



## Comparative analysis of academic performance differences between public and private secondary schools: A systematic review of literature

Paul Raphael Kitula<sup>1</sup>  
Deodath Meney<sup>2\*</sup>

<sup>1</sup>kitula07@gmail.com  
<sup>2\*</sup>deomeney@gmail.com

<sup>1</sup>St. Augustine University of Tanzania, <sup>2</sup>Institute of Accountancy Arusha, <sup>1,2</sup>Tanzania

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### ABSTRACT

This study explored factors behind differences in academic performance between public and private secondary schools. It focused on school-level, teacher-related, and socioeconomic influences. The current research was based on the Education Production Function Theory. A systematic review of 18 peer-reviewed studies published from 2005 to 2025 was conducted. The studies covered global and African contexts. Databases, such as Scopus, Dimensions, and Web of Science, were searched using terms related to academic achievement, secondary education, and school type. Only studies involving secondary school students and teachers that reported measurable outcomes on performance gaps were included. Data were analyzed thematically, and recurring patterns were identified using inductive coding. The findings showed that private schools often achieved higher results, particularly in mathematics, science, and literacy. This performance was linked to better learning resources, smaller class sizes, motivated teachers, and effective management practices. Socioeconomic status and parental involvement reinforced these advantages. Public schools faced challenges such as limited resources and weaker home support. The results indicate that school capacity, teacher quality, and household conditions, rather than school type alone, shape performance differences. The study recommends that policymakers improve resource allocation, strengthen teacher supervision, and enhance parental engagement in public schools.

Key words: Difference, Performance, Private, Public, School

### I. INTRODUCTION

The variation in academic performance in both the public and the private schools is not a new literature topic in the world of education. According to empirical evidence provided by Kunwar (2021), there is an increase in the pass rate in private schools, which is explained by the fact that learning in such institutions is organized. The same tendency can be followed in the works of Annoh (2024), who records higher examination results in the private institutions. Shehzadi et al. (2022) have made observations that shed light on how the discipline systems of the private schools create regular study practices among the learners. A similar trend is reported by Kalasa et al. (2023) who describe the process of facilitating academic effort in school culture via performance expectations. The explanations provided by Olasehinde and Ademola (2014) are linked to the enhanced results of learners concerning the regular scholastic supervision. In James (2018), it is pointed out that different schools have unique differences in practices of exam preparation. The current literature does not pay much attention to rural public schools, even though they have special conditions of learning. The aspect of learner persistence and coping skills in resource-limited environments is still unrepresented in the previous academic discourse.

Academic performance in school systems is still influenced by student background factors. As arguments by Duncan and Sandy (2007) put it, there is a connection between economic stability in a household and the involvement of the learners in the school activities. Newhouse and Beegle (2005) also support the views and relate parental education levels to motivation among learners. The explanations made by Cheema (2024) imply that achievement patterns of different school types are affected by socioeconomic status. An analogous stand is echoed in Cheema (2025) where the effect of performance differences is seen to diminish once the background characteristics are factored in. According to interpretations by Lassibille and Tan (2001) the efficiency of public schools is found to improve after adjusting the demographic conditions. On the basis of comparative reviews of Turkey and Tanzania, there are similar trends when considering contextual variables. This is not a field where the longitudinal follow-up of learners is undertaken. The limitation of capturing learning development in the long term is associated with heavy dependence on cross-sectional studies.

The outcomes associated with the subjects still show differences between school environments. The studies in Shehzadi et al. (2022) show that there are better performances in mathematics in the private schools, which can be explained by carefully designed instructional practices. Considerations by Olasehinde and Ademola (2014) relate the literacy performance to access to reading resources. As discussions in Cheema (2024) indicate, even in the private institutions, numeracy achievement seems to be uneven. Discussions made by Cheema (2025) outline the unremitting disparities in literacy in environments of learning. A study based in Qatar associates technology-based teaching with improved science learning (Cheema, 2023). The subject mastery in the interpretations of Delprato and Antequera (2021) relates to the time spent on instructions. Positions given by Angwaomaodoko (2025) relate the use of language at home and the academic performance in academic subjects. Minimal assessment of teacher subject mastery under different school situations still has an impact on explicitness in this field. The attitudes of the learners towards particular subjects are given limited coverage in previous studies.

Institutional resources are still a significant factor in academic performance. As can be seen in descriptions of Kunwar (2021), the classroom setting in private schools has an advantage of a better infrastructure. According to the explanations provided by Kalasa et al. (2023), the availability of learning materials is greater in the private institutions. According to Annoh (2024), the problem of overcrowding has remained a major problem in the public schools. Facility quality is associated with learner concentration and learners engagement albeit in different ways as described by Delprato and Antequera (2021). According to accounts in Shehzadi et al. (2022), the availability of labs promotes the success of science. Olasehinde and Ademola (2014) note relationships between reading ability and the library access. Lassibille and Tan (2001) interpretations cover the impact of the school management practices on the use of the resources available. There is little writing about the reactions of public school to lack of physical and learning materials. The efforts of the government to help in improving the facilities of schools receive little systematic attention.

Academic performance patterns are also determined by the teacher related and home environment factors. The topics of teacher motivation and classroom efficiency are linked in the discussions in Kurabachew (2019). According to Kunwar (2021), there are indications that supervision practices are stronger in the case of private schools. In Shehzadi et al. (2022), teacher punctuality is observed to be linked with consistent learner improvement. Angwaomaodoko (2025) makes reflections on the contribution of parental involvement to the study habits. According to the interpretations made in Cheema (2024), home learning resources are associated with an increase in engagement among learners. The opinions of Delprato and Antequera (2021) link family income with further learning assistance. According to the explanations in James (2018), the community attitudes affect school attendance patterns. Little attention is given to the scholarly literature on professional learning opportunities of teachers in the public schools. Learning in the informal settings at home is not well studied.

### **1.1 Statement of the Problem**

Variation in academic performance between public and private secondary schools remains a persistent problem, with private schools continuing to record higher academic outcomes than public schools. Previous studies have attempted to address this problem by examining school organization and instructional practices, where Kunwar (2021) explains higher pass rates in private schools through structured learning arrangements, while Annoh (2024) associates superior examination results with effective institutional management. Other explanations focus on school discipline and learning culture, as Shehzadi et al. (2022) describe how discipline systems in private schools promote regular study habits and sustained academic engagement. Despite these contributions, important issues remain unresolved, particularly the limited attention given to rural public schools, learner persistence in resource-constrained environments, and the long-term development of learning outcomes. Consequently, this study intended to examine school-level, teacher-related, and socioeconomic factors influencing academic performance differences between public and private secondary schools in order to address these gaps in the existing literature.

### **1.2 Research Objective**

The objective of this study was to examine the school-level, teacher-related, and socioeconomic factors influencing differences in academic performance between public and private secondary schools.

## **II. THEORETICAL REVIEW**

The current research was based on the Education Production Function Theory (1979) by Hanushek, which conceptualizes academic achievement as the result of the inputs that are generated by the school, teacher and household. As per the theoretical model, the outcome of learning is optimized when vital factors like adequate teaching materials, effective school administration, as well as qualified teaching staff, are available and coordinate harmoniously (Hanushek, 1979). The theoretical perspective was relevant to the study at hand since the identified

differences in the academic performance of public and private secondary schools were related to the heterogeneity of the resources provided and the organization of the institutions, which is in line with the existing literature that highlights the perennial importance of school inputs when they are appropriately exploited (Hanushek, 2020). Moreover, the socioeconomic element is present in the theory since it takes into consideration the family background as a key input that determines the results of learning, and this view is supported by recent syntheses that state that parental involvement and home support have a significant impact on student performance (Nunes et al., 2023). The strength of the use of this theory was that it was able to combine school, teacher-based, and household effects in the same explanatory model.

However, there are limitations of the theory. A major disadvantage is that it has a strong focus on measurable inputs that can override contextual and behavioral variables including school climate and student motivation that can influence academic performance as well (Musengamana, 2023). Another drawback is the implicit belief that similar inputs can have the same effect, but recent empirical studies show that the effectiveness of resources depends on how they are implemented in certain institutional settings (Wang & Wei, 2024). These limitations might have constrained the perception of interpretation about non-material and process-oriented impacts as indicated in some of the reviewed studies. Notwithstanding these limitations, the theory was still relevant since it provided a logical and coherent framework of synthesizing evidence in varied contexts and to explain the role of the interaction between the school capacity, teacher quality, and domestic conditions in creating performance disparities between public and private secondary schools.

### III. METHODOLOGY

This current research involved a systematic review as a research approach to examine the determinants of the academic performance differences between the public and the private secondary schools. The review also included empirical evidence that was retrieved out of eighteen studies that were published between the years 2005 and 2025 and reflected both the global and African contexts. Search strategies were used in Scopus, Dimensions, and Web of science databases in order to find peer-reviewed articles hence making sure that credible and extensive sources were used. The search terms were built using the terms of academic achievement, student performance, secondary education, public schools, and private schools using the operators of the Boolean operators. Open access filters were used to access full-text access and a narrow scuffle was restricted to English-language sources in order to encourage uniformity and comparability between sources. The systematic approach made it easier to present the overall trends and context-specific determinants of the performance difference and maintain the methodological rigor.

The screening of eligibility was conducted based on criteria modified based on the SPIDER framework (Sample, Phenomena of Interest, Design, Evaluation, and Research type). The inclusion criteria included eligible studies in terms of including both students and teachers at the secondary schools, using either a quantitative, qualitative, or mixed-method study design, and providing empirical evidence regarding the presence of academic achievement gaps. Articles that were not based on specific research design, were considered reviews, theses or conference proceedings were excluded. The 2005-2025 timeframe was chosen to reflect both long-term patterns and more recent data that portrays changes in the educational policy, resource distribution, as well as pedagogical approaches. The screening was done in two steps, first to filter the irrelevant records by initial screening based on titles and abstract, and then to conduct a full screening based on the inclusion criteria with the full-text content. Reviewers were required to have inter-rater agreement that ensured that there was consistency in the selection of the article and disagreements were negotiated and resolved to ensure reliability.

The selected studies were quality appraised using criteria based on the Mixed Methods Appraisal Tool (MMAT) whose focus is on methodological rigor, research design clarity, and sampling and data collection process appropriateness. The studies that qualified as high-quality and were published in the journals ranked in the first to third quartiles were included alone. They were followed by data extraction and analysis via inductive coding of the thematic synthesis, which allowed the identification of the textual material on the core factors such as resources, teacher quality, management practices, and socioeconomic influences in the text. The frequency and the illustrative examples of each factor were noted to provide a light on patterns and contextual details. Through the combination of these methodological procedures, the current study aimed to provide a holistic knowledge of the role of institutional, pedagogical and familial factors in the difference in academic performance between public and private secondary schools, to guide policy and practice.

## IV. FINDINGS & DISCUSSION

### 4.1 Findings

#### 4.1.1 Academic Achievement Gaps

It has been observed that differences between the achievements of the students in the public and the private schools have been reported widely in the body of research reviewed. There is a majority of research indicating that the pass rates and examination results have proven to be higher in the private institutions as compared to the ones in the public institutions. Similar findings corroborated by empirical evidence by Kunwar (2021), Annoh (2024), Shehzadi et al. (2022), Kalasa et al. (2023), Olasehinde and Ademola (2014), and James (2018) support higher attainment levels in the private schools compared to the public options. However, in a portion of studies, it has been found out that the performance gap between public schools is reduced once the variables of student background are manipulated. According to Cheema (2025), Cheema (2024), Duncan and Sandy (2007), and Newhouse and Beegle (2005), a large portion of the differences can be explained by socioeconomic conditions. Further evidence in Turkey and Tanzania indicates the heterogeneous results; once the aspects of backgrounds and contexts are taken into consideration, the relative efficiency of the public schools has been observed (Cheema, 2025; Lassibille & Tan, 2001).

The review also reveals that performance in subject specific tests differ among the various types of schools and the private schools often perform better in mathematics science and literacy areas than their counterparts the public schools. The results provided by Shehzadi et al. (2022) and Olasehinde and Ademola (2014) allow substantiating the claim that the student of a private school will score higher in mathematics and science due to better teaching materials and an increased level of teacher devotion. The existing international literature, among them, the works by Cheema (2025), Cheema (2024), and a Qatar-based study Cheema (2023), proves that differences in literacy and numeracy could still be observed within the institutional setting, but these disparities are often mitigated by the factors of background. The implication of these findings is that the benefits of the private schools are both generalized and subject specific, especially in those aspects where the input of instruction is highly required.

The review shows that the performance difference between the public and the private schools varies with the regional and national contexts. According to Delprato and Antequera (2021), in Latin America, the performance of private schools is higher in terms of efficiency scores, though public schools might also score significantly higher in case the issues of inequality were solved. Kunwar (2021) note that in India, a significant part of the private school advantage is provided by absenteeism and homework time. Cheema (2025) discover that there is variation in the predictability of the advantage based on considering student-level or school-level predictors, giving conflicting outcomes. In Africa, similar trends are confirmed by evidence in Zambia, Nigeria, Ghana, Kenya and Tanzania that show that the performance of the private schools is consistently high compared to the performance of the public schools, which is due to the solid resource grounds, and the engagement of the teachers (Kalasa et al., 2023; Angwaomaodoko, 2025; Annoh, 2024; James, 2018; Lassibille & Tan, 2001). These regional contrasts make it clear that the circumstantial advantage of the private school is a global trend even though the strength of this school advantage and the causes of such a trend depend on the context-related factors.

#### 4.1.2 Effects of Resources and Facilities on Performance Differences

The review has shown that the availability of resources and school facilities is critical in the explanations of the performance differences between the public and private secondary schools. Kunwar (2021), Kalasa et al. (2023), Annoh (2024), and Delprato and Antequera (2021) highlight that; access to teaching and learning materials, information and communication technology, infrastructure and good classroom management improves student learning, which is more often seen in the case of private schools. On the other hand, the public schools are often facing the problem of limited resources, crowded classrooms, and lack of adequate learning materials, thus threatening the results of learning. This fact points to the fact that the differences in resourcing are the strengtheners to the achievement gap between school types.

#### 4.1.3 The Teacher Quality, Teacher Motivation and Teacher Management and Teacher Performance Differences

The review suggests that the importance of teacher quality, teacher motivation and management practices is at the center of driving the student performance differentials between the school types. According to Kunwar (2021), Kalasa et al. (2023), and Shehzadi et al. (2022), teachers working in a private school tend to be more motivated and more closely supervised, which is why they show a higher degree of classroom engagement and more productive teaching habits. Kurabachew (2019) also emphasizes the importance of management structural and organizational culture in the contribution to teacher performance and student outcomes. Conversely, schools in the public often have issues of absenteeism of teachers, low morale and poor supervision which are detrimental to the achievement of students compared to those in the private schools.

#### 4.1.4 Impact of Socioeconomic and Parental Influence on Performance Differences

The review shows that socioeconomic status and parental influence are pivotal factors that exude performance differences between the public and the private school. Angwaomaodoko (2025), Cheema (2024), and Delprato and Antequera (2021) state that students with higher socioeconomic status, which have higher chances of entering a own school, demonstrate higher achievements because of the availability of more resources, improved parental support, and favorable learning conditions. The second article by Annoh (2024) and Angwaomaodoko (2025) focuses on how the literacy and occupation of parents, as well as their involvement, influence the achievement of students. Since fewer parents with disadvantaged backgrounds have access to higher socioeconomic status and access to their children because of the high percentage of disadvantaged students, the burden of weaker parental support and lower socioeconomic capacity limits the performance observed in public schools.

#### 4.2 Discussion

The systematic review shows that there is still academic achievement differences between public and private secondary schools regardless of the contexts and usually better results are achieved in the private schools. According to Kunwar (2021), Annoh (2024), and Kalasa et al. (2023), private schools have higher pass rates and national exams than their counterparts in the state schools. Similarly, higher performance in mathematics and science among the cohorts of the private school is supported by Shehzadi et al. (2022) and Olasehinde and Ademola (2014). On the other hand, Cheema (2024) refutes the fact that a performance difference is significantly smaller after the socioeconomic background is accounted, which means that the structural inequalities explain as much variance as institutional ones. The empirical evidence of Turkey and Tanzania shows further that the relative efficiency of the public schools can be attained, in case the contextual variables are considered (Lassibille & Tan, 2001; James, 2018). These findings would indicate that the difference in performance cannot be traced to school type alone but rather it arises as a result of the interaction of institutional, contextual and student factors.

The review also suggests that the availability of resources and the quality of infrastructure are the decisive factors of the differences in performance. As it is shown by Kunwar (2021), Kalasa et al. (2023), and Delprato and Antequera (2021), students in the private school have more access to instructional materials, information and communication technologies, and physical infrastructure. Annoh (2024) argues that smaller sizes of classes enhance performance in private schools due to the better management in the classrooms. Conversely, on the one hand, in public schools, there is overcrowding, poor infrastructure, and lack of learning resources, which undermines academic performance (James, 2018; Kunwar, 2021). However, Cheema (2024) mentions that even in resource-bound public schools, judicious resource allocation can bring significant benefits. These results confirm that achievement gaps are aggravated by the resource disparity, and at the same time, they highlight how school level management can mediate that material input is converted to learning by students.

Student achievement also differs based on poor teacher quality, teacher motivation, and administrative practices. According to Shehzadi et al. (2022), Kunwar (2021), and Kalasa et al. (2023), the teachers working in a private school are characterized by high rates of engagement, motivation, and instructional commitment. Kurabachew (2019) cites strong management frameworks and unique organizational culture in the private schools as tools that increase the accountability and supervision of teachers. On the other hand, the state schools are faced with absenteeism and reduced morale, as well as weaker support systems, which reduce the quality of the teaching (Angwaomaodoko, 2025). The studies conducted by Cheema (2024) and Duncan and Sandy (2007) prove that with proper support of public school teachers, the performance of teachers increases significantly, implying that the effectiveness of teachers does not directly depend on the type of school but on the systemic quality control and professional growth.

Parental involvement and socioeconomic status are also the critical determinants of performance gaps. Angwaomaodoko (2025) and Annoh (2024) argue that learners in the private schools are generally the children of higher-income backgrounds, in which the literacy levels of their parents, their occupational status, and their active participation contribute to the improvement of their learning outcomes. As Delprato and Antequera (2021) have shown, the advantage of private schools is mostly explained by socioeconomic inequality in Latin America. Cheema (2024) also states that the household resources and parental engagement have significant impacts in addition to the school-level contributions on later achievements. Kalasa et al. (2023) and James (2018) discover that disadvantaged students are overrepresented in the public schools, and their home environments suppress their learning opportunities. However, according to the study conducted by Kumar and Choudhury (2021), long-term parental engagement even in low-income families has a positive impact, and the authors suggest reinforcing parent-school collaboration effective in overcoming the disadvantages faced by students in public schools. Taken together, these results imply that the performance gap is contextualized by the household-based factors as well as the institutional features.

## V. CONCLUSIONS & RECOMMENDATIONS

### 5.1 Conclusion

It is concluded that the performance gap between the public and the private secondary schools has been persistent over the years both in global and regional backgrounds with the latter always demonstrating high levels of academic performance. These differences can be explained by not only an institutional variable, such as resource distribution, the quality of teachers, and the administration of schools, but also more general socio-economic and family factors, including such variables as socioeconomic status and parental support. As much as it is a common fact that private schools are usually advantaged in terms of better facilities, small classes, and teachers who are more motivated, overcrowding, under-resourced schools, and lack of parental involvement are issues that face the public schools. However, empirical research studies have revealed that the socioeconomic background and contextual variables are controlled, and under these circumstances, the performance of the public schools has been efficient, thus reducing the gap in performance as compared to their counterparts, that is the privately operated schools. This finding indicates that the difference in performance is not governed purely by school type but through a combination of the institutional capacity and household background as well as systemic inequalities. In this connection, the review finds that there is a significant research and policy gap on how the limited resources of public schools can be effectively utilized, how to boost teacher motivation, and parental involvement to better the outcomes, and at the same time proposes strategies that could be used to reduce the structural inequalities in which achievement disparities are founded on.

### 5.2 Recommendation

According to the results of the review, it can be recommended that the development of the capacity of the public secondary schools in Tanzania should be the priority of the education policies, which is achieved by better resource allocation, effective teacher control, and the reinforcement of the accountability systems. The areas that should be invested in to close learning gaps include mitigation of overcrowding and increasing access to instructional materials and integration of technology. At the same time, teacher motivation and development should be considered in terms of better supervision, reward system, and enabling school management framework. There is also a need to work towards improved parental engagement especially in low-income neighborhoods where schools and families can work in conjunction and mitigate the challenges faced by the students in the public schools. To provide equal learning opportunities, policy makers should also take into account interventions that are more focused on large-scale socioeconomic disparities like school feeding programs and conditionality to disadvantaged households. Lastly, this should be followed by continuous monitoring and context-specific research to produce evidence-based strategies that help lessen the performance gap between the public schools and the privatized schools and bring about equity in education.

### Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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