

Full Length Research Paper

Gender differences in self-concept and academic achievement among visually impaired pupils in Kenya

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Variation in self concept and academic achievement particularly among the visually impaired pupils has not been conclusively studied. The purpose of this study was therefore to determine if there were gender differences in self-concept and academic achievement among visually impaired pupils in Kenya .The population of the study was 291 visually impaired pupils. A sample of 262 respondents was drawn from the population by stratified random sampling technique based on their sex (152 males and 110 females). Two instruments were used in this study: Pupils' self-concept and academic achievement test. Data analysis was done at $p \leq 0.05$ level of significance. The t test was used to test the relationship between self-concept and achievement. The data was analyzed using Analysis of Variance (ANOVA) structure. The study established that there were indeed gender differences in self-concept among visually impaired pupils in Kenya. The study therefore recommend that the lower self-concept observed among boys should be enhanced by giving counseling and early intervention to this group of pupils with a view to helping them accept their disability.

Key words: Self concept, visually impaired pupils, gender differences, academic achievement.

INTRODUCTION

Gender, historically, has been one of the most important contributors to the variance in children's and adolescents' self-concept, and undoubtedly will continue to be examined in future research. However, gender as a moderator of multidimensional self-concept should perhaps receive less emphasis than other variables such as effects of pubertal changes or societal attitudes that contribute to gender differences. As female members of society continue to experience expanded roles and success in the workplace and in the recreation/sports arena, there may be changes over time in the self-concept formation of young girls (Purkey, 1997).

The largest and most consistently found difference in gender is the divergence between boys' and girls' perceptions of their physical ability self-concept. Boys consistently report higher self-concept in this area across all age groups. Physical appearance self-concept, when it is measured separately, presents a somewhat more complex phenomenon. Boys and girls tend not to differ in their physical appearance self-concept during the primary school years. However, boys consistently rate

themselves more positively than girls in this area with the advent of adolescence. A number of possible explanations exist, with the most likely being different societal expectations placed on male and female appearance of which children do not become completely cognizant until the advent of adolescence (concurrent with pubertal changes and the beginning of opposite-sex relationships). For example, both men and women tend to view physical attractiveness as more important for women as a means of attracting a mate, but focus on other qualities such as financial status for men (Pierce and Warde, 1996). Again, however, the magnitude of these differences in both boys' and girls' self-perceptions in these areas do not necessitate a call for action on the part of educational and clinical personnel. Boys and girls tend to be much more similar than different when it comes to multidimensional self-concept.

In contrast, other studies have suggested that visually impaired children are not at more risk of developing low self-concept than sighted counterparts (Alexander, 1996; Griffin-Shirley and Nes, 2005; Pierce and Wardle, 1996). Comparative studies of blind and sighted adolescents found no differences in self-concept and established that the relations with friends contribute significantly to the improvement of visually impaired young people's self-

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concept. Huurre et al. (1999) carried out research in India with a sample of 100 students aged between 13 and 14 years (50 blind females and 50 sighted males). Results revealed no differences in the self-concept of both groups. In the same direction, a study from the University of Hong Kong (Fok and Fung, 2004) in which 115 subjects (52 blind and 63 sighted) participated, showed that, in general, both visually impaired and sighted people present similar levels of self-esteem and self-concept. Griffin-Shirley and Nes, (2005) did not find significant differences between 71 students with visual impairments and 88 sighted in their levels of self-concept. In Spain, some studies (Lopez-Justicia et al., 2000; Lopez-Justicia et al., 2001) reported that visually impaired young people present lower levels of physical self-concept and are less self-critical than are sighted people, but no differences were observed in the other dimensions (social, moral, family, and personal). In subsequent studies (Lopez –Justicia et al., 2005) carried out a study with 34 subjects, aged between 8 and 11 years, 17 of whom were congenitally blind and 17 were sighted, found no differences in the global self-concept of both groups.

Some investigations have attempted to determine whether there are gender differences in self-concept of visually impaired men and women. In Portugal (Paulinelli & Tamayo, 1986), the results of 52 adolescents, mean age of 16 years (23 female and 29 male, 25 blind and 27 sighted) were analyzed, revealing that the sighted males scored higher in self-concept than the females, but there were no differences in the blind subjects as a function of gender in any of the self-concept factors. However, in another investigation carried out with visually impaired adolescents aged between 12 and 17 years (Lopez-Justicia and Pichardo 2005), the results showed that the females scored lower in the social self-concept dimensions and higher than the males in physical self-concept. A previous study of Rasonabe (1995), which compared gender differences in blind men and women, concluded that the women obtained higher scores in self-identity, physical, family, and social self-concept, and the men scored higher in self-satisfaction and moral-ethical self-concept.

Marsh and colleagues, using age range from preadolescence to the adolescence, have found consistent gender differences in domain-specific self-concepts of Australian students, although the direction of the differences varies by domain (and although the factor structure for boys and girls is relatively invariant across the age range (Marsh et al., 1988; Marsh, 2002). Most notably, these studies have revealed that preadolescent boys (Grades 2-5) have higher self-concept than girls in the areas of Mathematics, general self, physical appearance and physical abilities, whereas girls have higher self-concept in the areas of reading and general school (Marsh, 2002).

During the adolescent years (Grades 6-10), girls tend to score higher than boys in the domains of verbal, honesty-trustworthiness, and same-sex relations, whereas boys tend to have higher scores in physical abilities, physical appearances and Mathematics. Smaller differences have been found in General School and Academic scales (favoring girls), and General Self and Emotional Stability scales (favoring boys) (Marsh et al., 1988; Marsh, 2002).

Because self-perceptions of young girls and boys tend to run along traditional sex stereotype lines, we may be tempted to believe that gender is a major moderator of self-concept responses among children. However, a cautious view of this hypothesis is necessary. Marsh, (2002) noted that, for responses of 3,562 Australian students who made up the normative sample of the Self Description Questionnaire Inventory (SDQI), observed gender effects were very small and accounted for only 0.66% of the variance in total self-concept scores and for less than 2% of the variance of any one subscale score that showed gender differences. Only the sex effect in Physical Abilities accounted for more than 3% of the variance. Similar percentages were reported in Purkey, (1997) (also utilizing the SDQI) and in Marsh et al., (2003), a study that utilized the SDQI with adolescents.

It is important to remember; however, that the divergence between boys and girls in these self-concept domains is not very great and thus, has limited educational settings and we should embark immediately on developing programs to improve adolescent girls' physical appearance and ability self-concepts in an effort to bring them more "up to par" with boys' perceptions in these domains. It appears from the literature that, by and large, boys and girls are clinically more similar than different on measures of domain-specific self-concept. The small differences that exist tend to be consistent with gender stereotypes.

With regard to other personality traits, Scholl (1995) stated that visually impaired youths manifest some difficulties in their social behaviour, such as more dependence on others, lack of initiative, less aggressiveness, or more anxiety. Some studies have shown a relation between neurotic symptomatology and people with some impairment, concluding that behaviour problems in blind children and adolescents are mostly the product of external factors such as family environment, institutionalization and sighted peoples' reaction to the blind (Scholl, 1995). The findings may not be conclusive for Kenya, given environmental uniqueness. The purpose of this study was therefore to determine if there were gender differences in self-concept and academic achievement among visually impaired pupils in Kenya. The study was based on the following hypotheses:

H01: There is no significant difference between male and female visually impaired pupils' mean scores on self-concept.

Table 1. Population and Sample Frame

Programme	Population	Sample	Percentage
Special	168	152	90.48
Integrated	92	82	89.13
Inclusive	31	28	90.32
Total	291	262	90.03

HO2: There is no significant difference between male and female visually impaired pupils' mean scores in academic achievement.

HO3: There is no significant difference between male and female visually impaired pupils in self-concept and academic achievement when placed in either special, integrated or inclusive programme.

RESEARCH METHODS

In this study a t-test was used to test the relationship between self-concept and academic achievement among visually impaired pupils in Kenya. The main objective was to evaluate gender differences in self-concept and achievement in special needs education primary schools in Kenya. The intervening effects of sex and visual impairment relationship was of interest, since the independent variables had occurred already. Independent variables were academic self-concept, sex and visual impairment. The dependent variable was academic achievement. Sex had two levels that is male and female, visual impairment had two levels, namely low vision and totally blind. Academic self-concept also had two levels; that is high achievers and low achievers. Using different categories of pupils the Analysis of Variance (ANOVA) was used to enable an investigation of the interaction effects of between and within of sex, academic self-concept and achievement. The population of the study consisted of 291 Class eight pupils, of which 210 were partially sighted and 81 totally blind. This number included 168 Class eight pupils in special school programme, 92 pupils of Class eight in integrated programme and 31 pupils in inclusive setting. A stratified sampling technique was used and a sample size of 262 was chosen; this included 152 respondents in special schools, 82 in integrated programme and 28 in inclusive programme. The pupils were categorized as low vision or totally blind. Low vision pupils were tested for visual acuity using the Snellen chart. The population and sampling frame is shown in Table 1.

The following was the selection criteria for the pupils:

- i) those aged twelve years and above at the onset of the study;
- ii) consent from parent/guardian;
- iii) child willingness to participate in the study;
- iv) visual acuity of 20/200 or less with a correction of glasses in the better eye.

Instruments that were used to collect data were pupils' academic achievement test, pupils' questionnaire for academic self-concept, head teachers' questionnaire and teacher questionnaire. Each of the instruments is described below.

Achievement was measured by researcher made Academic Achievement Test which covered the following subjects: Mathematics, English, Social Studies, Kiswahili and Science. Each subject had five items. In total there were 25 questions of multiple choice type to be answered and for each item answered correctly, 4 marks were awarded. The results were then standardized to z scores using $t = 10z + 50$. A score of 50 out of 100 was considered a pass while a score of below 50 was fail.

Self-concept was defined as the student's Self Description Questionnaire Individual evaluation tool (SDQI) measuring various domains of academic competence. The three facets of self-concept: general, academic and subject specifics were measured by Shavelson Evaluation Model Instrument (Shavelson, 1990). The instrument consisted of fifty items, which required the respondent to tick or mark the appropriate answer. Each item used a 5-point likert type scale format that ranged from strongly agree to strongly disagree, indicating the extent to which the respondent agreed or disagreed with self-descriptive statements related to their academic competence. With the realization that this instrument had not been used so far for pupils who are blind, a pilot study was done in order to identify and change those items that could appear to be unclear or difficult for the pupils to answer. The self-concept was therefore measured by percentage scores.

According to Shavelson (1990) this test is easy to administer, self-explanatory and can easily be understood by pupils of all grades. A score of strongly agree was marked 5 and strongly disagree marked 1. In negative items, this was reversed to avoid dishonesty in answers given. The results were then standardized to z-scores using $T = (10z + 50)$. The total score was marked 100 and any score of fifty and above was considered high (L1) and below fifty considered low (L2).

According to Shavelson (1990), psychometric properties relative to the multi component have revealed predictive validity co-efficient of 0.68 (grade 5) and 0.72 (grade 11) for these instruments. For face validity, all instruments were given to three experts in the area of study for review if they captured what the study was intended to do. The instruments were then corrected by incorporating the views of these experts.

A pilot study was undertaken in one of the schools not included in the study and this included 29 pupils. These children had a wide range of abilities and visual impairments, and were of the same age range and from similar background as those that were used in the study. After the pilot study it was possible to determine which researcher made items pupils answered with ease and which ones they found confusing. The items found confusing were restructured to reduce the ambiguity and therefore enhanced the suitability and reliability of the study. Split-half approach was then employed in order to establish the level of reliability which was computed.

All procedures based on the analyses of variance structure were conducted. In order to facilitate interpretation, negative items were reversed such that high scores represented high positive perception. On the basis of these analyses, latent correlation: on academic self-concept and achievement was tested. Academic self-concept was described best by three factors (general self-concept, academic and subject specific). A score of fifty out of one hundred for Self-concept was considered a pass, while a score below fifty failed. For achievement scores, the pass mark was also fifty out of one hundred and any score below fifty was considered as fail. The mean and standard deviation was used to indicate how widely spread values are from the mean. Data analyses at $p \leq 0.05$ level of significance were tested. F test was used to test the statistical significance of the postulated null hypotheses. Simple frequencies and percentages were calculated to enable an investigation of comparison on the responses of various groups for each question or item. ANOVA was used to measure the interaction effect of the dependent and independent variables.

RESULTS

HO1: There is no significant difference between male and female visually impaired pupils mean scores on self-concept.

Table 2. Comparison of self –concept scores with gender

Self-concept scores	Sex		Total
	Male	Female	
10 –19	4	2	6
20 –29	12	8	20
30 –39	24	12	36
40 –49	38	26	64
50 –59	17	15	32
60 –69	16	17	33
70 –79	14	10	24
80 –89	15	14	29
90 –99	12	6	18
TOTAL	152	110	262

Table 3. Average performance on self-concept

Sex	Mean	Variance	sd
Male	54.434	21.536	4.641
Female	56.409	20.293	4.505

Table 4. comparison of achievement scores with gender

Achievement scores	Sex		Total
	Male	Female	
10 – 19	5	0	5
20 – 29	9	3	12
30 – 39	12	6	18
40– 49	18	14	32
50 – 59	32	26	58
60 – 69	25	27	52
70 – 79	39	26	65
80 – 89	11	6	17
90 – 99	1	2	3
TOTAL	152	110	262

Comparison of self-concept scores with gender

Self concept scores are compared across gender as shown in Table 2.

Table 2 shows that females performed better in self-concept as compared to male pupils. Taking a score of fifty and above as high, female respondents were (62) translating to 56.5217% against males of (74), translating to 48.7179%. When the mean of their self-concept was calculated, it was found that males averaged 54.434 and females averaged 56.409. Further analysis of variance and standard deviation (sd) of the scores for males was found to be 21.536 and 4.641 respectively while that of females was 20.293 and 4.505 respectively. This is summarized in Table 3.

From the summary it was noted that girls performed better in self-concept scores and therefore the null hypothesis was rejected and the alternative hypothesis accepted.

HO2: There is no significant difference between male and female visually impaired pupils mean scores in academic achievement.

Comparison of achievement scores with gender

Table 4 shows that females performed better in achievement scores as compared to boys. Scores of 50 and above in column one, are 87 subjects (females) which translates to 79.4872% compared to 108 (males)

Table 5. Average performance on achievement scores

Sex	Mean	Variance	sd
Male	57.855	18.243	4.271
Female	60.864	14.692	3.833

Table 6. Gender distribution per programme

Sex	Special Programme	Integrated Programme	Inclusive Programme	Total
Male	89	43	20	152
Female	63	39	8	110
Total	152	82	28	262

Table 7. Gender difference in self-concept and achievement

Sex	Sample n	\bar{X}	df.	Calc. Value	C.V.
Male	152	68.004	150	4.38	1.96 /2.58
Female	110	59.915	108	4.71	1.96 /2.58
Total	262				

translating to 71.1111%.

When the mean of achievement scores was calculated using the grouped frequency formulae, the mean scores for females was found to be 60.864%, while that of males' mean scores were 57.855%. Further analysis was done on calculation of the variance and the standard deviation of the two groups, males had a variance of 18.243 and a standard deviation of 4.271. Females had a variance of 14.692 and a standard deviation of 3.833. This is summarized in Table 5.

Females performed better in achievement test than males. It was therefore decided to reject the null hypothesis and accept the alternative hypothesis.

HO3: There is no significant difference between male and female visually impaired pupils in self-concept and academic achievement when placed in special, integrated or inclusive programme.

Further analysis of gender was done separating both males and females according to each programme namely; special, integrated and inclusive and is presented in Table 6.

The study attempted to determine if there were sex differences in self-concept and achievement among visually impaired pupils by testing hypothesis 3. In this case the number of pairs n was 152 for male respondents and 110 for female respondents, taking (n-2) as the df being 150 for male respondents and 108 for the female respondents. Where n referred to the number of pairs of scores that is self-concept and achievement. The calculated value was found to be 4.71 for females and 4.38 for males. In the table of critical value, two critical values of $p \leq 0.05$ and $p \leq 0.01$ was 1.96 and 2.58 for the two sets, males and females. In both cases the

calculated value was found to be greater than the two critical values at $p \leq 0.05$ and $p \leq 0.01$ on the table of values, therefore the null hypothesis was rejected and the alternative hypothesis taken, that is there was gender difference in self-concept and achievement among visually impaired pupils. The results are summarized in Table 7.

DISCUSSION

Results of the study indicate that there are gender differences in self-concept among visually impaired pupils. Girls scored higher than boys in self-concept and hence in achievement test. The results contradict the study done by Maritim (1984) and Kamau, (1986) whose studies indicated that boys have higher aspiration than girls. Muthoni, (1998) in her studies indicated that in Kenya the education for girls lagged behind those of boys due to traditional gender- role stereotypes. Many studies, some previously noted, found differences in domain specific self- concept of boys and girls that tend to run along gender stereotype line. The physical abilities domain appears to reflect the largest difference between sexes; this is perhaps not surprising in view of the much greater emphasis on girls' participation in class and school. Physical appearance also is an area in which girls tend to have higher self-concept than boys. Hattie (1992) has suggested that the girls consider physical attractiveness to be more important than do boys, yet girls become more dissatisfied with their appearance during adolescence than do boys. She concludes that there is group of related perception among girls that

contribute to their higher self-concept in this area, including a more favorable body image, greater self-consciousness, feelings of attractiveness, more positive attitude towards their own gender, and recognition of the values society places on appearance.

It is important to remember, however, that the divergence between boys and girls in these self-concept domains is not very great and therefore, has limited clinical significance. However, it does appear warranted, for example, that educational settings should embark immediately on developing programmes to improve adolescent boys, physical appearance and ability self-concepts in an effort to bring them more up at par with girls' perception in these domains. It appears from the literature that, by and large, boys and girls are clinically more similar than different on measures of domains-specific self-concept. The small differences that exist tend to be consistent with gender stereotypes.

CONCLUSION

Gender historically has been lauded as one of the most important contributors to the variance in children's and adolescents' self-concepts, and undoubtedly will continue to be examined in future research. However, gender as a moderator of multidimensional self-concept should perhaps receive more emphasis than other variables such as effects of pubertal changes or societal attitudes that contribute to gender differences. As female members of our society continue to experience expanded roles and success in the work place and in recreation arena, we may see changes in sex roles.

Girls tended to show a higher self-concept which influenced their performance in achievement tests than their male counterparts among the visually impaired pupils.

Results from this study provide evidence that there is a relationship between self-concept and achievement. Visually impaired pupils with higher self-concept will likely have a higher achievement. Pupils who are totally blind have a lower self-concept than low vision pupils; they also tend to perform poorly in achievement as compared to pupils who are low vision.

Among visually impaired pupils, girls generally have a higher self-concept than boys.

Age factor was not taken into consideration as some of visually impaired pupils join school when they are past primary school going age; others with early intervention are able to start pre-school at the age of four.

IMPLICATIONS

A number of issues of policy and practice have emerged from this study. Consequently, the following recommendations are made to address them as follows;

i. The girl child education has been at risk due to cultural attitudes of the society and more worse if the child is blind. This study has shown that given opportunity the girl child can perform better than boys.

ii. The lower self-concept observed among boys as compared to girls may be due to adjustment time. Boys take longer time to accept their condition; this can be enhanced by giving counseling and early intervention to these group of visually impaired pupils with a view to helping them accept their disability. Early intervention will expose visually impaired boys to an enriched language environment and this might help to improve their self-concept.

iii. The findings imply that teachers of special education programmes should develop more self-concept among the boys in order to enhance their academic achievement scores since they seem to despair early in life.

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