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AN INVESTIGATION INTO THE FAMILY BASED FACTORS INFLUENCING STUDENTS'ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN MACHAKOS SUB-COUNTY, KENYA

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Abstract

Kenya Vision 2030 points out education and training as an instrument to develop Kenya to be a middle-income economy. Family backgrounds have been highlighted as of great importance in molding the performance of children in schools worldwide. The purpose of the study was to investigate the influence of family based factors on the academic performance of students in Machakos sub-county, Machakos County. The study employed a descriptive research design. The study useda proportionate stratified random sampling method to settle on the sample size. Data was collected by use of questionnaires for students. The data wasanalyzed quantitatively using descriptive statistics and inferential statistics such as regression and the Spearman's Rank Correlation Coefficient were used. The analysed data was presented using frequency tables, charts and figures. The findings were that family socio-economic status, parent's marital status and parent's level of education influenced students' academic performance in that order. The information obtained from the study would be of great importance to parents, school management and the researcher doing research on a similar field.

Keywords: *Family background; Family size; Academic performance; Parental marital status; Parents' education; Socio-economic status; Socialization*

1. Introduction

One of the aspects of the social pillar of Kenya Vision 2030 is education. Family backgrounds have been of great importance in shaping the performance of children in schools worldwide. This is because; academic performance is usually as a result of motivation that children get from the people they interact with in their initial stages of life. A study conducted in the United States of America (USA) by Rouse and Barrow (2006) revealed that years of schooling completed and educational achievement of students, varied widely by family backgrounds. The same study also found out that students who came from less

disadvantaged families had higher average test scores and were more likely to have never been held back a grade as compared to students from the more disadvantaged families. However, they highlighted that it was not clear to reflect the causal effect of family backgrounds on the child's educational achievement which creates a gap that this study sought to fill by finding out the influence of family backgrounds on the students' academic performance. The strong correlation between parental income and student's scholarly achievements is one of the major findings in the literature on the determinants of children's attainments. However, the fact that children of parents with high levels of schooling or income perform better than those from less advantageous family backgrounds does not necessarily imply that the former exert relatively more effort. Consequently, the significance of education attainments and academic performance are related in most African countries. This is because, how well an individual performs in primary and secondary school largely determines the individual's final post-secondary educational destination (Charles, 2003). In Kenyan situation, financial constraints, education level of the parent and the marital status of the parents are the key determinant of student motivation to study. For instance, a study by Pamela and Kean (2005) stated that those students whose parents had a tertiary level of education performed, significantly better in tests of science, reading and mathematical ability than those whose parents had only basic schooling. Recent studies of Kenya populations indicated that children from two-parent homes performed better than children from single-parent homes on a variety of social indicators. However, relationship between family backgrounds in the academic performance has received only limited attention both on theoretical and empirical grounds. One of the few works in the theoretical literature that takes into account family background, is in a research paper Ng'ang'a, &Nyongesa (2012) wrote. They compared a standard grading system to a competitive grading system in terms of the level of student effort each family was able to motivate, and showed that the family system's relative advantage depended crucially on the nature of the family background distorting academic achievement. Ng'ang'aandNyongesa (2012) however focused on the motivation that families provide to students in terms of monetary rewards. This therefore creates a gap on other ways that family background influences the performance of students. There is also need for empirical study from a Kenyan situation, to assess whether the findings in Canada and USA can be generalized in Kenya hence creating the gap that this study sought to fill.

The focus of this study was delimited to students' academic performance in Central Division in Machakos sub-county, Machakos County. Machakos sub-county is among the sub-counties in Machakos County: following school based factors; parents' marital status, family socio-economic status, and parents' educational level, as well, to secondary school students in Machakos sub-county. The study was limited by time and therefore the researcher employed research assistants to ensure that the expected scope was covered within the given time limit. Some respondents did not respond due to issues of confidentiality while in other cases, some questionnaires were not returned after filling.

2. Literature Review

The influence of the level of education of parents on the academic performance of their children is evident in all countries. Pamela et al (2005) states those that students whose parents have a tertiary level of education perform, on average, significantly better in tests of science, reading and mathematical ability than do those whose parents have only basic schooling. Thus, across these three disciplines, the average grades achieved by students with well-educated parents ranged from 7% higher than those achieved by students with poorly educated parents in developing countries to 45% higher in most developed countries.

Studies conducted on African populations indicated that children from two-parent homes do better than children from single-parent homes on a variety of social indicators (McLeod & Lloyd2004). In another study, a significant positive relationship was found between father presence and self-esteem (Passley, Gerring&Gerson, 2006). Father-present youths also exhibited stronger scholastic achievement and more stable peer relations and that the father-son relationship facilitated the adoption of an adequate self-concept because boys were able to model their fathers. The study further found that living in a single-parent home was a significant risk factor for violent behavior in African children.

Another finding revealed that single motherhood generally reduces the economic resources available to families because non-custodial fathers contribute far less to their children's household than they otherwise would. In fact, only a minority of children with non-custodial fathers receives any child support payments, and the amount is typically very small. This means that by reducing income and necessitating greater paid work by mothers, single motherhood increases the time children must spend doing housework and working for pay,

which might negatively affect educational achievement and progress (Zulauf& Gortner,1999).

A study conducted by Becker and Powers (2001) revealed that family income also affected children's educational aspirations, their status among their peers, their neighborhood quality, the stability of their lives, and insecurity within their family, any or all of which may influence child outcomes. Furthermore, the inability to exploit the work/home specialization afforded by two-parent families' means that child care expenses are often greater for single mothers than they would be with a husband. Another benefit of specialization is that married parents may self-invest strategically in forms of human capital that, over time, magnify the gains from a work/home division of labor (Becker &Powers, 2001). Husbands and wives can exploit the comparative advantage each has in household and market production so that investment in children is greater than it would otherwise be in the absence of specialization.

3. Methodology

This study employed quantitative techniques for data collection. Questionnaire method was used to obtain information from students because their number was large. The target population of this study was 4530 students of secondary schools in Machakos sub-county. This target population was obtained by getting a list of all the public secondary school students from MachakosSub-County Education Office.To select a representative sample, the researcher must first have a sampling frame (Mugenda&Mugenda, 1999). This is a directory or index of cases from which a sample was selected. According to Orodho (2005), sampling is a process of selecting a sub-set of cases in order to draw conclusions about the entire set. In this research, a random sampling selection of the students was done constituting 800 students who were to participate in the study. The sample chosen constituted around 17 percent which was more than the expected sample size percentage of 10 percent according to Mugenda and Mugenda (1999).

Questionnaire method was used to obtain information from students because their number was large. This questionnaire enabled the researcher to collect a large amount of information from students in a reasonably quick space of time. It also gave respondents (students) freedom to express their views or opinions and also to make suggestions. In this study, the anonymity of questionnaire was ensured because students were not supposed to write their names on the questionnaire. This helped in producing more candid answers. Data was

analysed using descriptive statistics (Mean) and inferential statistics (regression and Spearman's Rank Correlation Coefficient)

4. Data Analysis, Results and Discussion

This section presents the results obtained from the research findings. It exposes three study variables, as the most influential factors of the findings. The quantitative data collected was organized, edited, coded, sorted and computed using Statistical Package for Social Sciences (SPSS). It was presented in form of frequencies, percentages, pie charts and bar graphs. The qualitative data was categorized, described and regression coefficients computed.Three study factors which include; parents' marital status, family socio-economic status, and parents' educational level, were investigated and the results presented as follows.

4.1 Parents Marital Status

Parents in Machakos sub-county face some challenges in their marriage just like in the case of many others in the whole county. The study conducted showed that some parents are in marriage, others divorcedand single and others are widows. The data showed that different students had different opinions on the way their parents perceive education hence affecting their performance. Further, it was found that some parents show concern while others do not. The results are presented in Table 1.

Table 1: Results for the Parents Marital Status

Marital Status	Students
Single	48
Married	608
Divorced	8
Widow	42
Total	**706**

The parents' marital status data was analyzed and presented in a chart presented shown in Figure 1.

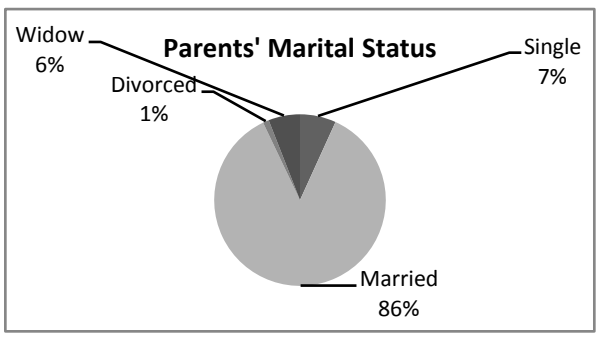

Figure 1: Parents' Marital Status

Figure 1 presents the parents' marital status. From the figure, it's evident that the largest number of the parents are married with the smallest being divorced.In relation to the parents' marital status, the data collected from the interview conducted is presented in Table 2.

Table 2: Students' view on the effect of parents' marital status to performance

Students' view on the effect of parents' marital status to their performance	**Yes**	**No**
Do you think your parents' marital status affect your performance?	280	426

The data in Table 2 is analyzed and the results presented in Figure 2

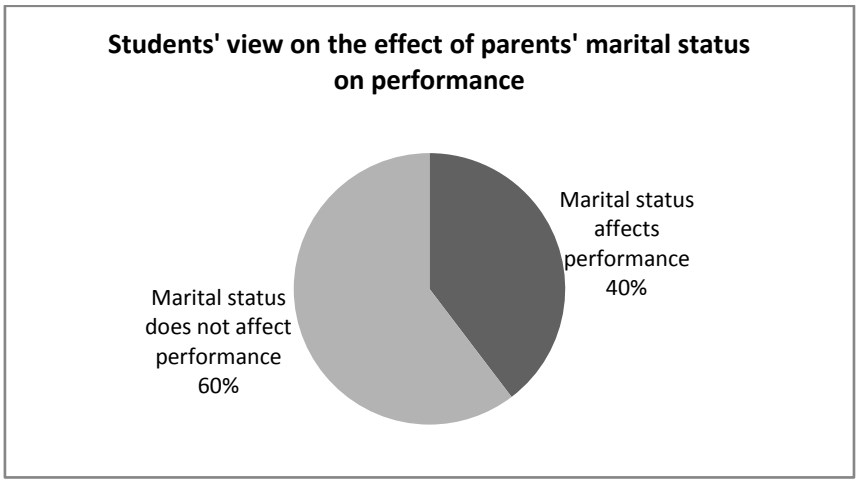

Figure 2:Students' view on the effect of parents' marital status to performance

Based on the analysis presented in Figure 2on the effect of parents' marital status to the student performance, a greater number of students do not find the marital status affecting their performance academically. The number that did not agree with the marital status affecting their academic performance was 60% of the total data collected. Table 3 presents the data on the way students perceive their parents on the support of their studies. Figure 3 presents the analysis of the data presented in Table 3.

Table 3: Parents' view on students' performance

Parents' View	**Students**
Adequate support	494
No support	212
Total	**706**

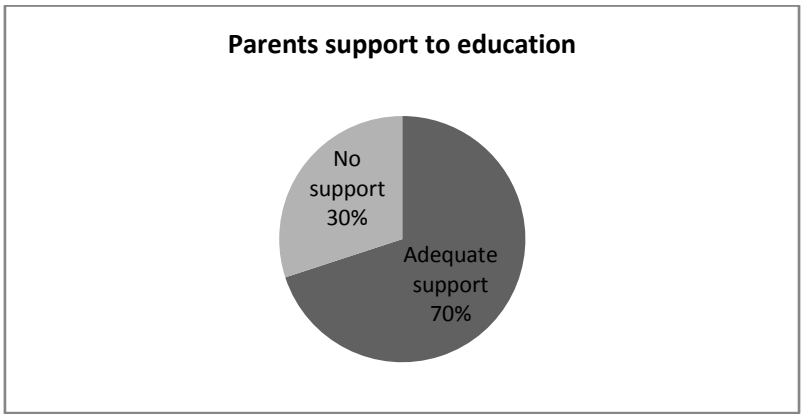

Figure 3: Parents' support to education

From the analysis presented in Figure 3 shows that most of the parents support the education of their students. Only a small number constituting 30% were not being supportive to the education of their children.

4.2 Family Socio-Economic Status

The study showed that the parents from Machakos sub-county have different sources of income, which include farming, business and employment. The data on the socio-economic activities collected during the study is presented in Table 4.

Table 4: What Parents do for a Living

Parents' Source of Income	Students
Farming	64
Business	193
Employment	449
Total	**706**

The data was analyzed and presented in a pie chart shown in Figure 4.

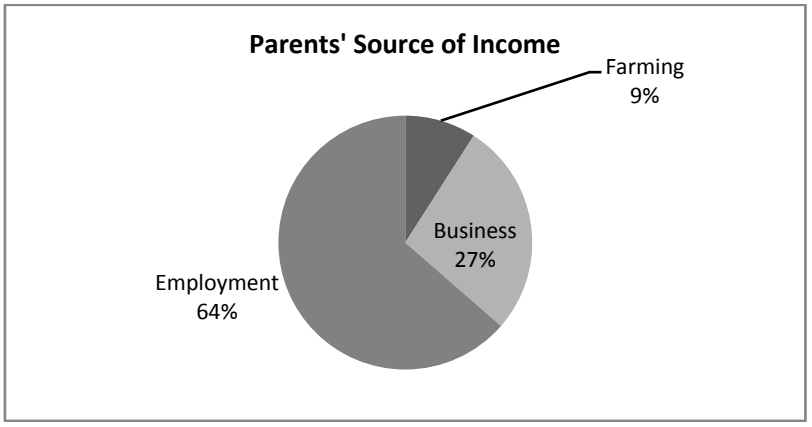

Figure 4: Parents' Source of Income

Figure 4 shows the analysis done on the data on the different types of income of the parents from the sub-county. The figure shows that most of the parents are on employment; this giving a percentage of 64%, followed by business, 27% and then lowest number of parents are farmers that constitute 9%. In relation to the types of income of the parents, Table 5 shows the data collected on the family annual income of the parents.

Table 5: Family Annual Income

Income Range	Students
0 – 10,000	0
>10,000 – 30,000	42
>30,000 – 50,000	83
>50,000 - 70,000	166
>70,000 – 100,000	291
>100,000	125
Total	**706**

The data presented in table 5 shows that a greater number of parents earn between 70,000 to 100,000 followed by 50,000 to 70,000, above 100,000, 30,000 to 50,000, 10,000 to 30,000 and then less than 10,000 that constitutes 41%, 23%, 18%, 12%, 6% and 0%, in percentages, respectively.Further, data related with the parents' finances was collected and presented in Table 6.

Table 6: Family Financial Relationships and Details

Financial Relationships and Details	Yes	No
Do the annual earnings enough to cater for the studies?	212	494
Family getting financial support?	101	605
Family financial status affecting studies?	584	122

The analysis of the data presented in Table 6was analyzed and the results presented in Figure 5.

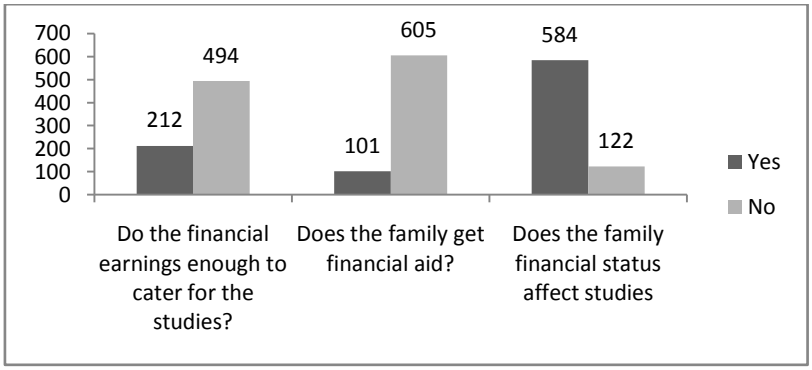

Figure 5:Family Financial Relationships and Details

Figure 5 shows the effects of financial status of the parents and the view of students on how they affect their studies. It can be noted from the figure that the parents' financial earnings are not enough to cater for their studies and there are no enough financial aids fromwell-wishers. This is evident from the figure that it affects the performance of the students. This is evidenced from the figure since 584 students out of 706 (83%) agree that their parents income affect their studies. Further, there is no enough financial support as 605 students out of 706 (86%) exclaims from the findings. This leads to performance being affected negatively as evidenced by the findings where 584 students out of 706 (83%) point out.

4.3 Parents' Educational Level

Parents' educational level was another aspect that was investigated and the results are presented in Table 7.

Table 7: Parents' Highest Level of Education

Financial Relationships and Details	Father	Mother	Total
University	123	73	196
Diploma	181	70	251
High School	93	149	242
Primary School	210	275	485
Never Attended	5	135	140

The data presented in Table 7 was analyzed and presented in Figure 6.

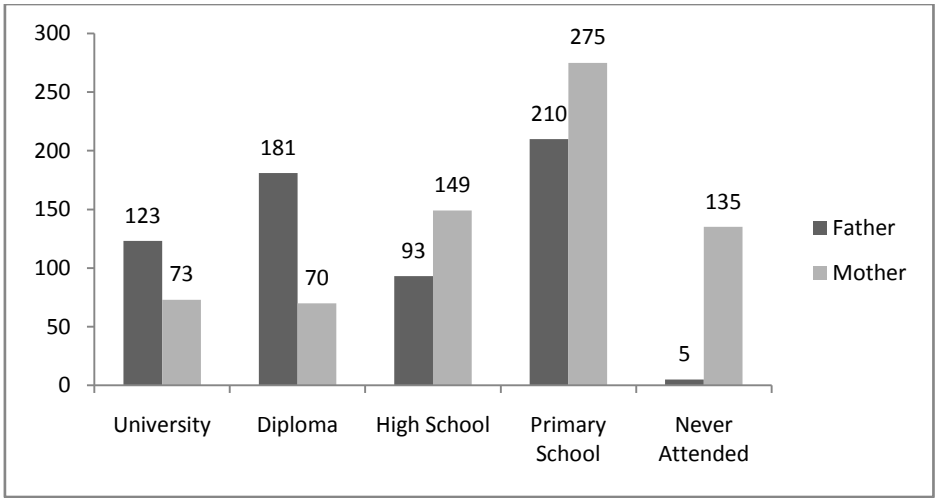

Figure 6: Parents' Highest Level of Education

Figure 6shows that male are more educated than the ladies. This is evidenced by the series for university and diplomas where the fathers have a greater number as compared to the mothers.

The mothers have a greater number at the lower levels which include high school, primary school and those never attended school.

4.4 Inferential Statistics

Inferential statistics was done on the data collected where in particular multiple regression was done. This was done to investigate on the factors influencing the performance of students in public secondary schools.

4.4.1 Regression Analysis

The main purpose of multiple regression is to learn more of the relationship between several independent variables and a dependent variable. The Statistical Package for Social Sciences (SPSS) was used to code, enter and compute the measurements of the multiple regression for the study. The regression model that was used was;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

After the regression analysis done, the coefficients $\beta_0, \beta_1, \beta_2, \beta_3 and \beta_4$ had the values as summarized in the Table 8.

Table 8: Regression Coefficients Summary

Independent variable	Coefficient
(Constant)	5.147270714
Parents' marital status (X_1)	1.26170693
Family socio-economic status (X_2)	1.460774283
Parents' educational level (X_3)	0.552751633

Therefore, the regression model equation becomes;

$$Y = 5.147270714 + 1.26170693X_1 + 1.460774283X_2 + 0.552751633X_3$$

The regression equation above established that by taking all the factors (parents' marital status, family socio-economic status, and parents' educational level) into account, then by keeping them constant at zero, student performance will increase by 5.147270714. Also for a unit increase in parents' marital status, family socio-economic status, and parents' educational level, then student performance would increase by 1.26170693, 1.460774283, and 0.552751633 respectively. This infers that family socio-economic status determine student performance to the greatest extent, followed by parents' marital status, parents' educational level and to the least extent, the family size.

4.4.2 Spearman's Rank Correlation Analysis

The Spearman's rank correlation analysis was done to compare the relationship between parents' marital status, family socio-economic status, and parents' educational level with the students' performance. The students' view on whether the variables affected their performance was given marks. Those agreed were given mark 1 while those disagreed, mark 0. Further, the variables were given codes as follows; Marital status (MS), Socio-Economic status (SE), and Educational level (EL). Table 9 shows the coding for the views of the respondents.

Table 9: Coding for the view of the respondents towards students' performance

Respondents View	Marks (M) allocated
Yes	1
No	0

Table 9 shows the data on the view of the respondents towards the effects of the students' performance. Using SPSS, the Spearman's rank correlation was analyzed and the results presented in Table 10.

Table 10: Spearman's Rank Correlation Analysis

Marks (M)	MS	SE	EL	FS	Rank M	Rank MS	Rank SE	Rank EL	Rank FS
1	280	459	106	342	2	1	2	1	1
0	426	247	600	364	1	2	1	2	2
Marital status Spearman's Rank Coefficient							-1		
Socio-Economic Spearman's Rank Coefficient							1		
Education Level Spearman's Rank Coefficient							-1		

The values of the Spearman's rank correlation shown in Table 10 were generated by the SPSS software used during analysis. The correlation analyses expresses the strength of linkage or co-occurrence between two variables in a single value between -1 and +1, which are referred to as the correlation coefficient. A positive correlation coefficient indicates a positive relationship between the two variables while negative correlation coefficients express a negative relationship. Therefore in this case, parents' marital status and education level have a negative relationship with the student's performance. The family socio-economic status has a positive relationship with the student's performance.

5. Conclusion

Different factors which include parents' marital status, family socio-economic status, and parents' educational level among other factors were presented in this paper. Thesefactors were analyzed and presented in graphical forms. From the analysis, it's evident that different factors affect the student performance differently.In this case, the family socio-economic status took the lead, followed by the marital status, and parents' educational level. Based on the inferential statistics, the effect of family's socio-economic status, parents' marital status, and parents' education level influenced the performance of the students at different strengths which include 1.460774283, 1.26170693, and 0.552751633 respectively. The study was objectively conducted under the guidance of determining the effects of the stated factors on students' performance in public schools. The parents' marital status, socio-economic status, and parents educational level were identified as well as their effect to the students' performance hence the achievement of the objectives.The study was conducted in public secondary schools on Machakos sub-county. This paper therefore recommends a similar study be conducted in the same sub-county but involving the students in private secondary schools and the results compared. Further the research can be conducted in the neighboring sub-counties in Machakos County and the results compared to determine the extent in which the factors affect the performance of the students in a wider perspective.

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