Socio-demographic Correlates of Academic Achievement Among Kenyan Adolescents

Article · January 2010

CITATIONS
0

READS
159

2 authors, including:

Immanuel Thomas
University of Kerala

33 PUBLICATIONS  88 CITATIONS

All content following this page was uploaded by Immanuel Thomas on 26 February 2015.

The user has requested enhancement of the downloaded file. All in-text references underlined in blue are added to the original document and are linked to publications on ResearchGate, letting you access and read them immediately.
Socio-demographic Correlates of Academic Achievement Among Kenyan Adolescents

Jessina, M. Muthee* & Immanuel Thomas**

INTRODUCTION
Academic achievement is the most general and one of the widely explored concepts in differential psychology. For many years, intelligence has been considered to play a major role in prediction of academic performance (Gupta, 1993). Some theorists have even assumed a perfect correspondence between the two variables.

Researchers like Cronbach (1949), Gough (1953), Carter (1959), Ashtington (1960), and Agarwal (1964) have reported a correlation coefficient in the range of .30 to .80 between intelligence and academic performance. The contention that cognitive abilities predict academic performance is well documented (Chammorro-Premuzic, 2007). However, researches carried out during the last decade have shown that academic achievement is not completely attributable to a single factor like intelligence, but to a host of other relevant factors like socio-economic status, home environment, gender, and the type of school.

Recent studies have highlighted that IQ rarely account for more than 50% of the variance in academic achievement (Chammorro-Premuzic & Furnham, 2004; O’connor & Paunonen, 2007), suggesting that factors other than cognitive ability contributes to individual differences in academic achievement.

Summarizing the findings of the relevant research literature presented above, it may be reasonable to conclude that both cognitive and non-cognitive domains may have an impact on the academic achievement of adolescents. However, Kenyan studies on this issue is found to be rare. A few studies that are available are found to be related...
to achievement in specific subjects like Science (Orodho, 1996), and technical subjects (Nishimura & Orodho, 1999). However, none of these studies were aimed at identifying the significant role played by non-cognitive variables like socio-economic status, home environment, gender, and type of school. It was in this context that the present study was undertaken, with an aim to explore the impact of certain social factors, viz., socio-economic status of the family, home environment, gender, and type of school on academic performance of Kenyan adolescents. A brief review of the extant research linking these variables is presented below.

Gender differences in academic performance have been subjected to a lot of researches (Lemanna & Riedman, 2000). In their study on mathematical achievement of adolescents, Maccoby and Jackline (1974) found that performance depends on both gender and age of the respondents. In the second grade, girls performed better in maths, whereas, from sixth grade onwards, boys did better.

In an analysis of academic achievement of children in Japan, Taiwan, and U.S., Lummis and Stephenson (1990) found no evidence for overall sex differences in attitude towards mathematics, or on a general test of mathematics achievement. Similarly, Fennema et al. (1998) found no sex differences in overall performance in arithmetics, but succeeded in identifying some differences in approaches used by the two gender groups in solving problems.

Sunetha and Mayuri (2001) conducted a study to identify the age and gender differences on factors affecting high academic achievement. The results showed that there are no significant differences between boys and girls with respect to IQ dimensions, but boys differed significantly in drilling, interaction set, and language dimensions.

An individual's genetic makeup equips him or her with potentialities, but the environment in which he or she develops is crucial in determining behavior. With regard to academic achievement, the relevant environmental variables are family atmosphere, parental attitudes, parenting styles and socio-economic status of the family.

Parental attitudes play a crucial role in determining the physical and mental health of a child. This has been confirmed by both theoretical and empirical research. Every interaction of a child with his or her parent has some effect on the present behavior and also the disposition for future action (Sears 1957).

It has been observed that, the higher the positive interaction between the parents and their children, the higher would be the academic performance (Manhas & Dhingra, 2009). It has been found out that children reared in families characterized by parental warmth, fairness, and monitoring have higher academic achievement than children who come from highly controlled families or unsupervised ones (Sternberg, 1996). Uninvolved parents can undermine the adolescents interests in school work and school activities (Sternberg, 1996). Authoritative and permissive parenting has been associated with poor academic grades, poor college adjustment, and low self-esteem (Lumborn et al. 1991).

The quality of parental care and home background of children goes a long way to predict the quality and level of satisfaction over provision of their needs relating to functional survival and academics (Basil, 2007). Poor parental care, combined with gross deprivation of socio-economic needs of a child, usually results in poor academic performance of the child.

Magdol (1992) and Ekstrom et al. (1986) observes that an adolescent from a low socio-economic status home is more likely to exit from school before finishing and less likely to attend college. Good parenting along with stable economic home background has been found to enhance academic performance of the children (Basil, 2007). Hassan (2009) established from her longitudinal study that there is a positive association between the children's grades and their parents' labour market. Similarly, living in high quality neighborhood has also been found to be associated with better performance (Eamon, 2005).

BandurS (1997) notes that parents contribute to their children's intellectual growth in a
variety of ways, viz., placing high value on education, preparing children for the school, conveying beliefs in their children's scholastic ability setting standards for them establishing regular work habits for them, encouraging language development and comprehension through reading, keeping track of academic progress, rewarding their efforts, supporting teacher related functions, etc.

With regard to the relevance of type of school in academic achievement of students, there is evidence to infer that schools that are better equipped and staffed produce students with high grades. For example, Somerset (1974) undertook a survey of career and educational aspirations among secondary school students in Kenya to determine whether students attending schools of different quality had different career and educational aspirations. His findings indicated that three quarters of the students from poorly staffed and equipped schools did not hope to pursue education beyond secondary school level.

Earlier, Foster (1965) and Clignet (1966) had found that students who attended good quality schools in Ghana and Ivory Coast respectively, had higher educational aspirations than their colleagues who attended poor quality schools. Similar findings were reported by Achola (1987) when he examined the educational aspirations of Zambian Youths attending schools of varying quality.

Boyle (1962) investigated the effect of differences in the quality of high schools in the career aspirations of students in Western Canada. The findings revealed that students who attended good schools had higher educational aspirations and expectations. Hypothesis

The study was designed to test the tenability of the following hypotheses:
1) Academic achievement is significantly related to the following environmental variables: Educational level of the father and mother, monthly income of the family, overall socio-economic status of the family, number of sisters and brothers of the respondent, and home environment.
2) There are significant gender differences in academic achievement.
3) There is a significant difference between pupils studying in private and public schools in academic achievement.

METHOD

Sample

The subjects for the study comprised of 200 standard eight pupils (101 boys and 99 girls) studying in various primary schools in Nairobi city, Kenya. While selecting the sample, adequate representation has been given to aspects like type of management (public/Private) of school. The age of the subject were 12+. The break of the sample is presented in Table 1.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>54</td>
<td>47</td>
<td>101</td>
</tr>
<tr>
<td>Girls</td>
<td>46</td>
<td>53</td>
<td>99</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

Tools

1. Home Environment Scale: A 30 item scale developed by the present author (Muthee, 2009a) has been used to assess several aspects of parental involvement in the child's school work at home. Two popular parental involvement scales were considered for development of the inventory, viz., the Hoover - Dempsey and Sandier (2005) model of parental involvement scale and Illinois State Board of Education (1994) parental involvement inventory. Some of the items in the present instrument have been adapted from the above scales with suitable modifications, while others were newly developed. All the items included in the scale have high discriminative power as evidenced by item analysis of the draft scale. Cronbach alpha computed for the scale was found to be 0.715, indicating satisfactory reliability for the scale. As far as validity is concerned, it is to be noted that the inventory claims content validity as it is prepared on the basis of an extensive review of literature and also because
of the fact that it is modeled after well known inventories meant for measuring parental involvement in the child's school work at home.

2. General Information Schedule: A 13 item scale intended to collect general information about the learner's socio-economic status was developed by the present author (Muthee, 2009 b). Since socio-economic status differ from country to country, it is not possible to adopt any scale from alien countries. Since standardized tools were not available for use with Kenyan respondents, the present researcher decided to develop a new scale in connection with the present study. For this purpose, an exhaustive review of literature and consultation with experts were done. A perusal of scales used for measuring socio-economic status elsewhere was also done and on the basis of these, the researcher was able to identify several dimensions of socio-economic status, viz., educational level of the parents, housing type of the family, monthly income, occupational status of the parents, household possessions, employees by the household, amount of money spent by the household on newspapers and periodicals, etc.

The items were weighted on a scale of 1-10 according to their importance in determining the socio-economic status of the subjects. The item scores multiplied with the weights were then summed to get the total score. These scores were converted to Z - scores and then to T- scores. The reliability of the scale was established by computing Cronbach Alpha which was found to be .903. The systematic procedure followed in the development of the test helped to ensure it's validity.

3. Measure of academic achievement:
The overall marks obtained by students for in the class examination of various subjects were collected from school records. The scores were then converted into percentages and were used as indices for academic achievement.

Statistical Techniques:
The major statistical techniques used for analyzing the data were Pearson r and t - tests and the results obtained using these techniques are detailed below.

RESULTS

Correlation analysis and t - tests were conducted in order to find out the relationship between socio-demographic variables and academic achievement. The results obtained are summarized in Tables 2 to 4.

The results of the correlation analysis depicted in table 2 shows that overall socio-economic status of the family has significant positive correlation with academic achievement (r = 0.312; P< .01). The different components of socio-economic status, viz., educational level of the father (r = 0.290; P< .01), education of the mother ( r = 0.272; p< .01), monthly income (r = 0.352; P< .01), and occupational status of the father (r = 0.218; P< .01), when taken separately also showed significant positive correlations with academic performance. In addition, home environment showed low but significant positive correlation (r = 0.141; P < .05) and number of brothers of the respondents a low significant negative correlation ( r= -0.147; P<.05) with academic achievement. It is also interesting to note that the number of sisters of the respondents and occupational status of the mother failed to show significant correlation with academic achievement.

Table 2: Correlation of Academic Achievement with familial variables (N = 200)

<table>
<thead>
<tr>
<th>Familial Variables</th>
<th>Pearson r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of brothers</td>
<td>-.147*</td>
</tr>
<tr>
<td>Number of sisters</td>
<td>-.057</td>
</tr>
<tr>
<td>Education of the father</td>
<td>.290**</td>
</tr>
<tr>
<td>Education of the mother</td>
<td>.272**</td>
</tr>
<tr>
<td>Monthly income</td>
<td>.352**</td>
</tr>
<tr>
<td>Occupational status of the father</td>
<td>.218**</td>
</tr>
<tr>
<td>Occupational status of the mother</td>
<td>.098</td>
</tr>
<tr>
<td>Overall socio-economic status of the family</td>
<td>.312**</td>
</tr>
<tr>
<td>Home environment</td>
<td>.141*</td>
</tr>
</tbody>
</table>

* Significant at .05 level, ** Significant at .01 level

For investigating the relationship of type of school and gender with academic achievement, t-tests were conducted on the mean achievement scores obtained by the sub-groups. Details of t-tests presented in table 3 shows that private school obtained a mean score of 71.22% for marks while
students of public schools obtained 60.26%. The t-values relating to the difference in means is 5.884, which is significant at .001 level, this indicates that private schools are significantly different from public schools in academic performance. With regard to gender differences in academic achievement, table 3 shows that boys obtained a mean of 66.96% marks while girls got a mean of 64.49%. The t-value relating to the difference in means is 1.226 which is not significant. This indicates that there is no gender difference in academic performance.

Table 3: Details of t-tests done on Mean academic achievement obtained by Sub-groups based on type of school and gender of the respondents

<table>
<thead>
<tr>
<th>Grouping variable</th>
<th>Groups</th>
<th>N</th>
<th>Mean achievement</th>
<th>Standard Deviation</th>
<th>t-value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of school</td>
<td>Private school</td>
<td>100</td>
<td>71.22</td>
<td>11.69</td>
<td>-5.884</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Public school</td>
<td>100</td>
<td>60.26</td>
<td>14.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender of the respondent</td>
<td>Boys</td>
<td>101</td>
<td>66.96</td>
<td>12.60</td>
<td>1.226</td>
<td>.222</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>99</td>
<td>64.49</td>
<td>15.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

The results indicate that most of the familial variables correlated positively and significantly with academic performance. Among the different variables that correlated significantly with academic achievement are number of brothers of the respondent, education of the father, education of the mother, monthly income, overall socio-economic status of the family, and home environment. Monthly income had the highest coefficient of correlation (r = .352, P < .01). This confirms the findings by Mba (1991), and also Dach, Morberto and Maia(2006) who reported that parental income was a cogent factor upon which the academic and vocational success of students lie. The possible reason for this is that parents with more money send their children to better schools with better facilities for learning. The material needs of the children are also met adequately which may help in their studies.

The results also indicate that the occupational status of the mother did not have a statistically significant relationship with academic achievement, while that of the father did. This might be attributed to the old cultural practice in the Kenyan society where women were expected to be just home makers and were not expected to go for professional jobs. Men used to take most of the decisions at home including guiding children with the school work. Most mothers ended up in low status jobs and were not considered as role models for children.

Number of brothers at home correlated inversely and significantly with academic performance while number of sisters did not. This finding is consistent with that of circirelli (1967) who reported that families with two brothers had poor IQ and reading scores when compared with families having at least one sister. The possible reason for this could be that, the more the boys at home, the more the distractions from academic oriented activities for other activities. On the other hand, girls mature earlier than boys and social restrictions are placed on them when they try to gain autonomy. This may make them more controlled, and hence, are less distracted from academic work.

The results of t-test which investigated the relationship between type of school and gender with academic achievement indicated that there is no gender difference in academic performance, while significant differences existed between students studying in public and private schools.

The present study points to certain important implications for educationists and guidance workers. It has been widely recognized that non-cognitive variables like, socio-economic status and familial variables are liable to modifications easily when compared to cognitive variables. This indicate that social welfare measures of the government can have positive impact in the academic achievement of children. Significantly better academic achievement obtained by the students belonging to private sector imply that the facilities and set up of
the government sector schools need to be improved to achieve better results. More detailed studies may be undertaken to find out what are the impediments to good results in the government sector schools.

References


