An Assessment of parental level of income on students’ academic performance in public secondary schools in Kenya

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Abstract: The study sought to establish the influence of parental level of income on students’ academic performance in public secondary schools in Kangundo Sub-county. It adopted a descriptive survey research design. It targeted all (27) public secondary schools in Kangundo Sub-county, all (27) school heads, all (27) parents’ association chairpersons, all (339) teachers and all (2,663) form three students. The study employed a census technique to include all schools; 24 in the main study and 3 in the pilot study. All the 24 school heads as well as all the 24 parents’ association chairpersons of the participating schools were included in the study. It sampled 30.0% of teachers that gave 102 teachers. Stratified random sampling technique was employed to select participating teachers where a proportionate weighted sample was identified per school using proportional allocation method. Then, simple random sampling technique was adopted to select the participating teachers in each school. Yamene (1967) formula was used to give a sample of 348 students. Stratified random sampling technique was employed to identify and select weighted random samples per school. In total, 498 respondents participated in the study. Data collection instruments included questionnaires for school heads, teachers, students and an interview guide for parents’ association chairpersons. Validity of the research instruments was ascertained through expert judgment and piloting. Reliability was achieved through test re-test method where the instruments were piloted in schools at a time interval of two weeks and the two results were correlated using Pearson’s Product Moment Correlation method. Data were entered into Statistical Package for Social Sciences (version 26.0) for analysis. Further, inferential analysis was employed that involved correlational analysis at a 0.05 level of significance. The hypothesis was accepted or rejected at a 0.01 level of significance. Results establishes a moderate positive correlation between parents’ level of income and students’ academic performance that was statistically significant (R=.534; p=0.011<0.05). Recommendations are put forth such as: the government to make secondary school education completely free, the to create awareness of how parents can assist their school-going children and schools to hold parents’ meetings and train them on the roles they are required to play to facilitate their children's learning.

Keywords: Parental income Level, Academic Performance

Introduction

Yusuf, Onifade, and Bello (2016) define academic performance as an observable and measurable behavior of a student within a specified period. It is influenced by many factors among them parents’ level of income which is of interest to this study. Parents play a crucial role in the academic success of their children. In support of this line of argument, Naite (2021) stated that parents exert a significant influence on the performance of their children because of the authority and skills they have to shape and develop their children into motivated, inspired, and lenient people. Parents can influence the academic performance of their children by investing their time and money (Bengesai&Nzimande, 2020). Educated parents are more willing to take their daughters back to school even after teenage pregnancy (Musili, Mwania& Mulwa, 2020). However, the amount of time and money available to a parent to support the academic enterprise of their children may depend on many factors. A parent’s level of income has a more direct influence on students’ academic performance. Education being an input-based commodity requires the constant provision of resources that have to be acquired at a cost. Kiboi (2018) advances that children from poor backgrounds may lack school fees, books, uniforms, and other essential school materials and thus negatively affect their performance. In support of this claim, Drajea and O'Sullivan (2020) in their study
done in Uganda established that parents whose level of income was high were able to give a higher level of academic support to their children and vice versa. It is evident from the foregoing that low-income parents may not be able to invest sufficient resources in the education of their children and thus leading to low performance. This study was conducted in public secondary schools in Kangundo Sub-county to investigate the extent to which parents’ income influence students’ academic performance. The quality of education at the secondary school level remains relatively low. Kilonzo (2020) laments that a large percentage of students score poor grades between D+ and E while pointing out that the quantity of quality grades between C+ and A has been declining. Declining performance is worrying for it means that many young people will continue to miss opportunities for further education and training. The cause of poor performance is still unknown. This research was timely for it was expected to provide much-needed knowledge on how parental level of income could be impacting academic performance of secondary school students.

Theoretical Framework

This study is anchored on Epstein (1995) Framework of six types of parental involvement model developed from Epstein’s theory of Overlapping Spears of Influence. Epstein developed a model that conceptualizes six major types of parental involvement that are common in school – home (parent) partnerships across home, school and community settings (Epstein, 1995; Epstein, 2011; Epstein et al., 2019). Epstein opines that schools should partner with parents to create family-like schools where each child feels special and included. She also points out that parents should partner with schools to be helped to create school-like families where the importance of school, homework and other activities is reinforced. Epstein identifies six types of parental involvement which include: Parenting, communicating, volunteering, learning at home, and decision making and collaborating with community. The framework has been revised to give specific practices that schools can do to help parents to increase each of the six types of involvement (Epstein, 1995; Epstein, 2011; Epstein et al., 2019).

According to Epstein (1995), parenting addresses the responsibilities that parents have to create a supportive home learning environment. Under this obligation, parents are supposed to provide a safe and healthy home environment, adopt positive parenting practices, and establish conditions that support learning at home. Epstein stipulates that schools should offer parents support on how they can create a supportive home learning environment. Applying this model, principals in Kenya public schools can, for instance, discharge this important duty by holding parents’ meetings and seminars to train and educate parents on how can create a positive home learning environment. By doing that, schools will help parents to create family-like schools where the importance of education is reinforced (Epstein et al., 2019).

Parents’ Level of Income and Academic Performance of Students

Parental level of income is a major source of educational inequality. Students whose parents are poor are educationally disadvantaged. Along this line of argument, Liu and Qiu (2018) argue that poor parents do not invest adequately in their children’s education which leads to poor educational outcomes. In support of this claim, Ovansa (2017) noted that poor parents may often not pay school fees on time; provide uniforms and other essential school materials hence negatively affecting their children’s academic performance. Students who are sent home frequently to collect school fees miss a lot of instructional time implying that they do not cover the syllabus effectively.

Students from poor parents may be deprived of other basic needs. Omoniyi (2019) agreed with this sentiment when he noted that children of poor parents often lack adequate food, shelter, and good healthcare. This hurts academic performance because Okioga (2013) stated that students from low-income families are unable to concentrate on class activities due to a lack of basic needs. Poverty is linked to increased levels of parental stress, depression, and poor health conditions that might negatively affect parents’ ability to nurture their children well (Evans & Garthwaite, 2010). Thus, it can be seen from the foregoing that children from disadvantaged backgrounds are at a higher risk of lacking quality education.

On the other hand, students whose parents have high levels of income outperform their peers from poor backgrounds due to several factors. Liu and Qiu (2018) maintained that affluent parents can afford to organize home tutoring, and in this way, consolidate their influence on their children’s performance. As a consequence, the authors note that students from high-income parents have higher educational aspirations and expectations than
their peers from poor backgrounds.

Furthermore, Zhao and Hong (2012) contend that parental income influences parental behavior support. In this regard, the authors posit that rich parents are more involved in their children’s education in areas such as assisting and supervising homework and this fosters the formation of good study habits leading to good academic performance. Chinyoka and Mugweni (2020) revealed that increased parental involvement is linked to increased class attention and motivation to do well in school.

Because of the high poverty rate in the United States, the link between parental income and students’ outcomes has emerged as an important area of study (US Census Bureau, 2009). For instance, by matching data from 4,500 children participating in the National Longitudinal Survey of Youth (NLSY) to that of their mothers, Dahl and Lochner (2012) investigated how family income impact child achievement. The study results established that parental income had a significant influence on students’ achievement. Their study further showed that a $1,000 increase in family income would raise test scores by about 6 percent. Whereas this study was done in a foreign context and used secondary data, the current study was done in Kenya and gathered primary data from four classes of respondents.

In China, past studies have shown that parents’ economic status is a powerful predictor variable influencing the academic performance of children (Liu, 2008; Wu, 2009; Wu, 2013a; Li, 2016). To further these studies, Lin and Han (2017) using family data drawn from 1,050 samples derived from China Family Panel Studies (CFPS) investigated the effect of family income on children’s education. The results of the study showed that family income has a significant impact on children’s education. The study concluded that a financially well-off family can provide more educational resources. Further, the study concluded that lower-income parents spent most of their time looking for jobs, has low educational expectations for their children and may prioritize subsistence to their children's learning. This study was done in China which is a foreign context while the current study was done in Kenya. Whereas this study relied on secondary data, the present study gathered primary data from respondents and was thus able to seek qualitative views from respondents.

In Japan, a study concluded that parents’ level of income is positively correlated with students’ academic performance. By including a sample of 300 students from two high schools who were randomly selected, Machebe, Ezegbe and Onuoha (2017) investigated the impact of parental level of income on students’ academic performance in high schools. The study employed questionnaires to collect data. The study findings showed that parents’ level of income had a positive influence on students’ academic performance. Specifically, the study established that greater academic achievement for a student was attained by students from high-income families. This study however involved only 2 high schools while the current study involved a larger sample of 24 schools. Whereas this study involved only students, the current study sought opinions from more participants such as principals, teachers and parents representatives in addition to students.

In Ghana, Adzido, Dzogbede, Ahiave and Dorkpah (2016) designed a study to investigate how family income influences the academic performance of tertiary students. The study employed a descriptive survey research design and used questionnaires to gather data from a sample of 480 students selected through a stratified-quota-simple random sampling technique. Data analysis techniques included frequency distribution tables and bar charts. The study findings suggested that family income positively affects students’ academic performance. This study concluded that high parental income helps improve students’ motivation and learning processes and hence leads to better academic performance. However, this study has several methodological limitations compared to the present study. Whereas the present study employed both descriptive and inferential data analysis techniques, the reviewed study used only descriptive data analysis techniques which included tabulating frequencies and bar charts. As such, this reviewed study fell short of establishing the association between the independent variable and the dependent variable.

Through using both quantitative and qualitative approaches, Omoniyi, Gamede and Uleanya (2022) investigated the impact of the household poverty trap on learner’s achievement in rural secondary schools in the Zululand District of South Africa. The study was implemented in 5 schools and it involved 250 students who were selected through a simple random sampling technique and 5 educators who were conveniently sampled. Data from students was collected through the use of a questionnaire while data from educators was gathered through focus group discussion. Quantitative data were analyzed mainly through frequencies and percentages while qualitative
data was analyzed thematically. The findings of the study demonstrated that poverty is of negative consequences on learners’ academic achievement. The study recommended educators, leaders, and other stakeholders identify strategies that can help learners from poor backgrounds to overcome barriers that hamper their performance. Unlike the present study, this study however failed to perform inferential statistics that would have shown how variables were correlated. In the absence of inferential statistics, descriptive statistics alone are not enough to arrive at major conclusions.

Gemechu (2018) in Ethiopia investigated the effect of family socioeconomic status on students’ academic achievement at Haramaya University, Eastern Ethiopia. The study results showed that there was a weak positive relationship between family income and students’ academic achievement. The study employed a descriptive research survey design and used a stratified random sampling technique to include 172 students. This study is however different from the present study in that it included a larger sample of 378 respondents consisting of students, parents, school heads, and teachers to triangulate responses.

In Kenya, a study done in Bungoma County, Kenya by Kiboi (2018) on the effect of parental socioeconomic status on students’ academic performance in secondary schools reported a positive statistical correlation between parent level of income and students’ academic performance. The study randomly selected 120 students and purposively sampled 8 head teachers, 8 class teachers, and 8 guidance and counseling staff. This study did not include responses from parents and therefore gathered parents’ income data indirectly through other parties. The present study included parent representatives to fill that gap.

Closely related to how parents’ level of income influences students’ academic performance, Owuor and Sika (2019) implemented a study in Mbita Sub County, Kenya to explore how parental financing influences the academic performance of secondary schools. The study employed a descriptive survey research design and included 18 secondary schools. All 18 principals of the participating schools were purposively sampled. In addition, the survey involved 108 teachers, 72 students, and 72 parents. Questionnaires were used to collect data from respondents. The study reported a significant moderate relationship between parental financing and students’ academic performance. Descriptive results revealed that it was only a small percentage of students paid school fees on time. The finding could suggest that parental income limited parents to pay fees and finance other school activities. This study did not seek to establish the parental income which was done in the current study. The study was done in Mbita Sub-county which is a different geographical and social context from Kangundo Sub-county where the present study was implemented.

Research Design

This study adopted a descriptive survey research design. To Cooper and Schindler (2013), this design involves collecting data to answer questions on current status of subjects of the study. The independent variable of this study was parents’ level of income while the independent variable of the study was students’ academic performance. Therefore, this research design helped the researcher to collect data on the parental income (the independent variables) to describe how it influenced the academic performance of students in Kangundo Sub-county public secondary schools.

Participants

According to the Kangundo Education Office (2020), there are 27 public secondary schools, 2,663 form three students, 339 teachers, and 27 Parent Association Chairpersons (PAC) in Kangundo Sub-county. This study targeted all 27 school heads, all 339 teachers, all 2,663 form three students, and all the 27 PAC in Kangundo Sub-county. It included form threes only because they were considered to have considerable experience regarding their school life. It was also anticipated that they would be free compared to their seniors in form four who were expected to be busy preparing for their KCSE examination.

A census technique was employed to include all the 27 schools although 3 were used to pilot the study instruments. The entire population of schools was 27, and therefore below 30. Thus, a census method was justified. With the exclusion of 3 pilot schools, the main study involved 24 schools where all the 24 school heads as well as all the 24 PAC of the participating schools were included in the study. Out of the 339 teachers, the study included a sample of 102 teachers representing 30% of teachers’ population recommended by Mugenda and
Mugenda (2003). Stratified random sampling technique was employed to identify the 102 teachers. Because teachers’ population was not the same in each school, the 24 participating schools formed the strata from where weighted random samples were drawn. Thereafter, the desired sample of 102 teachers was drawn from each school using proportional allocation method as follows:

\[
\text{Sample per school (S)} = \frac{n}{N} \times 102
\]

Where \( S \) is sample per school, \( n \) is teachers’ population in a school, and \( N \) Sub-county teachers’ population.

After establishing the required sample per school (S), simple random sampling technique was employed to select the participating teachers. Names of all the teachers in each school were written on pieces of paper, folded and shuffled in a cup. Then, the required number of folded pieces was selected to give the names of the participating teachers.

As for students, the study employed Yamene (1967) formula to determine the appropriate sample for students as follows:

\[
n = \frac{N}{1 + N \cdot e^2} = \frac{2,663}{1 + 2,663 \cdot (0.05)^2} = 347.7 \approx 348 \text{ students}
\]

Where \( n \) is sub-county sample size, \( N \) is sub-county population and \( e \) is sample error at 95% confidence level.

Because students’ population was not the same in all the 24 participating schools, the study used stratified random sampling technique to select the 348 students proportionally according to their school’s populations relative to the overall Sub-county population. Thus, proportional allocation method was used to allocate the 348 students per school as shown as shown:

\[
\text{Sample per school} = \frac{m}{2,663} \times 348
\]

Where \( m \) is the form three students’ population in each school

After determining the sample per school, simple random sampling technique was used to select the participants in each school. Like it was done with teachers, all the names of form three students were written on pieces of paper and folded. The folded pieces were put in a bowl and shuffled. The required number of pieces was drawn from the bowl to give the actual names of the students.

In mixed gender schools, an equal number of boys and girls were chosen. To achieve this, the population was first stratified into boys’ strata and girls’ strata. Then, all the names of boys were written on pieces of paper, folded, put in a cup and shuffled. The required number of pieces was chosen to give the actual names of the boys. Similarly, all the names of the girls were written on pieces of paper, folded and then shuffled in a cup. The required number was drawn to give the names of the participating students.
Table 1: Sample Size

<table>
<thead>
<tr>
<th>Description</th>
<th>Population(N)</th>
<th>Sample Size (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Heads</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Parents’ Association Chairpersons</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Teachers</td>
<td>339</td>
<td>102</td>
</tr>
<tr>
<td>Students</td>
<td>2,663</td>
<td>348</td>
</tr>
<tr>
<td>Total</td>
<td>3,056</td>
<td>498</td>
</tr>
</tbody>
</table>

Source: Kangundo Sub-County Education Office, 2022

Measures

The study used 3 sets of questionnaires and an interview guide to collect data. Creswell (2014) opines that a questionnaire can be designed to have both closed ended and open ended questions. According to Mugenda and Mugenda (2003), questionnaires are preferred because they save time and uphold respondents’ confidentiality. Due to the advantages questionnaires have, they were preferred in this study.

Data Analysis

Data was coded and captured through Statistical Package for Social Science (SPSS) computer program (version 26.0) for analysis. Data that were to be correlated were transformed to create new variables, academic performance (A), parental income (E). The intention was run Pearson’s Correlation and also generate a regression model. Spearman rank order correlation was performed at a 0.05 level of significance.

Ethical Considerations

Before the study, the researcher wrote a letter to the Board of Postgraduate Studies (BPS) at the South Eastern Kenya University to have the proposal reviewed. The researcher was issued with an introduction letter that was used to apply for research license at the National Commission for Science and Technology Innovation (NACOSTI) online portal. After a few days, the researcher was issued with a research license to proceed with the study. While attaching the license, the researcher wrote letters to Kangundo Deputy County Commissioner and Kangundo Sub-county Director of Education seeking permission to collect data in Kangundo public secondary schools. At the beginning, the purpose of the study was disclosed to the study participants verbally and it was also printed at the introduction part of the instruments. Voluntary participation was sought from the study participants. Respondents were informed that they had a right to choose to participate or not to participate. They were also informed that their participation or non-participation would not affect them in any way. Respondents were not required to indicate their names, the names of their schools, their phone numbers or anything that could identify.

Research Results

The objective of the study sought to establish the influence of parental level of income on students’ academic performance. To achieve this objective, a null hypothesis was formulated as follows:

H02: There is no statistically significant influence between parents' level of income and students' academic performance in public secondary schools in Kangundo Sub-county. To test this hypothesis, the researcher ran a Spearman’s order correlation at a 0.05 level of confidence. Table 4.17 presents the results.
Table 4.17: The Correlation between Level of Income and Academic Performance

<table>
<thead>
<tr>
<th></th>
<th>Academic Performance</th>
<th>Level of Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Academic Coefficient</td>
<td>.534*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>22</td>
</tr>
<tr>
<td>Level of Income</td>
<td>Coefficient</td>
<td>.534*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>22</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

Results in Table 4.17 established a moderate positive correlation between parents' level of income and students’ academic performance that was statistically significant ($R=.534; \ p=0.011<0.05$). The correlation coefficient of 0.534 implies that 53.4% of students' academic performance variability could be attributable to parental income.

To accept or reject the null hypothesis, the level of significance was set at 0.05. The model achieved a level of significance of 0.011 which was lower than 0.05 ($\text{P value}=0.011<0.05$). Therefore, the null hypothesis that stated, “There is no statistically significant influence between parents’ level of income and students’ academic performance in public secondary schools in Kangundo Sub-county.” was rejected at a 0.05 level of significance. It is concluded that parents’ level of income has a statistically significant influence on students’ academic performance.

Discussion

Inferential results reported a moderate positive correlation between parents’ level of income and students’ academic performance which was statistically significant ($R=.534; \ p=0.011<0.05$). Thus, the study inferred that 53.4% of students’ academic variability could be traced to parents’ level of income. Therefore, the study established that parental income remained an important predictor of students’ academic performance.

The results are consistent with Dahl and Lochner's (2012) study done in the USA which showed that parental income had a significant positive effect on a child’s math and reading achievement. The results are consistent with Lin and Han’s (2017) study done in China which showed that family income has a significant impact on children’s education. The findings support Machebe, Ezegbe, and Onuoha’s (2017) study in Japan which show that parents’ level of income had a positive influence on students’ academic performance. The findings support Adzido, Dzogbede, Ahive, and Dorkpah’s (2016) study done in Ghana which concluded that family income positively affects students’ academic performance. However, this study did not undertake inferential analysis to test the relationship between study variables. The findings are consistent with a study conducted in South Africa by Omoniyi, Gamede, and Uleanya (2022) that demonstrated that poverty was of negative consequence of learners’ academic achievement. Unlike the present study, this study however failed to perform inferential statistics that would have shown how variables were correlated. The findings further support a study done in Ethiopia by Gemechu (2018) which established a weak positive relationship between family income and students’ academic achievement. In Kenya, the findings are consistent with a study done in Bungoma County by Kiboi (2018) which reported a positive statistical correlation between parent level of income and students’ academic performance.
Recommendations

The government through the responsible ministry of trade should create an enabling environment where private enterprise can thrive. This will go a long way in ensuring that parents can be self-employed. With some income, parents will be able to meet basic costs related to the education of their children.

It is recommended to the government through the Ministry of Education to make secondary school education completely free. Although the government is subsiding secondary education, this research has demonstrated that a whooping majority of students lose so much instructional time on the roads when they are sent for fees. If the government intends to ensure students stay at school uninterrupted, then it should pay for all the educational costs for that dream to be realized.

The responsibility of educating a child lies squarely on the parent. The study recommends to parents to ensure they provide necessities such as fees, learning materials, pocket money, personal effects, and so forth to ensure the educational needs of their children are fully catered for.

REFERENCES


