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Original Article

A Correlation between Hidden Educational Costs and Students' Transition Rate in Public Boarding Secondary Schools in Kenya

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ABSTRACT

Grade to grade transition in secondary education is a crucial element which enables students to advance to higher levels of learning. To achieve this milestone, countries, Kenya inclusive have engaged in enormous funding to the sector. Nevertheless, a worrying number of students who join secondary schools do not complete this level. This study was therefore set up to assess the correlation between hidden educational costs and student transition rate in public boarding secondary schools in Uasin GIshu County, Kenya. The Education Production Function model laid the theoretical framework for this study. This study used a Convergent Mixed Methods Approach. 34 heads of schools with 3,917 parents formed the target audience. All the 34 purposively selected principals and 362 parents acquired with the help of Yamane's Simplified formulae were included in the sample. Data was obtained through interview schedules, questionnaires, and content analysis of educational documents. Thematic analysis suited the qualitative data as inferential and descriptive statistics served for the quantitative data. The results of the study show that hidden costs of education predict student transition rates in public boarding schools. They make up to 36.5% of the variance. The cost of uniforms contributes the highest proportion (10.0%) while the motivation fee had the lowest effect (0.1%). This research indeed established that hidden educational expenditures have a statistically negative correlation with students' transition rates in public boarding schools. This means that students' transition rate is affected by the hidden costs of education. The study recommends the government prioritize prompt disbursement of funds allocated to schools to prevent principals from diverting the costs to students/parents, the principals to source school uniforms from well-wishers and sponsors to ease the cost obligation on parents and thus improve student transition and finally, a similar study should be replicated in private boarding secondary schools for triangulation.

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INTRODUCTION

Elaborate research studies have strongly reiterated that education is a catalyst for human capital development and thus poverty reduction. Based on this, it is associated with absolute political, economic and social growth. (UNESCO, 2015). UN Women (2022) notes that access to quality education facilitates the achievement of the Sustainable Development Goals. Studies by Wachiye and Nasongo (2010) affirm that secondary education is paramount for the reason that it accelerates national growth and development. On this basis, nations world over have taken on policies to heighten the transition of students in secondary schools.

According to UNESCO (2015), in a paper on Education for All, Singapore adopted frameworks to enhance the quality of education while South Korea invested massively to improve on transition rates of learners. Despite the innovations, countries in Latin America continued to post low rates where 90% of students enrol in secondary school but only 59% transit to completion (UNESCO, 2015). New Zealand provides Free Education to enhance the transition of students in school. Unfortunately, families are tasked to pay for uniforms, stationery and activities students pursue at schools. The costs involved may hinder students from accomplishing their studies. (Gasson *et al.*, 2016).

In Africa, countries such as Rwanda and Ghana embraced Free education and fee abolition policies respectively while the East African nations (Kenya, Uganda and Tanzania) opted for capitation policy as a way to reduce cost burden and thus improve student transition rates (Nderitu *et al.*, 2020). However, despite the existence of the Universal Secondary Education Programme and Capitation grants, school levies remain a significant obstacle for secondary school students in Uganda as elaborated by Barungi & Mwesigye (2019). The study also maintains that payment in government boarding schools is comparatively higher than that of non-boarding schools. The difference is occasioned by the costs of accommodation and meals.

Kenya instituted the policy of Free Secondary Education in January 2008 to make secondary schooling in the country more easily accessible and affordable. The fundamental reason for establishing FDSE, as stated by Muganda et al. (2016), was to deal with low levels of student participation, which is evidenced by low completion and low transition rates in the secondary education tier. Likewise, Abuya and Mutisya (2018) note that the key objective of Free Day Secondary schooling was to enable more children from low-income households to transition to secondary schools. Abuya *et a*l. (2015) reiterates that the strategy has not attained its intended goal. Even with the increase in subsidy, costs for entry requirements, personal effects, motivation, uniforms and board of management teachers' wages ought to be paid. Several studies maintain that these costs constrain student transition in secondary schools. They are termed as hidden education costs due to their absence in the official fee structure.

Consequently, the Kenya National Bureau of Statistics (2019) indicates that the government of Kenya has been investing heavily by consistently increasing budgetary allocation to the education sector. Regardless of the heavy investment, low transition in secondary education remains an agenda of concern to policymakers and practitioners in the world (Gray & Mark, 2010). Bridgeland et al., (2011) found that failure to transit through secondary education accelerates the global education crisis (UNESCO, 2012).

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UNESCO Institute for Statistics (2015) points out that, developed countries registered higher transition rates of 98.2% as Africa was at 77.2%. Southern and Eastern Africa and Central and West Africa registered 67.1% and 52.4% respectively. In 2018, the government of Kenya introduced the universal transition program which took effect in January 2019. The aim was to enable all learners to transition and achieve a basic education. Despite the effort, Uasin Gishu County posted a completion rate of 82.3% in public secondary schools and a transition rate of 59.9% which is far below the national rate of 83.3% (Uasin Gishu County Education Office, 2021).

LITERATURE REVIEW

Hidden Costs of Education

Hidden costs of education in this study refer to costs not reflected in the gazetted fees structure but are paid by households taking children through education. They are; the costs of admission/entry requirements, school uniforms costs, the cost of personal effects, motivation fees, and the cost of BOM teachers' salaries among others.

Admission/ Entry requirements

Compulsory admission/entry requirements refer to all the items that a learning institution demands during the entry of students to school. They include mathematical/geometrical sets, log tables, spring files, Oxford advance dictionaries, kamusi, a ream of photocopy papers, secondary school atlases, hymn books, English and Kiswahili story books, scientific calculators, rulers, pens, Bibles, set books among others (Abuya *et al.,* 2018).

According to Etyang (2021) in the Star Newspaper, parents in some schools spent up to Ksh. 100,000 during form one admission. The newspaper notes that apart from fee payment, parents are supposed to pay an extra Ksh. 20,000 for bedding and uniforms which are issued in school. Stationery, set books, story books, supplementary books. Pens, mathematical tables, Geometric sets and Personal effects, The Star also noted that some schools do not accept the use of metallic boxes. Each student is required to carry his or her items in a lockable suitcase. This overburdens the parents with costs thus knocking out students from poor families. This paper sheds light on the requirements for admission of students in secondary schools without discussing whether they have any effect on students' participation. This study then established how much parents paid for activities. It also sought to establish their effect on students' transition and retention rates (Etyang, 2021).

School uniform

School uniforms are standardised attire worn in an educational institution. This is common mostly at primary and secondary levels. Uniforms make a school's dress code. The Government of Kenya (2004) notes that uniform puts all students on one level. Nevertheless, those who do not have feel discriminated against and inferior hence affecting their participation. In spite of this, the policy of school uniforms causes some families, primarily from low-income backgrounds, to pull out their children from school because of the absence of school uniforms (World Bank, 2014).

In Uganda and Ethiopia, research by the World Bank (2005) shows that parents who were unable to purchase uniforms could not take their children to school thus affecting participation. Researchers Kremer & Ngatha (2008) discovered that a free uniform lottery in Busia Sub-county, Kenya, improved school attendance by removing financial barriers to participation for low-income pupils. Tuwei (2013), who studied hidden expenses and student mobility in Kenya's Nandi County's secondary institutions, noted this finding. The study assessed the impact of the cost of uniforms on the transition rate of students. The study found that the student transition rate was low due to repetition and payment of extra levies. The study recommended that the fee guidelines should be regularly reviewed to accommodate inflation and dynamic economic trends. Since the two studies were done before the 2014 and 2018 fees guideline review, the current study provided results for comparison. The two studies were done in Nandi and Busia counties paving the way for this study to be replicated in Uasin Gishu County for comparison.

The focus of Misheck's (2013) research on the low transition to secondary level and, more crucially,

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why children drop out of school was on the determinants of students' access to and participation in secondary education in Meru, Kenya. Questions were asked and interviews were administered with the help of a guide. The study used a descriptive survey approach, and its findings pointed to the extravagant cost of secondary education as the primary rationale for low rates of enrolment and graduation. The author advocated for government funding for post-secondary education. While the study did consider the overall costs of education, it did not separate out the costs for individual households.

Students' Personal Effects

Students' personal effects are those items that a student requires for his/her personal use. They are; towels, soaps, oils, toothbrushes, toothpaste, washing/ bathing buckets, tissues, shoe polish, combs, shoe brushes and sanitary pads/ towels for the girls. Literature indicates that these items are very crucial and hence play a key role as far as the transition and retention of students are concerned.

Furthermore, it did not quantify the cost of purchasing sanitary towels. This study considered other personal effects, and their attached costs and established their effects on both students' rates of transition and retention. The study used a descriptive approach while the current study will utilize a mixed methods design. The study recommended that the government collaborate with financial partners and donors to ensure adequate and regular supplies to schools. This will save the girl-child from dropping out of school and hence improve students' participation.

Ngwacho (2015) looked at how free secondary school at public boarding schools in Kisii County affected students' chances of finishing school and getting a job. The primary objective was to find out what the hidden costs are and how much they affect the rates of students switching schools and finishing high school. The type of research used was correlational. Principals of boarding secondary schools, class teachers and Parents Association representatives were involved as study respondents. The study established that apart from motivation fees and remedial fees, parents also incur costs on students' personal effects and pocket money. The study indicated that these costs were necessary for a smooth transition of students. In conclusion, the study holds that the Free Secondary Education program only reduced the cost burden. Otherwise, guardians/parents still pay for the hidden cost. The study recommends schools reduce the hidden costs of education they charge. Convergent parallel mixed methods were used in the present investigation to account for both overt and covert financial investments in higher education that affect student retention and progression.

Motivation fee

According to Mutegi (2015), a motivation fee is money that parents pay towards prize-giving days, teachers' trips and remedial classes. He noted that schools utilize the same fee to appreciate teachers and students whenever national exam results are out. The study termed motivation as an engine that strives to stimulate an individual to bring out their best. This is the reason why schools push for payments through the parents. However, the study found out that the motivation fee is only useful when it is paid on time and in full according to laid budgets and schedules. Again, the study alludes that, the amount the government allocates to each student is too small to run all school programs and sustain the student in school. The study, thus, recommends the national government increase capitations channelled to schools. The study failed to establish if the cost of motivation in secondary schools affects students' participation hence the current study did.

Tuwei's (2013) study of high schools in Nandi County aimed to determine how much of an influence school uniform and PTA levy charges have on students' ability to proceed to the next grade. The study used a descriptive survey method and found that students' payment of a motivation fee contributed to the total cost of attendance. Furthermore, despite the fact that the government paid for their education through Free Day Secondary Education, students who could not afford the additional levies were sent home by schools. The study did not engage parents and the principals of the sampled schools. It also concentrated on transition as an indicator of participation. Therefore, a mixed methods approach was taken in this study to

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determine whether or not student transition and retention rates were affected by the financial burden placed on families. It involved parents and principals who were the key respondents to verify and triangulate the findings.

Board of Management teachers' salary

Board of Management teachers' salary according to Nyamwembe (2020) refer to the remuneration given to the teachers employed under the Board of Management terms. Board of Management teachers, therefore, are the teaching staff employed and paid by the school management so as to curb staffing shortages or to solve subject specialization imbalances in secondary schools. Nyamwembe (2020) notes that the Ministry of Education regulations have been provided to guide the payment of teachers employed by the school boards. The paper looked into the specified qualifications required during the recruitment and the amount of salary to be paid every month. The findings showed that the Board of Management employ both the teaching and the support staff. Again, it emerged that BoM employees earn a uniform pay of Ksh 10,000. The author recommends the Ministry review the guidelines and hence the salaries proposed. The author was too general and remained silent on whether parents contributed part of the salaries and whether it has any effect on the participation of students in public boarding schools. The current study filled the gap by establishing the effect of the costs involved on students' participation.

Munyasia (2017) undertook a study on the Board of Management teachers' wages and education quality purported to evaluate the BoM teachers' wages and their impact on the attributes of education in Gem Sub–County. The overall objectives were to find out the amount payable to teachers, their influence on the quality of education offered and the relationship that exists between academic performance and BoM teachers' salaries. Using descriptive research methods, the study found out that schools in the Gem sub-county spent enormous amounts of money on the board of management teachers. That surge in wages led to a surge in fees charged by schools. Again, the study discovered that high teachers' pay enhanced students performance in academics. It was deduced that the wages of BoM teachers distort the allocation of funds to various vote heads and subsequently affect the instruction processes. The study advanced to the government to wholly meet the wages for the Board of Management teachers. However, the study did not establish whether wages had any effect on students' participation hence this study bridged the gap.

METHODOLOGY

The study was done in Uasin Gishu County, Kenya. The Convergent Parallel Mixed Methods design which according to Creswell (2014) is appropriate for studies which collect both quantitative and qualitative data was utilized. The study targeted 3917 from four parents and 34 principals of public boarding secondary schools as the respondents of the study. All the principals were purposively involved in the study while Yamane Simplified Formula helped in acquiring 362 parents who were proportionately distributed. The error margin used was 0.05 as recommended by Israel (2003).

For data collection, a questionnaire was used to obtain data from parents, an interview schedule helped to gather the views of the principals on students' transition while a document analysis guide helped to gather secondary data for the correlation between hidden costs of education and students' transition rate. The validity and reliability of the documents were established using expert judgement and test-retest method respectively. Statistical Package for Social Sciences (SPSS) aided the analysis of data. Quantitative data were analyzed using descriptive and inferential statistics while qualitative data were thematically analyzed. The results were presented in a correlation matrix, tables and themes for the qualitative data.

Theoretical Framework

Coleman's (1966) explanation of the Education Production Function model served as the foundation for this investigation. The model is predicated on the idea that a school functions similarly to a business in that it takes in resources (or "inputs") and processes them in order to generate results (or "outputs"). For this study, the inputs are hidden education costs represented by the costs of school uniforms, personal effects motivation fees, BoM salaries and the cost of

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admission requirements. Output on the other hand is the student retention rate.

The production function model of education was defined using the formula below;

$$X = f(a, b, c \ldots \varepsilon)$$

Where;

X- is the output or result of such retention rate.

f - stands for function in this case, it explains how the independent variables/inputs hide educational costs) affect the (x) dependent variable (student transition rate).

a,b,c….d- are the inputs, the hidden education costs in the form of motivation fees, cost of school uniform, cost of personal effects, cost of admission requirements and BoM teachers' salaries

ε– is the error term.

This model explains how student transition (output) in secondary education depends on hidden education costs (inputs). Coleman (1966) insists on the fact that the inputs (resources) must transform the teaching/learning process to yield high outputs (results). However, it is notable that lack of inputs such as resources (educational costs) may present a barrier to the process (Teaching/learning process) thus leading to a negative output such as low student transition rates in schools and vice versa.

This model was significant to this study. It provided a summarized explanation of how household educational costs affect students' transition rates in public boarding secondary schools.

RESULTS AND DISCUSSION

Introduction

Descriptive and inferential statistics were used to examine the information. The responses of the respondents were described using descriptive statistics, while inferences and conclusions were drawn using inferential statistics. Pearson Product-Moment Statistical methods like correlation and regression analysis were employed to probe the link between the parameters. The level of significance used in all analyses was = 0.05. The data was analyzed using SPSS, a Statistical Program for the Social Sciences, version 26.

Students Transition Rate

The study sought to explore students' transition rates in boarding secondary schools. The parents' views on their children's grade to grade transition were sought using a Likert scaled questionnaire and corroborated by documentary analysis provided by the principals on students' enrollment. The views are displayed in Table 1.

Table 1: Parents' Views on their Children's Transition (n=328)

ITEM	Never	Rarely	Sometimes	Mostly	Always	MEAN	SD
My child regularly moved from one class to the other.	2 (0.6%)	5 (1.5%)	12 (3.7%)	64 (19.5%)	245 (74.7%)	4.66	0.68
My child is in the same class as the ones they were admitted with.	3 (0.9%)	3 (0.9%)	39 (11.9%)	95 (29.0%)	188 (57.3%)	4.41	0.80
My child is always in school throughout the school term and is not delayed because of irregular attendance	3 (0.9%)	10 (3.01%)	28 (8.5%)	100 (30.5%)	187 (57.0%)	4.40	0.84
My child is expected to complete school on time	2 (0.6%)	2 (0.6%)	20 (6.1%)	83 (25.3%)	221 (67.4%)	4.58	0.69
My child is never denied promotion to the next class because of school fee	8 (2.4%)	20 (6.1%)	84 (25.6%)	64 (19.5%)	152 (46.3%)	4.01	1.09
Mean average students' transition						**4.41**	**0.65**

Key: 1- Never, 2- Rarely, 3- Sometimes, 4- Always

Source: Parents' Questionnaire (2021)

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Table 1 illustrates that, although secondary schools in Uasin Gishu recorded fairly high transition rates (M=4.41; SD=0.65), some parents agreed that their children do not transit to the next class because of failure to pay fees. For instance, while close to three-quarters of 245 (74.7%) of the parents who were engaged in the study showed that their children always 4.66 (SD=0.68) moved from one class to the other at the right time, 17 (5.2%) said that their children sometimes or rarely move from one class to the next as expected. One of the principals during interviews said;

> *Some students fail to transition from one class to the next class due to high poverty levels among parents. You find that a child is admitted to the school but the inability of the parent or guardian to pay the fees charged and provide for boarding requirements affects their participation. This automatically translates to low retention and low transition. This challenge has been here for some time now. My headache is how to break this trend, especially in the current society where every other person is crying about a wanting economy*.

The concerns of the principals who took part in the study indicate that the problem of low student transition in public boarding schools is not something to ignore.

Equally, regarding children being in the same class as the ones they were admitted with, 188 (57.3%) of the respondents strongly said that their children are in the same class as the ones they got admitted with (*M*=4.41; *SD*=0.80) but 39 (11.9%) of the parents agreed that their children are sometimes in the same class with the ones they were admitted with, while 6 (1.8%) others insisted that their children have repeated the same class because of not paying fees on time. This result was supported by one principal during the interviews who said;

> *The high cost of boarding secondary education and hence the inability of some parents to pay is the major reason for the lack of grade-to-grade transition among students. In this school, we have cases of students who have been left behind by their classmates because they have been in and out of school due to the challenge of fee payment. I have two cases that were determined to resume their studies after they found help from well-wishers. They had to repeat their previous classes to pick up from there.*

This implies that educational costs in boarding secondary schools inhibit students from moving forward as a cohort. These findings concur with the response of a principal from an extra county school who said;

> *The major reason for low grade-to-grade transition among students is the accumulation of huge fee balances which makes it difficult for parents to clear. For example in this school, accommodation and meals account for up to Ksh. 40,555. This amount for a low-income parent/guardian is almost impossible to pay*.

The responses of the principals imply that educational costs affect students' transition. Barungi & Mwesigye (2019) concur with the findings and note that payments in boarding schools are high and unaffordable for poor students forcing them to stagnate in classes instead of moving forward to the next class.

Similarly, while 187 (57.0%) of the sampled parents said their children are always (*M*=4.40; *SD*=0.84) in school throughout the school term, some 38 (11.5%) of the parents insisted that their children are hardly in school. This suggests that those not always in school may be forced to repeat the class. This concurs with the response of a principal who participated in the interview and said this;

> *Sending students home for fees is inevitable. Students in my school are sent home for fees once or twice a term. This is because most parents strain to clear school levies. They cannot afford to pay fees charged at once hence the need to remind them through their children*.

This implies that costs in boarding schools constrain poor households who struggle financially to meet their daily needs.

Likewise, on whether the students were to complete school on time, 221 (67.4%) of the participants strongly agreed (*M*=4.58: S*D*=0.69) that their children would complete school at the right time, some 22 (6.7%) of them agreed that their children

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will hardly complete their secondary school within the right time. One principal agrees with the findings and had this to say;

> *The majority of students complete their four-year education on time. However, those who drop out or repeat classes on their way delay completing or never complete them at all. In my school, those who drop out completely are few because we have a kitty to cushion them, especially the total orphans.*

The results indicate that the cost burden on students from low economic backgrounds makes them take a longer period in secondary education other than the specified four-year course.

Again, whereas 152 (46.3%) of the parents indicated that their children are never denied promotion to the next class because of school fees, 84 (25.6%) of them reported that their children are occasionally denied promotion to the next class. A further 28 (8.5%) of them agreed that their children are frequently denied promotion because of a lack of school fees. These sentiments were validated by principals' responses. One of them said;

> *Due to the pronouncement of 100 percent transition, all students are allowed to move through to completion by paying fees in bits. However, some of them do not transition from class to class because their parents live in abject poverty and hence have difficulties in meeting the costs of education. The options they take are; they go to day schools near their homes to cut down costs. Some request for official transfers while others wait to be sent home for fees then they stay away.*

These findings suggest that payment of school levies is a problem for a significant proportion of the parents and it affects students' transition to the next class. Misheck (2013) while examining the factors that affect learner participation notes that high schooling costs push students to withdraw from school.

Effects of Hidden Costs of Education on Students' Transition Rate.

A correlation analysis was utilized to establish the relationship hidden costs of education and students' transition rates. Table 2 reveals the results of a correlation analysis to determine the linear association between variables.

Table 2: Correlations between Hidden Costs of Education on Students Transition Rate

		Personal Effects	Teachers' Motivation	BoM Teachers' Salary	School Uniforms	Admission Requirements
Students Transition Rate	Pearson Correlation	-.389	-.443	-.508	-.640	-.456
	Sig. (2-tailed)	.012	.004	.000	.000	.003
	N	34	34	34	34	34

Table 2 reveals an inverse association between hidden educational expenditures and student transition rates. All statistically significant relationships were negative. The correlation between personal effects and students' transition rate was found to be negative and statistically significant, r (34) = -.389, p = .012. On the same note, the cost of teachers' motivation, r (34) = -.443, p =.004, cost of BoM salary, r (34) = -.508, p<.001, and school uniforms, r (34) = -.640, p <.001, all had a statistically significant negative correlation with students' transition rate in boarding secondary schools.

This implies that hidden costs of education affect students' transition rates in public boarding schools. The results confirm that costs not reflected in the fee structure but paid by parents to supplement allocations on school projects and programs adversely affect students in terms of their transition across classes.

A multiple regression model was employed to determine the effect of hidden educational costs on boarding school students' transition rates. The predictor variables were the individual aspects of hidden household costs of education and the

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students' retention rate was the dependent variable. Table 3 shows a summary of the results.

Table 3: Regression of Hidden Costs of Education on Students' Transition Rate

Model	B	Std. Error	Beta	T	Sig.	Part corr.
Constant	5.266	.316		16.644	.000	
Admission Requirement	-.094	.045	-.137	-2.089	.041	-.108
Student Personal Effect	-.144	.072	-.197	-1.999	.045	-.124
School Uniforms	-.351	.153	-.616	-2.284	.030	-.317
Teachers' Motivation Fee	-.027	.013	-.047	-2.077	.047	-.030
BoM Teachers' Salary	-.111	.053	-.200	-2.084	.035	-.150
Adjusted R^2	.365					
F-ratio	4.733**	df1=5 df2=28				

Key: * p < .05 ** p < .01 ***From Table 3, the study shows that the individual aspects of household hidden costs of education vary in their level of effect on students' transition rate in boarding secondary schools. For instance, it was established that school uniforms made the highest unique contribution (beta= -.616). This means that, when the cost of the uniform is increased by one standard deviation, there would be an ensuing reciprocal change in students' transition rate by .616 standard deviations. On the same note, students' transition rate would improve by .197 standard deviations when the cost of personal effects is reduced by one standard deviation. Similarly, reducing the costs of teachers' motivation, cost of BoM teachers' salaries and costs of admission requirements each by a single standard deviation, would attract an improvement of students' rate of transition by .047, .200 and .137 standard deviations, respectively.

The five components of the hidden household cost of education contribute differentially to the overall Adjusted R squared, which is further supported by looking at the part correlation coefficients. The results demonstrate that the cost on students' personal effects has a part correlation coefficient of –.124, teachers' motivation of -.030, BoM teachers' salary of -.150, cost of school uniform of -.317 and cost of admission requirement of -.108. Thus, the variable with the highest effect on the model is the cost of school uniforms, which contributes 10.0% (part corr. squared) to the model. This concurs with the results of Nderitu *et al* (2020) which indicate that school uniform cost has the highest effect on student transition rate. The study found that it accounted for the highest value of 82% of the variance. This study further elaborated that the effect was associated with the high cost of uniforms such as sports shoes and school sweaters One principal in a boy's school said;

> *Hidden costs of education are too much in boarding schools pushing students out of school thus affecting their participation in terms of transition and retention. Although they are not spelt out in the fee structure, these costs are necessary for learners to remain in boarding schools until completion. The inability of parents to meet these costs drives students into criminal offenses like theft which may lead to suspension. This is common in boys' schools. This in itself affects students' grade-to-grade transition.*

Another principal indicated that:

> *School uniforms play a key role in shaping the discipline of students. This is because students rarely mess up while in uniform unlike when they are dressed in the civilian. It also displays the identity of the school. This is the reason why all students must wear school uniforms while in school. However, the lack of school uniforms makes students leave for home due to the discomfort they experience. This affects their*

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> *class attendance and subsequently their transition to the next class.*

Reidy (2021) concurs with this finding that school uniforms are instrumental in ensuring good discipline and security in learning institutions, In addition, it helps school administrators to identify and account for their students

Another principal said;

> *Girls are mostly affected by hidden costs such as the cost of school uniforms. The lack of at least two pairs of uniforms makes girls feel out of place. Boys don't mind so long as they have at least one pair of uniforms. The main issue is that school uniforms are more expensive than home clothes, therefore poor parents may not afford to buy them. This contributes greatly to low student participation.*

This implies that parents with girls in boarding schools are required to spend more on uniforms than those with boys. Mutegi's (2015) study concurs by saying that the school uniform cost affects girls more than boys. The study indicates that girls' uniforms are more expensive because girls require more than one pair of uniforms. Mutegi *et a*l. (2017) confirm that the cost of school uniforms in boarding schools is higher by 8 percent compared to day schools.

Again, the study alludes that the cost of Board of Management teachers' salaries had the least contribution to the model because it accounts for only 0.1% of the variance in students' transition rate. These results concur with the response from a principal who said;

> *Board of Management teachers' salaries are among the hidden costs that parents pay. However, in this school, it may not affect students' transition from one grade to another because the amount payable by parents is small compared to other vote heads and again no student can be sent away for nonpayment of this vote head. Again, the total figure is shared among all the students thus further reducing the amount to be paid by each student*.

Another principal said;

> *Motivation fee is critical because a motivated teacher/student will remain in school, attend all school programs and perform better. In this school as such, costs such as motivation fees and BoM teachers' salaries are supplemented by the school farm proceeds. This implies that they will just slightly affect students' participation*.

The findings concur with Tuwei (2013) who notes that the Board of Management teachers' salaries and motivation fees are gladly paid by parents because they are directly linked to the students' performance. This implies that their effect is slightly lower.

Regression Model on the Effect of Hidden Costs on Students' Transition

The multiple regression model was used to predict the effect of household educational costs on students' transition rates in public boarding schools in Uasin Gishu. The regression prediction model used was of the following form:

$$\textbf{Students' Transition Rate} = \beta 0+\beta_1 X_1+\beta_2 X_2 + \beta_3 X_3+ \beta_4 X_4 +\beta_5 X_{5+} \varepsilon$$

Where; X_1=Admission Requirement, X_2=Student Personal Effect, X_3=School Uniforms, X4 is the Teachers' Motivation Fee, X5 is the Salary of BoM Teachers, and ε is the error term. Thus, the predicted optimum level of students' transition rate given the hidden cost of education among public boarding secondary schools was represented by:

$$\textbf{Y=5.266 units - 0.094 } X_1^{units} \textbf{ - 0.144 } X_2^{units} \textbf{ - 0.351 } X_3^{units} \textbf{ - 0.027 } X_4 \textbf{ units - 0.111 } X_5 \textbf{ units+ } \varepsilon$$

From the model, it is shown that for each unit increase in the cost of students' personal effects, there is a subsequent drop in students' transition rate by 0.144 units and for each single unit increase in the cost of teachers' motivation, there is an ensuing drop in the level of students' transition rate by 0.027 units among the public boarding secondary schools. Equally, when there is an increase in the cost of BoM teachers' salaries by one unit, there would be a drop in the students' transition rate by 0.111 and vice versa. When the cost of school uniforms is increased by one unit there would be an ensuing drop in students' transition rate by 0.351 units and

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increasing the cost of compulsory admission requirements will have a reciprocal effect of .094 units on students' transition rate. This suggests that a rise in household hidden costs causes a significant drop in students' transition rates in boarding secondary schools. Hence, the study has found out that hidden costs of education are predictors of the level of students' rate of

The model summary reveals an adjusted R-Square of .365 (Table 4.13). This implies that direct costs of education, as a whole, explain 36.5 % of the variability in student retention rates in boarding public secondary schools. This means that about 64% of the deviation in the rate of student transition among public boarding secondary schools is caused by factors not included in this model.

CONCLUSIONS

Based on the findings, the study concludes that hidden costs of education which include the cost of compulsory admission/entry requirements, the cost of school uniforms, the cost of students' personal effects, motivation fees and the cost of Board of (BOM) teachers' salaries have an inverse correlation with students' transition rates in public boarding secondary schools. The results showed that each aspect of the hidden costs differs in their level of influence and contribution to the changes in students' transition rate. For instance, the study revealed that school uniform cost made the highest contribution while the cost of BoM teachers' salaries contributed the least. For each unit increase on each aspect of hidden cost, there would be a subsequent drop in the level of students' transition rate and vice versa. Thus the conclusion is that hidden education costs affect transition rates of students in public boarding secondary schools.

Recommendations

This study provides the following recommendations:

- The study recommends the government prioritize prompt disbursement of funds allocated to schools to prevent principals from diverting the costs to students/parents.
- The principals should source school uniforms from well-wishers and sponsors in order to ease the cost obligation on parents and thus improve student transition.
- Since this research was done in public boarding schools, another study should be replicated in private boarding schools in Kenya for triangulation.

REFERENCES

Abuya, B. Admason, K., Ngware, M. Onsomu, E & Oketch, M. (2015). Free Primary Education and Implementation in Kenya: The Role of Primary School Teachers in Addressing the Policy Gap. Nairobi: Sage.

Abuya, B.A. & Mutisya, M. (2018). *Why funding a lone can't shake up Kenyans school Transition Rate: Population and Health Research Centre*. Retrieved from https://theconversation.com/why-funding-alone-cant-shake-up-kenyas-school-transition-rate-95443.

Barungi, M. & Mwesigye, F. (2019). *Lowering the cost of secondary Education through strategies Public-Private Partnerships: Evidence from the promoting Equality in African Schools (PEAS) Programme in Uganda. Policy Brief: Economic Policy Research Centre. Issue No. 103 (March, 2019)*. Retrieved from https://ideas.repec.org/p/ags/eprcpb/291794.html

Bridgeland, J.M, Dilulio, J.J., & Morison, K.B. (2011). *The Silent Epidemic* New York: Civic Enterprises, LLC

Coleman, J, (1966). *Education Production Functions*. Hoover Institute: Stanford University.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th Ed.). Thousand Oaks, CA: Sage

Etyang, H. (2021, August, 2). *The Star Newspaper*. Retrieved from https://www.the-star.co.ke/news/2021-08-02.

Gasson, R.,Pratt, K., Smith, K. & Calder, J. (2016). *The Impact of Cost of Children's' Participation in School-Based Experience: Parents*

Article DOI: https://doi.org/10.37284/eajes.7.4.2449

Perceptions. New Zealand Association for Research in Education.

Government of Kenya. (2004). *Mandatory School Uniform Policy in Kenya*. Ministry of Education.Nairobi: Government Printers.

. Gray, J., & Mark, H. (2010). Wellbeing and Retention: A Senior Secondary Student Perspective. *Australian Educational Researcher, 36*(2), 119- 145.

Israel, G. D. (2003). Determining Sample Size. University of Florida.https://www.tarleton.edu/academicassessment/document

Kenya National Bureau of Statistics (KNBS). (2019). *The Economic Survey*. Retrieved from https://doi.org/10.4324/97813/5016702

Kremer, M. & Ngata, J. (2008). Access and Quality in the Kenyan Education System: A review of the progress, challenges and potential solutions. Harvard. Harvard University.

Mishek, N. (2013). *Factors affecting Students access and participation in secondary school education in Meru Central District.* Med thesis, Kenyatta University

Muganda, J.A., Simiyu, A.M. & Riech, A. (2016). Factors Affecting Subsidized Free Day Secondary Education in Enhancing Learners' Retention in Secondary Schools in Kenya. *Journal of Education and Practice,* 7(20), 49-55.

Munyasia, N. (2017). Influence of Board of Management Teachers' Wage Bill on Provision of Quality Education in Public Secondary Schools in Gem Sub-County, Kenya. Unpublished Thesis. Maseno University.

Mutegi, R., Muriithi, M & Wanjala, G. (2017). Education policies in Kenya: Does Free Secondary Education promotes equity in public in Secondary Schools? *International Journal of Development. 7*(11), 16696 – 16699.

Mutegi, R.G., (2015). *Influence of unit cost of Education on student Enrolment rates in Public secondary schools in Tharaka South Sub-County, Kenya*. Ph.D. thesis, University of Nairobi.

Nderitu. J., Magoma.C., & Mugiraneza J. (2020). Schooling Hidden Costs : the Correlation Between Home-Based Costs and Students ' Transition Rate in Rwanda. *European Journal of Education Studies*, 34–54. https://doi.org/10.5281/zenodo.3834855

Ngwacho, G. (2015). *Effects of Hidden costs in Free Secondary Education Transition Rates and Completion rates in public boarding schools in Kisii County*. Ph.D. Thesis, Kabarak University.

Nyamwembe, D. (2020). MoE Guidelines on Salaries of BoM and Non-teaching Staff. https://www.jambonews.co.ke'

Reidy, J. (2021). *Reviewing School Uniform through Public Health Lens: Evidence about the impact of school uniform on Education and Health*: *Public Health Reviews*. Retrieved from: https://www.ssph-journal.org/articles/10.3389/phrs.2021.1604212/full

Tuwei, E.K. (2013). *Effects of Hidden Costs on students Grade to grade Transition rates in secondary schools in Nandi County, Kenya*. Med thesis, University of Nairobi.

Uasin Gishu County Education Office. (2021). Secondary Schools Statistics. Ministry of Education.

UNESCO. (2005). *EFA Global Monitoring report: The role of the organization and social context of schools*. Retrieved from: http://ortal.org.education

UNESCO. (2012). *Global Education Digest 2006*: Education Statistics across the World. Montreal: UNESCO.

UNESCO. (2015). Education for All 2000-2015: Achievement and Challenges: EFA *Global Monitoring reports 2015, PP.75-103*. Paris: *UNESCO.*

UNESCO. (2015). *Sample Design for Educational Survey Research, 3rd Module, Quantitative Methods in Educational Planning*. Paris:

Article DOI: https://doi.org/10.37284/eajes.7.4.2449

UNESCO International Institute for Educational Planning.

UNWOMEN. (2022) Progress on the Sustainable Development Goals: the gender snapshot. Retrieved from: progress-on-the-sustainable-development-goals-the-gender-snapshot

Wachiye, W. & Nasonga, J. (2010). *Access to secondary education through the constituency bursary fund in Kanduyi Constituency Kenya*. Masinde Muliro University of Science and Technology. Retrieved from: http://www.Academicjournal.org/err2.

World Bank. (2014). *World Development Report 2000/2001*: Attacking Poverty Washington, D.C: The World Bank.

Yamane, T. (1967). *Statistics: An Introductory Analysis (*2nd Ed.). New York: Harper and Rovo.

