by the mean mark of a subject, and dividing this difference by the standard deviation of the marks of the subject. The Z-score recognizes the inappropriateness in comparing simple averages of aggregate marks for subjects of different levels of complexity. The Z-score for a given subject is comparable to the Z-score of another subject, although raw marks cannot be compared.
[22] The technology stream is not considered as it is not possible to distinctly identify the specific subject areas that fall within this stream from a large number of areas given in the UGC document.
[23] For instance, within the biological stream, the Z-score required by a student who sat for the A-Levels from the Colombo district ranges from a high of 2.1808 to enter the University of Colombo for Medicine, to a low of 1.0762 to enter the University of Wayamba for Agriculture. The study considers this minimum value for each stream in each district.

As Figure 4.11 shows, there is no large difference between the share of students who qualify for university and the share of eligible students who actually gain admission, with the exception of the Commerce stream and the biological stream, to some extent. Eligible student shares who gain university admission are also considerably larger than the average national share of 19%, suggestive of the fact that scholarship top-scorers perform well at higher level examinations relative to the national average.

Another important question relates to the subsequent performance of scholarship exam high scorers from disadvantaged backgrounds, given that the scholarship exam aims to assist such students. Encouragingly, as panels a) and b) of Figure 4.12 show, both the shares of university qualifying students and those gaining university admission are quite similar between students from poor and non-poor households, across the different subject streams. Poor students in fact account for slightly larger shares in the biological science and technology and other streams.

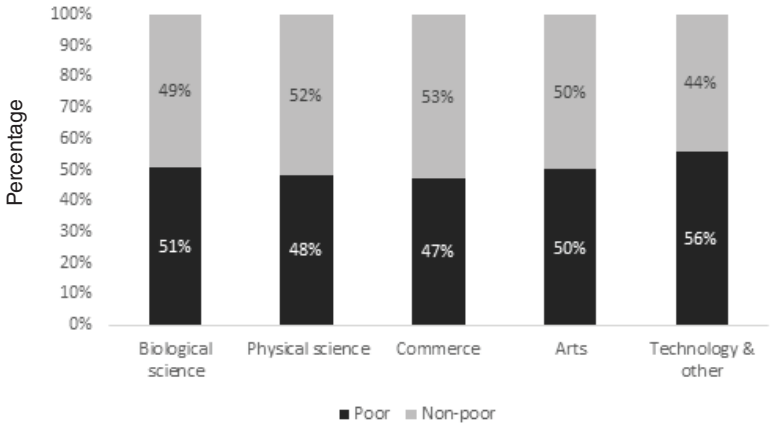
Figure 4.11: Share of Scholarship Exam Top Scorers Qualifying for University and Gaining University Admission, by Subject Stream



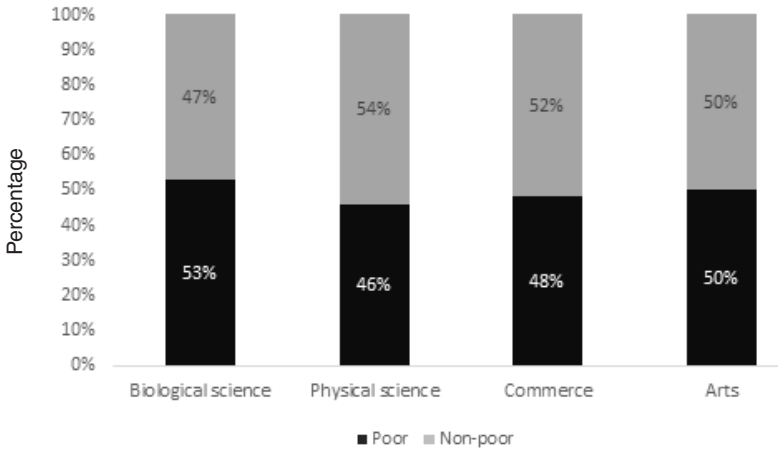
Sources: Own calculations using data on scholarship exam and A-Level performance from the Ministry of Education and the Department of Examinations, respectively; UGC, 2018, *University Admission - Academic Year 2017/2018.*

Figure 4.12: Composition Qualifying for and Gaining Admission to University by Income Level and Subject Stream

a) Share of Students Qualifying for University Admission



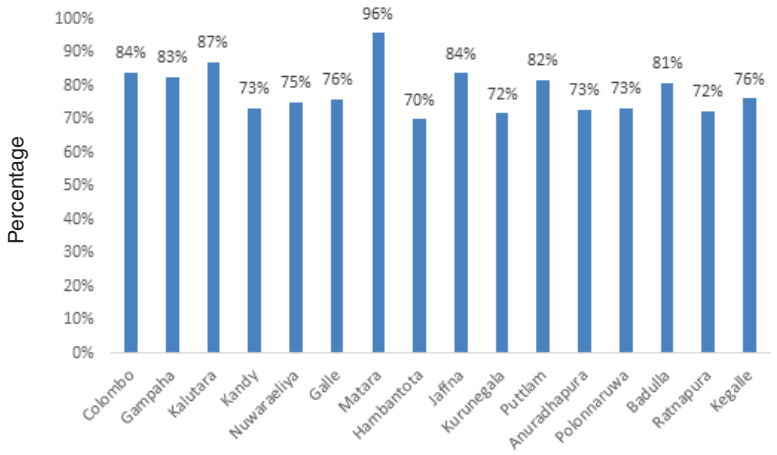
b) Share of Eligible Students who Gained Admission to University



Source: Own calculations using data on 2008 scholarship exam and 2017 A-Level performance from the Ministry of Education and the Department of Examinations, respectively.

University qualifying shares among scholarship exam top-scorers are also similar among most districts, with the Matara district accounting for the largest share at close to 100% (Figure 4.13). The shares actually gaining admission based on Z-score cutoff marks in the different subject streams show more variation between districts. As Table 4.3 indicates, all qualifying students succeed in gaining university admission in the Nuwara Eliya and Hambantota districts in the biological science stream. On the other hand, in districts such as Kandy, Galle, and Polonnaruwa, less than half of the students who qualify to enter university are successful in securing admission. This variation, however, also reflects large district-level differences in student numbers. As can be seen, the total number of students who qualify for admission—relative to which the numbers who gain admission are compared—are only three each in both streams in the Nuwara Eliya and Hambantota districts, while Kandy and Galle account for much larger numbers. Lower Z-score requirements in less-affluent districts also contribute to relatively higher shares obtaining university admission in some districts.

Figure 4.13: University Qualifying Shares among Scholarship Exam Top Scorers, by District



Source: Own calculations using data on 2008 scholarship exam and 2017 A-Level performance from the Ministry of Education and the Department of Examinations, respectively.

Table 4.3: Numbers and Shares of University-Eligible Scholarship Exam Top Scorers who Gained University Admission, by District and Subject Stream

District	Biological science			Physical science		
	Qualified	Gained admission	Share (%)	Qualified	Gained admission	Share (%)
Colombo	75	55	73	48	32	67
Gampaha	26	15	58	20	10	50
Kalutara	10	7	70	8	5	63
Kandy	34	13	38	22	10	45
Nuwara Eliya	3	3	100	3	3	100
Galle	40	14	35	28	12	43
Matara	30	16	53	10	5	50
Hambantota	3	3	100	3	1	33
Jaffna	7	5	71	21	18	86
Kurunegala	37	19	51	24	15	63
Puttlam	15	7	47	7	5	71
Anuradhapura	9	5	56	12	11	92
Polonnaruwa	3	1	33	2	1	50
Badulla	12	4	33	19	10	53
Ratnapura	19	10	53	17	12	71
Kegalle	11	4	36	4	3	75

Source: Own calculations using data on 2008 scholarship exam and 2017 A-Level performance from the Ministry of Education and the Department of Examinations, respectively; UGC, 2018, *University Admission - Academic Year 2017/2018.*

Comparison of A-Level Performance between Scholarship Exam Top and Low Scorers

While the sustained satisfying performance of high-scoring scholarship exam students at the A-Levels is a positive observation, it could well be the case that *all* students in these schools do well at the A-Level exam, irrespective of scholarship exam performance, given that they are placed in the most prestigious schools in Sri Lanka. This hypothesis is tested by comparing average university qualifying shares, using two-sample *t* tests, among the 859 high scorers of the scholarship exam and a sample of scholarship exam *low* scorers, in the same respective schools. Low scorers are defined as those who scored below 130 marks (65%) at the scholarship exam, given insufficient data on low-scoring scholarship exam students to consider a lower threshold, for instance below 100 marks. The average mark is 121 among this sample, which is still significantly below that of 155 among the high scorers. The low-scoring student sample consists of 633 students from schools representing 25 districts,[24] and accounts for approximately 3% of the total A-Level class size, as is the case for the high-scoring sample.[25]

As seen in Table 4.4, there is a statistically significant difference in the average shares of university qualifying students between the two student groups in only five out of the 25 schools, from the Kalutara, Kandy, Galle, and Matara districts (highlighted in dark grey in the Table). In fact, in a few schools, the mean difference is negative (highlighted in light grey), albeit statistically insignificant, suggesting that low scorers at the scholarship exam outperform their high scoring counterparts at the A-Levels.

[24] Nine of out of the 34 schools had to be dropped in this analysis due to data unavailability on those who obtained below 130 marks at the 2008 scholarship exam.
[25] Statistics for each school are available in Appendix B (Table B2).

Table 4.4: Differences of Average University Qualifying Shares between Scholarship Exam Top and Low Scorers, by School Attended

School district	Top scorers		Low scorers		Mean difference
	Observations	Mean qualifying share	Observations	Mean qualifying share	
Colombo 1	54	0.741	15	0.933	-0.192
		(0.06)		(0.067)	(0.12)
Colombo 2	42	0.833	41	0.829	0.004
		(0.058)		(0.059)	(0.083)
Colombo 3	31	0.87	15	0.8	0.07
		(0.061)		(0.107)	(0.115)
Kalutara	19	0.789	28	0.536	0.253*
		(0.096)		(0.096)	(0.141)
Kandy 1	26	0.615	34	0.5	0.115
		(0.097)		(0.087)	(0.131)
Kandy 2	29	0.897	26	0.692	0.205*
		(0.058)		(0.092)	(0.106)
Kandy 3	31	0.677	19	0.842	-0.165
		(0.085)		(0.086)	(0.128)
Nuwara Eliya	8	0.75	20	0.95	-0.2
		(0.164)		(0.05)	(0.128)
Galle 1	21	0.762	29	0.655	0.107
		(0.095)		(0.09)	(0.133)
Galle 2	25	0.76	30	0.3	0.46***
		(0.087)		(0.085)	(0.123)
Galle 3	33	0.727	30	0.5	0.227*
		(0.079)		(0.093)	(0.121)
Galle 4	21	0.81	34	0.794	0.016
		(0.088)		(0.07)	(0.113)
Matara 1	31	0.968	38	0.684	0.284***
		(0.032)		(0.076)	(0.09)
Matara 2	16	0.938	11	0.818	0.12
		(0.063)		(0.122)	(0.126)
Hambantota	10	0.70	15	0.733	-0.033
		(0.153)		(0.118)	(0.191)
Kurunegala 1	34	0.735	15	0.533	0.202
		(0.077)		(0.133)	(0.145)
Kurunegala 2	34	0.705	25	0.68	0.025
		(0.079)		(0.095)	(0.123)
Puttalam1	22	0.864	10	0.6	0.264
		(0.075)		(0.163)	(0.156)
Puttalam 2	11	0.727	26	0.538	0.189
		(0.141)		(0.1)	(0.179)
Polonnaruwa	15	0.733	41	0.61	0.123
		(0.118)		(0.077)	(0.146)
Badulla	19	0.895	40	0.725	0.17
		(0.072)		(0.071)	(0.115)
Ratnapura 1	13	0.769	41	0.78	-0.011
		(0.122)		(0.065)	(0.135)
Ratnapura 2	22	0.636	14	0.786	-0.15
		(0.105)		(0.114)	(0.16)
Ratnapura 3	23	0.783	6	0.833	-0.05
		(0.088)		(0.167)	(0.192)
Kegalle	21	0.762	31	0.581	0.181
		(0.095)		(0.09)	(0.135)

Note: ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively. Standard errors are shown in parentheses. District names refer to districts in which each school is located; school names are not disclosed to maintain anonymity.

Given the not-so-large gap between average scholarship exam marks between high- and low-scorers, a further analysis is conducted by selecting subsamples among high scorers and low scorers, from the two extremes—i.e. very high scorers and very low scorers. The school-level average marks in this subsample ranges from a high of 173 to a low of 112.[26] Despite this larger gap considered, performance in the two samples at the 2017 A-Levels still remains statistically insignificant in 18 out of 22 schools. In fact, the A-Level performance gap between scholarship exam high- and low-scorers actually decreases in some schools, which again suggests that performance at the scholarship exam has no clear effect on how well one subsequently performs at other nationally competitive examinations.

Table 4.5 presents results of a similar comparison—for the full sample of 2008 scholarship exam high- and low- scorers—of those who actually gained admission to university, based on UGC-determined Z-scores. The focus is on the biological and physical science streams, given the low number of student observations in the other streams in most schools. Once again, most schools do not show a statistically significant difference in average student shares gaining university admission, by performance at the 2008 scholarship exam; only in one school based in Colombo is there evidence that the share of top performing scholarship exam students gain admission to university exceeds that of their low-scoring counterparts, in both the biological and physical science streams, by 42% and 46%, respectively.

Table 4.5: Differences of Mean Shares Gaining University Admission between Scholarship Exam Top and Low Scorers in the Sciences Streams, by School Attended

School district	Mean differences between top and low scorers	
	Biological sciences	Physical science
Colombo 1	0.583	0.162
	(0.377)	(0.221)
Colombo 2	0.417**	0.456**
	(0.184)	(0.161)
Colombo 3	-	0.125
		(0.431)
Kalutara	0.333	-0.150
	(0.228)	(0.354)
Kandy 1	0.229	-0.500
	(0.232)	(0.342)
Kandy 2	0.273	0.133
	(0.213)	(0.211)
Kandy 3	0.238	-
	(0.194)	-
Nuwara Eliya	-	0.500
	-	(0.342)
Galle 1	-0.106	0.333
	(0.228)	(0.298)
Galle 2	0.429	0.1
	(0.397)	(0.292)
Galle 3	0.333	0.111
	(0.292)	(0.276)
Galle 4	0.250	-
	(0.151)	-
Matara 1	0.226	0.275
	(0.178)	(0.198)
Matara 3	0.667	-
	(0.369)	-
Hambantota	0.667	0.333
	(0.333)	(0.333)
Kurunegala 1	0.438	0.114
	(0.303)	(0.300)
Kurunegala 2	0.60***	0.214
	(0.173)	(0.236)
Puttalam 1	-0.167	-
	(0.295)	-
Puttalam 2	0.583*	-0.500
	(0.287)	(0.433)
Polonnaruwa	0.333	0.167
	(0.243)	(0.569)
Badulla	-0.229	0.345
	(0.224)	(0.271)
Ratnapura 1	-0.099	0.625*
	(0.235)	(0.309)
Ratnapura 2	0.400	-
	(0.410)	-
Ratnapura 3	-0.143	0.208
	(0.281)	(0.280)
Kegalle	0.239	0.500
	(0.208)	(0.354)

Note: ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively. Standard errors are shown in parentheses. Blanks refer to schools in which there are insufficient student numbers in a given stream to test for statistical significance. District names refer to districts in which each school is located; school names are not disclosed to maintain anonymity.

[26] Details on the sample for each school and results of *t* tests are available in Appendix B (Tables B3 and B4).

One explanation for similar A-Level performance of scholarship exam high- and low scorers is that, students who enter good schools from grade one itself put less effort into performing well at the scholarship exam despite being intelligent, since they have less of a need and incentive to do so. Instead, their talents are displayed at higher stake exams such as the O-Levels and A-Levels.[27] Another more likely explanation is that access to high-quality education in urban privileged schools and to tuition classes in surrounding areas, enable students to do well at the A-Levels irrespective of performance at the scholarship exam. If this is the case, the importance of the scholarship exam lies in providing opportunities to rural disadvantaged students—intelligent or otherwise—to enter such good schools for secondary education. The fact that only around 20% of students do get a chance to enter such schools based on the scholarship exam, as discussed earlier, is thus a pity.

“The importance of the scholarship exam lies in providing opportunities to rural disadvantaged students—intelligent or otherwise—to enter such good schools for secondary education. The fact that only around 20% of students do get a chance to enter such schools based on the scholarship exam is thus a pity.”

[27]However, the prior finding that students in highly privileged schools outperform their counterparts at the scholarship exam (see Section 4.2.3) counters this argument.

5 Results: Primary Data Analysis

In this section, findings on the perceptions of the scholarship exam are presented, based on primary interviews conducted with 77 parents from the Colombo and Kandy districts whose children recently sat for the exam. While the findings and views expressed are not reflective of the entire Sri Lankan scholarship exam-taking population, they still provide important insights into the perceptions of those actually experiencing the exam.

Table 5.1 provides summary statistics of background characteristics of my sample. A majority of respondents are from low-income families earning below Rs. 50,000 a month, while 18% earn above Rs. 100,000. 58% of the sample of 77 respondents has A-Level or above qualifications, while 21% each has completed O-Levels or have below O-level qualifications; 91% of the sample attend government schools; 65% of interviewed children in government schools moved to different schools after primary grades, a majority from Type 3 to 1AB schools.[28] A sizeable share of 31% of scholarship takers, however, were in 1AB schools at the primary level too. The sample does not include any students whose origin or destination schools were of Type 2. All of the interviewed children travel from home, for an average distance of 17km one way.

Table 5.1: Background Characteristics of Sample of Interviewees

Variables	Mean	Std Deviation
Income		
Below 50,000 (low-income)	52.7	50.3
50,000-100,000 (middle-income)	29.7	46.0
Above 100,000 (high-income)	17.6	38.3
Education		
O-Levels incomplete	20.8	40.8
O-Levels passed	20.8	40.8
A-Levels passed & above	58.4	49.6
Government schools	90.7	28.9
School transition	64.9	48.0
Old school type		
1AB	30.8	46.5
1C	3.1	17.4
Type 3	55.4	50.1
Private	10.7	31.2
New school type		
1AB	88.0	32.7
1C	2.7	16.2
Private	9.3	29.3
Distance from home	17.4	9.6
Observations: 77		

In the subsequent subsections, the study illustrates and expands on some important findings, distinguishing, where relevant, among views between low-income and middle-and high-income respondents.

[28]This trend is similar to that observed for the sample of scholarship exam top-scorers, as discussed in Section 4.1.3.

5.1 Compulsory Nature of Exam

A large part of the compulsory nature of the scholarship exam stems from the necessity of students in Type 3 schools to secure another school for secondary education. For schools that already have secondary classes, the compulsory nature appears to be a school policy, where one respondent mentioned that schools use the results to statistically demonstrate the education standard of the school. The exam is also viewed as important in keeping up academically with peers and mastering given competencies.

It is also worth noting that while the exam was compulsory for around three-fourths of the respondents in the study sample, the remaining one-fourth still chose to have their children sit for it.[29] Varying reasons were cited for presenting children for the exam when it was not compulsory, which interestingly differ among the two income groups. For low-income households, the prospects of their children entering better schools was the key reason for opting to have their children sit for the exam. For higher income households, on the other hand, most of whose children already attend relatively good schools, the most prominent reason was to give the child training and exposure in facing a competitive exam. Other cited reasons included improving knowledge, particularly in the Sinhala language, and self-confidence. One respondent mentioned that it would help in facing the mandatory O-Levels and A-Levels later on, while another child wanted to sit for the exam as her best friend was also sitting for it. In one private school, there is a possibility of receiving discounts on school fees up to O-Levels based on scholarship exam performance, which was another motivating factor.

5.2 Exam Preparation

A majority of families opted for all three modes of preparation—school, tuition, and home—across the different income groups, while school-level preparation was the most common. Interestingly, a larger share of low-income students commenced preparation in grade three, whereas a majority of students from middle- and high-income families started preparation only in grades four of five. In fact, none of the sampled children from high-income families attended tuition classes nor prepared at home in grade three.

5.2.1 School-Level Preparation

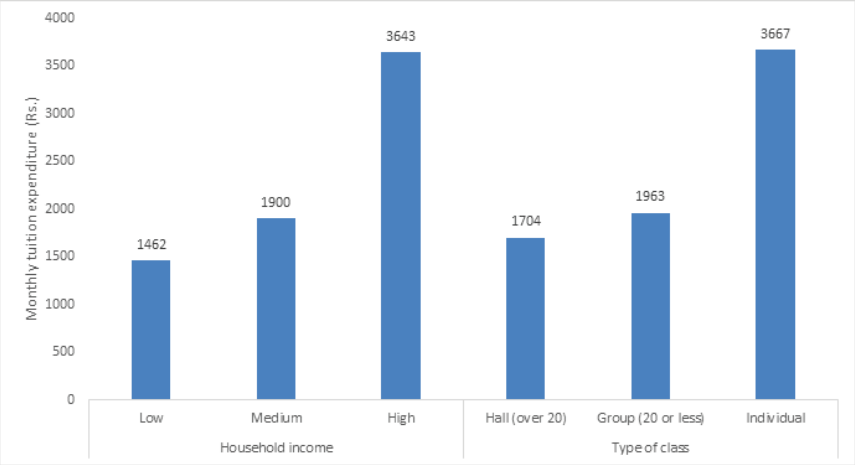
A majority of the sample stated that the school used school time to engage in scholarship exam preparation activities, such as seminars and exam-focused classes, although they also mentioned that the primary education syllabus, in terms of deskwork, was not neglected due to such activities. A fair share of parents, however, across both income groups, believed that preparation during school-time affected time available for other elements of the primary syllabus, such as guided play and other activities. For example, one student stopped playing chess when preparatory classes began due to lack of time. In fact, a circular issued by the MOE draws attention to the concern of schools using school time to engage in preparatory activities for the scholarship exam instead of following the primary education syllabus (MOE, 2012).

Apart from preparation during school hours, after-school classes were also highly prevalent, with almost all the sampled children having exam-focused classes after school, either twice or thrice a week for around 2 hours, in some cases going on till 6pm. These classes were compulsory for many children, while parents were often compelled to send their children for classes even in instances where they were not compulsory, since most exam-related material was covered in such classes. Most parents believed that these lessons were useful and contributed to their child's performance at the exam, across both income groups.

5.2.2 Preparation at Tuition Classes

46 out of the 77 interviewed respondents sent their children for tuition classes in preparation for the scholarship exam. Of those who attended tuition, a majority attended group classes, consisting of 20 students or less. The average monthly cost on tuition incurred by household income, as well as the differences by type of tuition class, are illustrated in Figure 5.1. While

Figure 5.1: Tuition Costs by Household Income and Type of Class



Source: Own calculations based on primary interviews

[29]As shown in Section 4.1.1, over 90% of grade five students take the exam across the country.

these figures are not representative of the entire grade five student population in the country, it is still interesting to note that, within this sample, as expected, high income households spend significantly more on tuition relative to their poorer counterparts, and send their children largely to individual classes which are costlier, and arguably of better quality.

Based on information collected, an average student who attended both after-school and tuition classes would have spent around seven to nine hours per week on preparation (four to six hours at school and three hours at tuition), while those who also studied at home would have spent even more time. Indeed, a majority of respondents who sent their children for tuition were of the opinion that their child's leisure time was compromised due to tuition classes, and that the classes were a burden on their child. One parent mentioned that her child had no time even to watch television, while another parent lamented the lack of time for her child to play.

The key reasons cited for sending children for scholarship exam-based tuition are largely similar across both income groups. The most prominent was to gain more education and knowledge, which many parents mentioned did not solely target the scholarship exam, but overall comprehension, especially of the Sinhala language. Another frequently cited reason was the perceived inadequacy of examination-focused school-level preparation, prompting them to seek instruction in tuition classes. In two cases, parents were compelled to send their children to tuition classes conducted by school teachers themselves, both since they were requested to, as well as since the full exam syllabus was not covered during school hours. Other reasons included directly targeting exam marks, and the competitive nature of the exam combined with peer effects, which resulted in children themselves wanting to attend classes when their classmates did so.

The reasons cited among those who chose not to send their children for tuition, however, differ significantly by income group. Among low-income families, not surprisingly, the key factor was the inability to afford tuition costs, while tuition being a burden on the child also featured as a reason. Other reasons included the absence of tuition classes in close proximity to the school and the child herself refusing to go for classes due to the already heavy workload. The key reasons for forfeiting tuition among the higher income groups was not wanting to stress and burden the child, and the belief that school-level preparation was adequate. Some of these cases also involved students who already attended good public or private schools, for whom the exam was not very relevant, hence lessening the need for additional assistance by means of tuition.

Surprisingly, none of the parents of top performing scholarship exam students in the sample attributed their children's performance solely to tuition, and only four out of 25 respondents believed that tuition had some impact on their child's performance. While the low number of observations prevent any concrete conclusions, it is still important to note the significantly low vote of confidence placed on tuition—despite the high demand—in facilitating scholarship exam performance.

5.3 Exam Content and Validity

In terms of the content of the exam in relation to the seven competencies to be developed at the primary education level as detailed in Section 2.2, a majority of respondents believed that the first component of literacy and numeracy is comprehensively assessed in the scholarship exam. Those that believed that the environment component is covered is also relatively high, while a fair share believed that ethics and religion featured in the exam syllabus. The share of respondents who felt that the exam includes assessments related to leisure and enjoyment, personality development, and training for future life, are however much lower.

5.4 The Exam's Positive and Negative Consequences

The most frequently cited advantages of the scholarship exam—across both income groups—include training received in perseverance, improved self-confidence as a result of successfully facing a national-level examination, and access to good schools. Financial bursaries also featured as a relatively important advantage for low-income families, while enhanced knowledge via exam preparation was an identified benefit among higher income households. The shares of those who believed that the exam offers no benefits is higher among richer families.

In reality, however, as seen previously, and as evident in this sample too,[30] those receiving the opportunity to enter a better school or receive financial bursaries is negligible. Further, with regard to bursaries, respondents drew attention to problems such as irregular payments, which meant that they were never certain of receiving the due sum on time. Receiving bulk payments in some instances for a period of six months, which was often consumed as soon as it was received, was another identified issue. Further, only two out of 63 respondents believed that the current monthly allowance of Rs 500 is sufficient compared to other education-related expenses, especially for students who travelled long distances to school. For instance, two respondents whose children travel average distances of 24km and 30km one-way incurred a monthly van fee alone of Rs 4,500 and Rs 8,000, respectively.

In terms of perceived disadvantages, the stress caused by the highly competitive nature of the exam featured as the top reason among both income groups. Several respondents stated that competition was highest among the parents, which in turn generated a lot of stress among students as well. They also noted that unhealthy competition among peers drove young children to focus on achieving the best for oneself without regard for the wellbeing of others—the very opposite of increasingly important attributes in today's technology-driven world of work, such as empathy, collaboration, and teamwork. Moreover, the sense of competition continued in higher grades, where in some national schools, respondents noted that teachers inform students that the incoming scholarship holders are more talented and motivated, thereby creating unnecessary and unfounded competition and rivalry among children.

The loss of leisure time and stress caused by exam preparation were other commonly cited negatives of the exam. Some respondents, particularly in the higher income group, also viewed the exam as a waste of time, money, and effort, indicating their view that the exam served no important purpose. They opined that the exam largely tested memorisation power, the extent of preparation work one has put into the exam, and how well one has been trained to answer a particular set of questions. One respondent stated that many questions are stereotypical, to which children know how to provide answers even without understanding the question. Another concern was the emotional wellbeing of students who do not perform well; some children become depressed and require counselling and even psychiatric treatment, and in extreme cases lose interest in studies altogether, refuse to go to school, and even commit suicide. The subsequent neglect of students who do not perform well was another cited worry —in some schools, secondary classes are organised based on scholarship exam performance, and priority is given to students in 'A' classes, or the high scorers. The best teachers are allocated to these classes, and thus ironically, those who need help the most do not receive it.

Not surprisingly, a relatively larger share of low-income households felt that the benefits of the exam are greater, while over half of high-income households viewed costs to be higher. This finding was also reflected in one respondent's answer, who stated that the relative effects differ for different groups: the advantages are relatively larger for disadvantaged students in rural schools, while the costs, particularly relating to stress on young children, can overweigh the benefits for those who are already in good schools and for whom the exam is of limited usefulness.

[30] Only 17 students out of the total 77 received the opportunity to enter better schools as a direct result of the scholarship exam, and only nine were eligible for financial bursaries

5.5 Way Forward

With regard to the best way forward, at the two extremes, some respondents felt the scholarship exam should continue as it is—all of which were low-income respondents—, while others, largely in the higher income groups, advocated for eliminating the exam altogether. A majority of respondent's views, however, fell in between these two extremes, calling for various changes to the structure and timing of the exam, as well as for improving overall education quality in the country. The proposed measures can be categorised into some broad themes, as outlined below:

5.5.1 Reduce the Content of the Exam Syllabus

There were suggestions to reduce the content of the exam syllabus to lower the stress levels involved in preparing for the exam. The environment module in particular was thought to be too broad in scope, as well as Sinhala and mathematics, to some extent. Many parents stated that the syllabus should be limited to content covered in school from grades three to five, so that after school classes are not necessary. They pointed out that it is difficult for small children to learn throughout the day, and that after-school time should be left for other activities such as play and social interaction. They also felt that if students are only assessed on what is taught during school hours, this will annul the need for tuition classes. Another suggestion given to lessen the burden on children in terms of content, is to have the exam in two stages, in grades four and five.

5.5.2 Change the Content and Type of Questions

Apart from the volume of content, there were also suggestions to broaden the scope of material covered, to include all seven stipulated primary-level competencies, rather than being limited to the first two or three. In particular, there was a recommendation to include more questions on values and morals, as well as aspects such as sports, aesthetics, and other extracurricular activities. Ethics and morals were viewed as important in moving away from the current emphasis on competition and rivalry. Assessing children on other spheres in addition to the cognitive domain would provide students a chance to demonstrate their talents in multiple areas, and provide opportunities to excel based on their innate talents. In terms of the type of questions, there were suggestions for questions that better test the intelligence of students, for instance by moving from rote memorisation type questions to those that encourage students to exhibit their IQ, common sense, creativity, logical thinking, and general knowledge.

5.5.3 Lower the Cutoff Marks

Many parents advocated for lowering the cutoff mark based on which better schools and financial bursaries are awarded, so that more students are able to enjoy benefits of their three-year long exam preparation efforts, especially those who do well but miss out by a very low margin. Some parents felt the cutoff mark should be brought down to 150, which in 2017 ranged from 160 to 189, based on school quality, location, and medium of instruction. They stated that lowering the cutoff mark would also lower the intensity of competition to a certain extent.

5.5.4 Postpone the Exam

A large share of parents felt it was best to conduct the exam at a later stage, with a majority opting for either grade eight or nine, when a child is more mature and better able to understand and face a nationally competitive exam. One parent mentioned that in England, similar exams are held in grade six or eight, considering a child's psychology. While giving children a better chance to enjoy their childhood, respondents mentioned that postponing the exam will also assist in measuring talents more accurately, as students can better identify and exhibit their unique in born talents at gifted to them the age 13 or so. Additionally, if children have to move to distant schools after the exam, they can cope better at an older age, particularly girls, if they are post menarche. Some parents stated that having the exam in grade eight or nine will still allow for students to prepare for the O-Levels at a better school, conditional on performance, and, as one parent mentioned, also offers the advantage of obtaining a feel for subjects they like, to be chosen for the A-Levels subsequently.

5.5.5 Remove the Compulsory Nature of the Exam

Another suggestion was to remove the practice of making the exam compulsory in many schools, where the freedom to decide will ensure that students who sit for the exam are those who have the largest potential of benefitting from it. For example, one respondent in a school where the exam was not compulsory stated that they did not send their first child for the exam, since they knew it would be too stressful for her. However, they felt that their second child was better able to cope with exam preparation and would stand to benefit from it, and they opted to send her for the exam, through which the child was eventually eligible for a bursary. One parent pointed out that parents themselves may not always be in a position to make such decisions, and that teachers should actively get involved in this process. However, the

final decision should be in the hands of parents.

5.6.6 Increase the Availability of Good Quality Schools

The ultimate and best possible solution, as most respondents recognised, is to improve the quality of schools throughout the country, especially in rural and remote areas, so that students have automatic entrance to good schools irrespective of exam performance, social status, or location. Some respondents mentioned that in addition to good infrastructure, this also involves recruiting well-qualified and committed teachers, who are currently concentrated in urban schools.[31] This is important, they said, in ensuring that teachers give of their best to students in school, and are not driven by money-making tuition classes held outside the school only for those who can afford such classes.

[31] See Section 4.2.3.

6 Conclusion and Policy Implications

This study evaluates the effectiveness and relevance of Sri Lanka's grade five scholarship examination, using both primary and secondary data sources and a variety of methodological approaches. In particular, specific reasons as to why the scholarship examination has not been successful in achieving its broad objective of providing equal access to quality education are examined. The study also tests whether the scholarship exam is an accurate predictor of intellectual ability, given its stipulated aim of identifying bright students. Lastly, perceptions of the exam in terms of its validity and relevance, positive and negative aspects, and the best way forward are examined based on interviews with recent scholarship exam takers.

Secondary data analysis reveals that the enabling environment and the structuring of the exam does not ensure that its main target group—talented and poor students—have a fair chance of exploiting the opportunities presented, thereby rendering its goals unachievable. Key issues include; (1) an insufficient number of good secondary schools across the country to provide opportunities to well performing students at the scholarship exam; (2) limited beneficiaries of financial bursaries; (3) an inadequate number of schools offering good quality primary education, which constrain deserving students in underprivileged schools from performing well at the scholarship exam; (4) a deficit of qualified and experienced primary teachers and supervisors in primary schools; and (5) poor validity of the exam in identifying and measuring intelligence.

In particular, the descriptive analysis of scholarship exam top-scorers shows that a majority are from privileged primary schools, although the exam is intended to benefit those attending underprivileged schools. This finding is reiterated in the regression estimates, which show that good school quality and socioeconomic status, the share of qualified and experienced teachers and their level of commitment, and the quality of primary-level supervisors and principals, positively influence scholarship exam performance. Analysis on the predictive validity of the examination also stresses the importance of good quality education for examination performance: while scholarship exam top-performers continue to do well at higher level exams such as the A-Levels, there is no statistically significant difference between performance among these students and scholarship exam low-performers in most schools. This suggests that good A-Level performance of scholarship exam top-scorers is likely more attributable to access to high-quality education in urban privileged schools, rather than to innate ability per se.

Primary data analysis reveals that students from low-income families start school- and tuition-level preparation at a relatively earlier stage, mostly in grade three. While over half of the sample sent their children for tuition, a majority of respondents of high-scoring children believe that school preparation contributed most toward exam performance. The most commonly perceived advantage of the exam is the training received in perseverance, while stress caused by the competitive nature of the exam is identified as the key disadvantage, across both income groups. A larger share of low-income households felt that the positives outweigh its negatives, with the trend being opposite for high-income households. However, over half of the sample also believed that the exam failed in meeting its objectives, in line with findings from secondary data. Exam questions were perceived to focus more on the cognitive sphere, with elements such as leisure, play, and personality development receiving much less focus, and as inadequate in measuring true ability. A vast majority of respondents called for several changes to the structure and timing of the exam.

Extending on these suggestions, as well as based on findings from secondary data analysis, the study proposes several measures to be adopted in improving the effectiveness and relevance of Sri Lanka's grade five scholarship exam. They are detailed below in order of priority, in terms of the timeframe in which they can be feasibly implemented.

Immediate term:

1. Make the exam voluntary in all schools

As discussed before, leaving the choice of taking the exam in the hands of parents and children will help ensure that those who have the highest potential of benefitting from it sit for the exam, and also prevent many children undergoing needless stress and pressure. A reduction in numbers sitting for the exam will also lower the level of competition, the most commonly cited disadvantage of the exam. Schools can use other school-level examinations, such as term tests and school-based assessments to demonstrate education standards and ensure the development of stipulated competencies. In this context, it is encouraging to note a recent proposal to make the exam non-compulsory (Samarawickrama, 2018).

Such a policy measure, however, needs to be accompanied by mechanisms to ensure that students from rural backgrounds and underprivileged schools do sit for the exam – for instance by ensuring that school teachers and principals also assist parents in making decisions on a case-by-case basis – so that the exam's intended purpose of providing better educational opportunities to such students is preserved.

2. Reserve a larger number of quotas for students to enter grade six via scholarship exam results in privileged schools

The study's findings show that an important function of the scholarship exam is to provide opportunities to rural disadvantaged students to enter good schools for secondary education. It is therefore essential that steps are taken to increase the share of scholarship holders in good schools, which currently stands at only around 20%. This will have to be taken into account – via introducing mandatory quota systems – during the grade one admission stage and in interim grades, in addition to the current practice of increasing the number of classes from grade six onwards in several large national schools. The recent proposal to double the number of scholarships from 15,000 to 30,000 is a positive move in this regard (News 1st, 2018).

3. Increase the financial allowance and ensure timely delivery

The financial bursary should be increased to a more realistic amount, upon careful consideration of all education-related expenditure. It is also important to ensure that families receive payments on time, and are not left wondering when the due amount would arrive. It might further be more prudent to provide the amount on a monthly or bi-monthly basis rather than as a six-month lump sum, so that families would spend it in a more even manner.

Short- to medium-term:

4.Change the structure and timing of the exam

As expressed by many interviewees, it is worth considering reducing the exam syllabus to a more manageable level, as well as improving the exam's validity in measuring true talent. As mentioned, while the exam's 1st paper is intended to measure general intelligence across 14 stipulated areas, currently more focus is given to Paper II which tests subject knowledge. The examination papers should therefore be restructured giving more attention to problem-solving and critical thinking-type questions in Paper I, while considerably reducing subject-related content – consisting of rote-type memorisation questions – prevalent in Paper II. Instead, Paper II can include practical modules covering areas such as sports, aesthetics, and other extracurricular activities, and allow rural students excelling in these areas to enter leading schools via formal pathways. Both papers should also focus more on assessing primary-level competencies such as leisure and enjoyment, personality development and training for future life which currently remain neglected.

Singapore's education system is a good example for Sri Lanka to emulate, where the focus of the Primary School Leaving Examination (PSLE) is shifting away from academics towards expanding opportunities for children to discover their interests and talents and developing life skills, a sense of curiosity, and a love for learning (Teng, 2016). In grades four and five, for instance, students take part in a three-day cohort camp where they learn to prepare simple meals, adapt to the outdoors and build resilience and companionship (Ibid).

Postponing the exam until grade eight or nine, as discussed previously, would also allow for better recognition of distinct talents and capabilities of students on which to base the award of scholarships, apart from other stated benefits including enhanced ability to handle a competitive exam and cope in new environments away from family.

5. Eliminate or regulate tuition targeting the scholarship exam

The findings suggest that the purported benefits of tuition do not outweigh its costs: while many interviewed students faced a lot of undue pressure and stress owing to tuition classes, most respondents did not view tuition as contributing significantly toward exam performance. Tuition classes also widen unequal access to education quality—which is already prevalent in terms of school education—given that high income families are able to afford higher quality tuition classes, such as individual ones, while many poor families cannot afford any type of class: over one-fourth of interviewed respondents whose children did not attend tuition cited economic difficulties as the main reason. Eliminating or regulating tuition would also put a stop to the current practice of school teachers holding tuition classes and neglecting teaching during school hours, which once again disproportionately burdens poorer students. The abolition of tuition would provide a more level-playing field for children in preparing for the exam, and make selections based on exam performance more just. Moreover, as suggested above, if the exam is transformed to one that largely measures general intelligence as opposed to subject-content, the role and importance of tuition is likely to diminish considerably in the future.

Long-term:

6. Improve school and teacher quality across the country

The ultimate ideal long-term objective should be to improve the quality of school and teacher resources across

the entire country. The study's findings consistently point to the importance of good-quality primary schools for good scholarship exam performance, while improving the quality of secondary schools is necessary to guarantee access to quality education to all students who perform well at the scholarship exam. The "Nearest School—the Best School" program under the *2016-2020 Mid-term Strategic Development Programme* initiative envisions transforming selected schools in each Divisional Secretarial Division as 'super-schools' and thereby controlling the populations in oversized popular urban schools, which is a good initiative in this regard.[32]

Ensuring that all schools are equipped with good quality teachers and management-level staff is equally important. Improving teacher quality requires the systematic training and recruitment of teachers into teacher service. Pre-service teacher training opportunities need to be expanded and improved, either by increasing the number of faculties and departments of education in Sri Lankan universities, or by developing the NCOEs to the university level. Further, for teachers intending to teach at the primary level, a primary education component—including appropriate pedagogical and practical training—must be made compulsory in both the BEd and NDT courses. Conducting systematic teacher recruitment is also essential, where subject knowledge and training of teachers is taken into consideration when filling vacancies.

To ensure that schools in more remote areas, even once well-developed, are able to attract and retain good quality teachers, it is important to consider providing significant financial and other incentives to teachers serving in such areas. Along with higher salaries or bonuses, other related incentives such as formally recognising teaching in difficult schools in the advancement of the teaching career path, smaller class sizes, and strong support from school principals and the wider community are also key, as documented by existing evidence in the United States (Clotfelter et al., 2008) and South Korea (Kang and Hong, 2008). Moreover, giving schools powers to recruit teachers at the school-level, as opposed to the current practice of recruiting teachers by the MOE at the central level, could restrict teacher mobility. While less privileged schools may not necessarily succeed in attracting qualified teachers, with more restrictions on teacher movement, recruited teachers in these schools will gain experience overtime, which, along with in-service training, would improve teacher quality. School-level recruitment has already been implemented in Estate sector schools among Tamil medium teachers who are in short supply.

When good schools and teachers are available across the country, over time, this would reduce the intense demand for distant schools, and the need for the exam. Finland—whose education system is consistently ranked first in the world—is well-known for its highly equitable school system, which has served in removing the need for standardised tests, apart from one exam at the end of high school. There also exist no rankings, comparisons, or competition between students or schools. The scholarship exam can eventually be abolished or transformed from a selection exam to a primary completion exam designed to assess mastery of the primary school curriculum. Capitalising on this initiative, the classification of schools such as 'national' vs 'provincial' and 'privileged' vs 'unprivileged' should also be removed, which will eventually eliminate the need for the exam altogether. Any financial needs of students can be met by extending support to all poor children via income supplement schemes. Funds used for administering the scholarship exam can be redirected towards financial bursaries for identified needy students.

[32] Under this programme, steps will be taken to develop; (1) 600 schools to represent each divisional secretariat; (2) 1,200 schools with advanced level classes not included in other recent development programs; (3) 776 schools as part of a secondary schools development program; and (4) 3,577 schools under a primary schools development project.

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Appendix A: Variable Descriptions

Dependent variables

Scholarship exam qualified rate (OLS): The share of students who qualify for bursaries and admission to good schools out of the total number of students who sit for the grade five scholarship exam in a school. Source: MOE (2017).

Three categories of performance (ORL):

1. Poor (equals one if scholarship exam qualifying rate is 0)
2. Average (equals one if scholarship exam qualifying rate is above 0 up to 40%)
3. Good (equals one if scholarship exam qualifying rate is above 40%)

Independent variables

School characteristics

- School status dummies:
  - *Highly privileged:* A dummy variable, which equals one if the school is categorised as highly privileged
  - *Privileged:* A dummy variable, which equals one if the school is categorised as privileged
  - *Not privileged:* A dummy variable, which equals one if the school is categorised as not privileged
  - *Underprivileged:* A dummy variable, which equals one if the school is categorised as underprivileged
  - *Highly underprivileged:* A dummy variable, which equals one if the school is categorised as highly underprivi leged

- **School type dummies:**
  - *1AB:* A dummy variable, which equals one if the school has A-Level classes in the Science stream in addition to the Commerce and Arts streams
  - *1C:* A dummy variable, which equals one if the school has A-Level classes in the Commerce and Arts streams, but not in the Science stream
  - *Type 2:* A dummy variable, which equals one if the schools has classes only up to O-Levels
  - *Tpye 3:* A dummy variable, which equals one if the school has classes only up to grades five or eight

Student socioeconomic characteristics

- *Parent and PPA funds:* The share of total funds a school receives from parents, well-wishers and/or past pupil associations. Source: MOE (2017).
- *School meal program:* A dummy variable, which equals one if the school has an operational meal program. Source: MOE (2017).

Teacher and principal characteristics

- *In-field and experienced teachers:* The share of recommended general primary teachers teaching primary subjects in a school, who hold either a degree or diploma in primary education and belong to Class 2–Grade II or higher of teacher service. Source: MOE (2017).

- *In-field and inexperienced teachers:* The share of recommended general primary teachers teaching primary subjects in a school, who hold either a degree or diploma in primary education and belong to Class 3 of teacher service. Source: MOE (2017).

- *Other teachers:* The share of recommended general primary teachers teaching primary subjects in a school, who are either untrained in primary education or not absorbed into teacher service, and belong to either Class 2 or Class 3 of teacher service. Source: MOE (2017).

- *Primary qualified supervisors:* A dummy variable which equals one if a school has at least one primary-level supervisor who holds either a degree or diploma in primary education. Source: MOE (2017).

- *Primary qualified sectional heads:* A dummy variable which equals one if a school has at least one primary-level sectional head who holds either a degree or diploma in primary education. Source: MOE (2017).

- *Leave:* The average number of days of leave taken by teachers of a given school as a proportion of the total number of working school days. Source: MOE (2017).

- Principal Service grade dummies:
    - *SLEAS:* A dummy variable, which equals one if the school principal/acting principal belongs to the SLEAS grade
    - *SLPS:* A dummy variable, which equals one if the school principal/acting principal belongs to the SLPS grade
    - *SLTS/ Non-Teacher Service:* A dummy variable, which equals one if the school principal/acting principal be longs to the Teacher Service grade or does not belong to Teacher Service

District-level characteristics

- *Poverty:* The poverty headcount ratio—the proportion of the population that exists below the poverty line in each province. Source: DCS (2017a).

- *Unemployment:* The unemployment rate—the percentage of the labor force that is currently looking for, but without jobs in each province. Source: DCS (2017b).

- *Urban:* The urbanisation rate—the share of population in the urban sector in each province. Source: DCS (2012).

- *Population density:* Total population per square kilometer. Source: DCS (2012).

Appendix B: 2008 Scholarship Exam High and Low Scorers

Table B1: Summary Statistics of Sample of Scholarship Exam High Scorers

School district	Number of high scorers	Share of total students in AL class	Share of total who scored above cutoff	Cutoff mark used	Average scholarship exam mark
Colombo 1	54	0.04	0.18	155	157
Colombo 2	39	0.05	0.18	161	158
Colombo 3	41	0.04	0.18	165	169
Colombo 4	31	0.03	0.12	150	156
Colombo 5	35	0.05	0.20	165	169
Gampaha 1	23	0.03	0.07	147	153
Gampaha 2	21	0.02	0.08	155	159
Kalutara	19	0.02	0.12	145	150
Kandy 1	29	0.03	0.34	155	162
Kandy 2	26	0.03	0.15	150	152
Kandy 3	31	0.04	0.34	155	162
Nuwara Eliya	8	0.03	0.11	143	151
Galle 1	33	0.04	0.14	145	152
Galle 2	25	0.04	0.16	150	157
Galle 3	22	0.02	0.31	142	145
Galle 4	21	0.04	0.26	150	157
Matara 1	16	0.03	0.15	150	161
Matara 2	31	0.03	0.21	150	155
Hambantota	10	0.02	0.18	140	152
Jaffna	36	0.09	0.15	145	152
Ampara	12	0.02	0.07	141	145
Kurunegala 1	26	0.03	0.10	147	151
Kurunegala 2	34	0.05	0.24	155	160
Kurunegala 3	34	0.04	0.26	155	160
Puttalam 1	22	0.06	0.15	140	147
Puttalam 2	11	0.03	0.13	140	149
Anuradhapura	33	0.03	0.11	150	156
Badulla 1	23	0.02	0.11	145	149
Badulla 2	19	0.02	0.13	150	156
Polonnaruwa	15	0.02	0.14	140	148
Ratnapura 1	22	0.03	0.09	145	147
Ratnapura 2	13	0.02	0.15	150	159
Ratnapura 3	23	0.03	0.11	145	150
Kegalle	21	0.02	0.18	147	150
Total/Average	**859**	**0.03**	**0.16**	**149**	**155**

Table B2: Summary Statistics of Sample of Scholarship Exam Low Scorers

School district	Number of low scorers	Share of total students in AL class	Average scholarship exam mark
Colombo 1	15	0.01	122
Colombo 2	41	0.04	122
Colombo 3	15	0.02	122
Kalutara	28	0.03	121
Kandy 1	26	0.03	122
Kandy 2	34	0.03	121
Kandy 3	19	0.02	123
Nuwara Eliya	20	0.09	119
Galle 1	29	0.04	121
Galle 2	30	0.05	124
Galle 3	29	0.03	122
Galle 4	34	0.06	122
Matara1	38	0.04	122
Matara2	11	0.02	122
Hambantota	15	0.03	119
Kurunegala 1	15	0.02	123
Kurunegala 2	25	0.03	122
Puttalam 1	10	0.03	119
Puttalam 2	26	0.07	119
Polonnaruwa	41	0.07	119
Badulla 2	40	0.05	119
Ratnapura 1	14	0.02	114
Ratnapura 2	41	0.06	121
Ratnapura 3	6	0.01	124
Kegalle	31	0.04	123
Total/Average	**633**	**0.03**	**121**

Table B.3: Samples of Selected Scholarship Exam High- and Low-Scorers from the Extremes

School district	High scorers		Low scorers	
	Number	Average mark	Number	Average mark
Colombo 1	15	160	13	121
Colombo 2	15	173	15	118
Colombo 3	9	166	9	118
Kalutara	14	152	11	119
Kandy 1	17	165	12	118
Kandy 2	16	154	14	119
Kandy 3	16	166	11	121
Nuwara Eliya	8	151	8	116
Galle 1	13	159	14	119
Galle 2	12	162	12	120
Galle 3	12	147	11	118
Galle 4	11	161	11	118
Matara 1	14	158	13	118
Matara 2	10	166	10	121
Kurunegala 1	14	165	11	121
Kurunegala 2	13	164	10	119
Puttalam 1	12	151	9	117
Polonnaruwa	10	151	12	114
Badulla	11	160	11	112
Ratnapura 1	11	153	14	114
Ratnapura 2	13	159	17	115
Kegalle	9	153	9	119
Total/Average	**275**	**159**	**257**	**118**

Table B.4: Differences of Average University Qualifying Shares between Selected Sample of Scholarship Exam Top - and Low-Scorers (from the Extremes), by School Attended

School district	Mean qualifying share among top scorers	Mean qualifying share among low scorers	Mean difference
Colombo 1	0.933	0.923	0.010
	(0.067)	(0.077)	(0.101)
Colombo 2	0.867	0.867	0.000
	(0.091)	(0.091)	(0.128)
Colombo 3	1.000	0.670	0.333
	(0.000)	(0.167)	(0.167)
Kalutara	0.929	0.455	0.474***
	(0.071)	(0.157)	(0.161)
Kandy 1	0.824	0.583	0.240
	(0.095)	(0.149)	(0.168)
Kandy 2	0.625	0.500	0.125
	(0.125)	(0.139)	(0.186)
Kandy 3	0.813	0.727	0.085
	(0.101)	(0.141)	(0.168)
Nuwara Eliya	0.75	1.000	-0.250
	(0.164)	(0.000)	(0.164)
Galle 1	0.846	0.286	0.560***
	(0.104)	(0.125)	(0.164)
Galle 2	0.833	0.250	0.583***
	(0.112)	(0.131)	(0.172)
Galle 3	0.750	0.545	0.205
	(0.131)	(0.157)	(0.203)
Galle 4	0.818	0.727	0.091
	(0.122)	(0.141)	(0.186)
Matara 1	1.000	0.692	0.308**
	(0.000)	(0.133)	(0.128)
Matara2	0.900	0.800	0.100
	(0.100)	(0.133)	(0.167)
Kurunegala 1	0.643	0.455	0.188
	(0.133)	(0.157)	(0.205)
Kurunegala 2	0.769	0.700	0.069
	(0.122)	(0.153)	(0.193)
Puttalam	0.750	0.556	0.194
	(0.131)	(0.176)	(0.214)
Polonnaruwa	0.700	0.667	0.033
	(0.153)	(0.142)	(0.209)
Badulla	0.818	0.727	0.091
	(0.122)	(0.141)	(0.186)
Ratnapura 1	0.727	0.786	-0.058
	(0.141)	(0.114)	(0.179)
Ratnapura 2	0.769	0.706	0.063
	(0.122)	(0.114)	(0.168)
Kegalle	1.000	0.667	0.333
	(0.000)	(0.167)	(0.167)

Note: ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively. Standard errors are shown in parentheses. Schools which show a statistically significant difference in A-Level performance are highlighted in dark gray. Schools in which scholarship exam low scorers outperform their high-scoring counterparts at the A-Levels are highlighted light gray. District names refer to districts in which each school is located; school names are not disclosed to maintain anonymity.

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ISBN 000-000-0000-00-0