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An Investigation into the Relationship between Self-Concept, Academic Achievement of Secondary School Learners by School Type

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Research Article

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ABSTRACT

The subject of low academic achievement appears to gain centre stage. Literature has documented the importance placed by society on high academic achievement. Various reasons have been advanced for the causes of low academic achievement. The list is endless. The study sought to investigate the relationship between school location, type and type of attendance and self-concept and academic achievement. Pearson's Correlation Coefficient was used to compute the results of a 1281 sample of secondary school learners in different school types and of varying academic ability. Results showed that there was a positive and significant correlation between school type, location and type of attendance with self-concept and academic achievement. The study concluded that school location and type were important considerations whenever placing a child. Furthermore boarding schools appeared to have significant advantages in terms of academic achievement and self-concept development. Further research was needed to uncover the characteristics and practices of schools that yielded positive results for children.

Keywords: Correlation, Self-Concept, Physical, Emotional, Social, Cognitive, Achievement, Significant, Boarding, Day, Rural, Urban

INTRODUCTION

The Zimbabwe 2012 Ordinary level examination results revealed a marginal decline in the overall pass rate from 19.5% in 2011 to 18.4%. Zimbabwe Schools Examinations Council (ZIMSEC), 2013). Considerable debate ensued with outcries of falling education standards as result of the proliferation of untrained teachers in the schools, poor resources, low level of teacher commitment due to poor working conditions, poor quality teachers, poor supervision, extra lessons which yielded nothing but poor results, poor discipline, political interference, lack of parental support for children's learning, inappropriate curriculum among other reasons. (Education, National News, 6/02/2013). In the same publication the Minister of Education, Arts, Sports and Culture, David Coltart attributed the decline in pass rate to a crisis in education following the 2005 – 2009 economic meltdown during which more than 20 000 teachers left the country leading to the loss of many teaching days and experienced staff hence poor results now. The myriad of reasons advanced by many in our society emphasises the gravity of the learners' achievement rate and the seriousness with which education is viewed by people in the country. Yet other students passed very well under the adverse conditions. It is therefore, imperative to continue the search for causes of low academic achievement to enable more and more children to achieve higher and better results. From the information outlined above, it is clear that low pass rate has been attributed to school and out of school factors among other factors. Research has documented the importance of both school and out of school factors for learning and academic achievement. (Nyagura, 1991, Nyagura & Riddell, 1991). Very little research has been carried out on the relationship between school and out of school factors and academic achievement in Zimbabwe (Nyagura, Riddell, 1991). In particular, no such research has been conducted on the relationship between school location, type and school attendance and academic achievement in relation to learner self-concepts. In view of the above, the study sought to investigate the relationship between , school location, school type and the type of attendance (Boarding or Day), self-concept and academic achievement to determine possible influence on educational achievement and to add to literature on the subject in order to understand influences on academic achievement and inform future interventions. In view of the above, academic achievement may not be simply a reflection of the learners' abilities but the learning environment in which learners find themselves. The following section examines literature on the relationship between learner self-concepts and academic achievement by school type.

The proportion of successful 'O' level candidates who pass in five or more subjects in secondary schools has dropped significantly. The high failure rate is a concern for parents, educators, educationists and the learners. Low pass rates have been attributed to poor human and material resources. It is therefore, important that further research be undertaken to find out more on the issue of under-achievement and factors related to this.

There appears to be an increasing awareness that individual differences in Intelligence (IQ) alone can no longer account for all, or even the majority of differences in learners' scholastic achievement. For example, correlations between intelligence and academic achievement declined from $r=0.70$ in elementary school, to $r=0.50$ in secondary school. (Chamorro-Premuzic & Furnham, 2005). This has led to the conclusion that individual differences in academic achievement tend to disappear with increasing years of education. Furthermore, such results have led to the conclusion that non-ability factors such as personality, self-efficacy beliefs and motivational variables become more important in distinguishing between the better and worse learners. (Chamorro-Premuzic & Furnham, 2006) Previous research in Zimbabwe focused on global issues such as resources, school factors, educator quality, family background and the school environment (Gordon, 1995; Nyagura 1991, Nyagura and Reece, 1990, Nyagura & Riddell, 1991). Further research is necessary since low achievement persists in most schools. An examination of personality factor, self-concept and its relationship with academic achievement in different school locations (urban/rural), types (government, non-government) and type of attendance (boarding/day) is necessary. This is further supported by the parents' preference to send their children to schools very far away from home, boarding schools which may cost a lot of money. Such practices appear to suggest that the type, location and type of attendance may have benefits in terms of learner learning and achievement. It is therefore imperative to investigate the relationship between school location, type and type of attendance, self-concept and academic achievement. An earlier study has already demonstrated a positive and significant relationship between self-concept and academic achievement. The study has also shown that the relationship was reciprocal. (Dambudzo, 2013). The study seeks to further examine the possible contribution school location, type and type of attendance may have towards self-concept and academic achievement. Recent evidence provides support for the notion that some measures of personality traits were good predictors of academic achievement. (Ackerman, Chamorro-Premuzic & Furnham, 2011; Chamorro-Premuzic & Furnham, 2009). It is therefore proposed to examine the personality factor, self-concept and its relationship with academic achievement by school location, type and type of attendance.

LITERATURE REVIEW

Self-Concept and Academic Achievement

Self-concept is a person's self perception gained through one's experience and interaction with the environment. It is subject to mediation by social and self-attributions. Self-concept can help in explaining and predicting behaviour. For example, a positive self-concept is often valued as a desirable outcome in many disciplines such as educational development, sports and exercise, health, social, personality psychology and academic achievement (Marsh & Martin, 2011).

A qualitative study by Gordon (1995) identified self-concept as one of the causes of under-achievement by girls in Zimbabwe secondary schools. Furthermore, a study by Urhahne, Chao, Florineth, Luttenberger and Paechter (2011) demonstrated that underestimation of the learners' performance had detrimental effects on the learners' self-concept of ability, learning motivation and test anxiety. This has led many researchers to conclude that self-concept, a personality variable, was a mediator, correlate and predictor of academic achievement. (Pinxten, De Fraine, Van Damme, D'Haenens, 2010; Marsh & O'Mara, 2008; Marsh, Hau & Kong, 2002). In view of the above, academic achievement may not be simply a reflection of the learners' abilities but their self-concept of ability. When self-concept is positive, learners feel confident and perform better but when negative, they feel hesitant and uncertain resulting in poor performance. However, the relationship between self-concept and academic achievement was only close for the academically strong and not for the academically weak. (Garzarelli, Everhart & Lester, 1993). Furthermore, a positive self-concept in a specific subject domain influenced better achievement in the same subject with negative results in other subjects because learners tended to invest much more time and effort in the one subject at the expense of the others. (Jen & Chien, 2008). It is therefore, important to examine further the relationship between self-concept and academic achievement in different school locations and types to establish the possible contribution school location, type and type of attendance may have on the academic achievement of learners.

Currently there is very little research on self-concept and academic achievement of *African* learners, and Zimbabwe in particular hence the need for further research. The study therefore, sought to extend knowledge and understanding of the various facets of self-concept such as the general, physical, emotional, social and academic/cognitive together with mediating variables: school type, school location, and type of attendance in relation to academic achievement.

Physical Self-Concept and Academic Achievement

A study of rural secondary school girls in Botswana, Mboya (1999) found no significant correlation between physical appearance and academic achievement. Similarly, in a study of self-concept of academic ability as a function of sex, age and academic achievement among African adolescents, Mboya (1998) found no significant sex differences, but significant age differences on self-concept scores and measures of English, science and history but not mathematics. He found a significant and positive correlation between self-concept and academic achievement of boys and girls in all age groups. Strongest correlations with achievement were reported for boys in mathematics and not girls.

Emotional Self-Concept and Academic Achievement

The possibility that emotions can influence learning, academic achievement and well-being have stimulated considerable research in recent years. (Efklides & Violet, 2005; Linnenbrink, 2006; Schutz & Lavehart, 2002; Schutz & Pekrun, 2007 cited by Ahmed, Werf, Minnaert and Kuyper 2010). Consequently, researchers have explored further, the antecedents and consequences of emotions in academic settings. (Pekrun, Coetz, Titz & Perry, 2002 cited in Ahmed et al., 2010). Similarly, Ahmed et al. (2010) in a study of emotions in the classroom concluded that learners' competence and value-belief appraisals determined the nature of achievement emotions. They found gender differences in mathematics related emotions. The emotions were however, context specific according to the control-value theory of achievement emotions. (Pekrun, 2006 in Ahmed et al., 2010). Control was about whether the learner felt able to tackle a curricular task while value referred to whether the learner perceived achievement as important to him or her. An imbalance between perceived capabilities and academic achievement was likely to trigger test anxiety, worry and emotionality. (Liebert & Harris, 1967 in Urhahne et al., 2011). The value system determined the level of motivation with which the learner approached tasks in school. Motivation could be intrinsic (from within) or extrinsic (from external factors). Appraisal of a task as important to the learner for its own sake (intrinsic) or for a reward, a better job or admission to higher level of education (extrinsic) determined the learner's emotions in any given situation and had a bearing on achievement. These observations have important implications for education because higher levels of competence beliefs were generally associated with higher levels of positive emotions (enjoyment, happiness, hope and pride) while lower beliefs were associated with negative emotions (anger, anxiety, hopelessness). These also depend on the school value system. The learners' competence and value beliefs determined achievement. Interventions that target learners' socio-emotional competence should always consider individual differences because improving emotion-related self-beliefs may lead to successful adaptation at school and improved peer status. The relationship was reciprocal. (Mavroveli & Sanchez-Ruiz, 2011).

Studies on the relationship between emotional self-concept and academic achievement reported that strong and negative emotions such as anxiety and depression were associated with under-achievement because they tended to reduce motivation to work while positive emotions such as excitement, enjoyment and happiness raised motivation and satisfaction leading to better academic achievement. (Brogan, 1998; Fontana, 1997; Strongman, 1996). However, small amounts of anxiety appeared to be motivational, raised confidence and academic achievement as well. (Dembo, 1994; Strongman, 1996). The study sought to add to the limited literature and our understanding of the relationship between learner self-concept and academic achievement, the role of emotions in education in different school locations, types and type of attendance. Consequently the types of emotions educators stimulate in the school or classrooms were vital for the learning and academic achievement of learners, hence the importance of the school as well as the home.

Social Self-Concept and Academic Achievement

Social relationships can influence the way persons view themselves in learning and other situations. The root of self-concept lies in family experiences. (Kaur et al., (2009). A favourable home environment comprised good parent-child relationships. The self-concept is not a finished product at birth but develops within the family with all the social norms, the education and experiences of each individual. (Kuppuswamy, 1954 cited in Kaur et al, 2009). Research with children in America and other places found that children with high self-concepts came from families where parents themselves had similar self-concepts, and treated children as responsible individuals. Such parents were more accepting, more affectionate and positive towards their children. They were interested in their children and showed it. Parents set and applied firm limits to their children's behaviour consistently. This applied to the school setting as well. Academic achievement was found to have a significant relationship with self-concept (Kobal & Musek, 2001; Trautwein et al 2006; Tracy, 2007 in Ahmed et al., 2010) and that the home environment influenced self-concept in one way or another. (Lau & Kwok, 2000; Foluke-Henderson, 2007 in Kaur *et al.*, 2009). For example, learners who became discouraged in the face of social challenges such as bullying and dislike tended to have low

self-worth and expectations of future success leading to under-achievement. (Hay, I, Ashman, and Van Kraayenoord 1998; Wiest, Wong & Kreil, (1998). Support, favourable relationships and feedback for one's academic accomplishments by parents, educators and friends contributed towards positive academic self-concept leading to greater motivation and higher scholastic performance. (Babad, 1995; Gordon, 1995; Kaur *et al.*, 2009). The value placed on academic achievement by parents and schools correlated significantly with children's perception of their competencies and academic achievement (Biehler & Snowman, 1997; Buhs & Ladd, 2001; Pettit, 1996; McGrath & Repetti. Wiest et al, 1998). Similarly, the relationship educators cultivate with their learners had an important influence on the way learners behave, their self-concepts in learning situations and overall academic achievement and in specific subjects, hence the importance of the school.

School settings that emphasised mastery, understanding, improving skills and knowledge tended to stimulate positive motivation and learning patterns. On the other hand, school environments that focused on demonstrating high ability and competition for grades only helped to increase performance of few learners while the majority experienced diminished motivation and performance. (Meece, Anderman & Anderman, 2006). Thus, family and peer networks, school environment and relationships may have an influence on learners' level of school engagement and outcomes. It is therefore, worthwhile to understand the abilities and potentialities of the child before planning education delivery. Educators need to understand the child's cognitive and non-cognitive abilities such as intelligence, creativity, personality interests, aptitudes and attitudes before they start teaching. This involves understanding the learner's self-concept, (what the learner thinks about the self), academic achievement and home environment. It is important that the relationship between social self-concept and academic achievement be investigated further.

Cognitive Self-Concept and Academic Achievement

The school context in which the learner operated also raised or lowered the learner's cognitive self-concept and academic achievement. For example, participation in high ability schools or classes tended to be associated with declines in cognitive self-concepts because cognitive self-concept was positively related to individual ability and achievement, but negatively related to the school average ability or achievement ("big fish little pond effect" theory (bflpe) advanced by Craven and Marsh (1996), is a case in point. High school environments that were successful in reducing the discrepancy between conflicting roles and learners' aspirations encouraged girls to place more emphasis on academic achievement. To this extent, it can be asked how far single sex and co-educational schools influenced fulfilment of both achievement and personal goals. (Monaco & Gaier, 1992; Akande, 1999; Ahmed, 2010). Self-comparison, cognitive self-concept and academic achievement

The learner's cognitive self-concept in a given subject or group of subjects is also influenced by comparison of their performance with that of their peers (Craven & Marsh, 1996:13). For example, a learner who scores the top mark above all his/her classmates in a given subject tends to develop a positive self-concept in the subject. If, on the other hand, one scores high marks but is not top of the class, a relatively low self-concept may result due to negative self-comparison with the peers. Similarly, self-evaluation or rating of one's competence in different subjects may lead to either a positive or negative cognitive self-concept. For example, when gifted learners perceive their science and mathematics skills and knowledge as generally above average, comparison of their performance with that in other subjects such as geography may reveal superiority in mathematics. This may lead to a high cognitive self-concept in mathematics leading to higher achievement and a low cognitive self-concept in geography and lower achievement (Martin & Debus, 1998). Such appraisals of academic competence made by learners in the form of self-reports of cognitive self-concepts have been linked with important educational outcomes such as academic motivation and achievement (Martin & Debus, 1998).

Furthermore, the school context in which the learner is operating can raise or lower the learner's cognitive self-concept and academic achievement (Marsh in Craven & Marsh, 1996). For example the "big fish little pond" theory (bflpe) advanced by Cravern and Marsh 1996), is a case in point. It says that:

Contrary to expectations, participation in high ability schools or classes will lead to declines in cognitive self-concepts because cognitive self-concept is positively related to individual ability and achievement but negatively related to the school average ability or achievement.

According to Hay *et al* (1998) the differences in achievement are the result of increased competition and more negative feedback to the learners in high achieving schools. This tends to lower the learners' self-concepts while those in low achieving schools or classes, who receive more positive feedback have their cognitive self-concepts and confidence about their ability raised leading to better performance. Consequently, they feel like big fish in little ponds.

Similarly, educators who are themselves positive and are competent in their subject areas tend to inspire their learners with confidence and raise their cognitive self-concepts in their subject areas. The opposite is also true. This is also coupled with the level of expectations of the educators in the different subjects (Dembo, 1994).

From the research findings presented above, it has been demonstrated that both gifted and less-gifted learners will have subjects they feel good and not so good about. It is therefore not surprising that a learner may feel competent in one subject area and not so competent in another. The implications of these findings are that, ratings such as above-average or below-average may not always reflect the actual performance of the learner in a given subject or group of subjects. Comparisons with the self and others, reactions to the expectations and feedback of significant others especially the educators, and the school-setting one finds oneself in, will play crucial roles in determining the cognitive self-concept that develops and eventually the academic achievement in different subjects.

Academic self-concept and achievement have been found to be mutually reinforcing each leading to gains in the other as well as extension to other domains according to the *reciprocal effects model* (REM). (Marsh & Martin, 2011; Marsh & O'Mara, 2008). For example, prior academic self-concept had direct and indirect effects on subsequent achievement. Success reinforced confidence while the opposite was generally true. Increases in academic self-concept may lead to increases in subsequent academic achievement and other desirable educational outcomes. The results have important implications for educators.

With reference to the self-enhancement model which focuses on enhancing learners' self-concepts, educators would be well advised to place more effort on improving learners' self-concepts as a way of improving academic achievement. Alternatively educators may resort to the skills development model which focuses on enhancing academic skills in order to improve academic achievement. However, improving both simultaneously would have more long lasting effects on both self-concept and academic achievement. To address one at a time would miss out on the complementary advantage and outcomes may be short lived. (Marsh & Martin, 2011). These findings underline the importance of self-concept as an important outcome variable on its own, while at the same time playing a central role in affecting other educational outcomes. This is however, true for the gifted and not the weak learners. (Garzarelli et al., 1993). For the weak learners, positive influence tends to be more noticeable for extra-curricular activities only.

Problem Statement

In view of the above background and literature review, the research problem was stated thus: What is the relationship between learner self-concept and academic achievement in different school locations, types and type of attendance in Zimbabwe?

Aims of the Research

In view of the afore-mentioned problem statement the main aim of the research was to: investigate the relationship between learner self-concept, academic achievement and school location and type in Zimbabwe.

Secondary aims were to:

- Determine the relationship between learner self-concept, and academic achievement by school type;
- Determine the relationship between learner self-concept and academic achievement by school location;
- Determine the relationship between learner self-concept and academic achievement by type of attendance.

Below are specific research problems/hypotheses that emanated from the review of literature to test the relationship between learner self-concept and academic achievement in different school location and types, and types of attendance.

Hypotheses/Research Questions

For the purposes of statistical analysis, the null-hypotheses were tested for the relationship between learner self-concept and academic achievement at the 1%- or 5% significance level by school location, type and type of attendance. The null-and alternate hypotheses for this study were presented (See Results Section):

SIGNIFICANCE OF THE STUDY

The study has important implications for educators, parents, policy makers, school managers and educational psychologists in organising conducive learning environments. The study highlighted the role of school location, type and type of attendance on learner self-concept and academic achievement. Specifically the study will inform parents and education authorities decisions on placement of learners in schools deemed appropriate in terms of raising self-

concepts and academic achievement. Finally, the study opened more opportunities for research on school influence on self-concept and academic achievement.

In view of the above background and literature review, the study investigated *the relationship between learner self-concept and academic achievement of adolescents in different secondary schools*. It was predicted that school type, location and type of attendance would correlate positively and significantly with learners' self-concept and academic achievement.

METHODOLOGY

Research design

The aim of the study was to describe learner self-concepts, and to determine the relationship between learner self-concepts and academic achievement of adolescents by school location, type and type of attendance. It was therefore decided to use the traditional quantitative methodology of measuring the relationships by means of statistical correlations. The cross-sectional survey research design was used as a means of exploring and evaluating self-concepts and academic achievement of learners in different school types and locations. The cross-sectional research design was preferred because learners who differed in academic ability, school type, location and type of attendance participated in the study. They shared the common characteristics of being adolescents attending secondary schools, and variables mentioned above. The research design allowed for description and correlation of data on self-concepts, and determination of the relationship between learner self-concepts and academic achievement at a point in time.

The research design allowed data collection from a larger number of learners than would be generally possible with experimental or quasi-experimental research designs.

Relationships between variables such as self-concept and academic achievement were determined with the help of Pearson's Product Moment Correlation Coefficient (r) without suggesting causation. (Dancey, & Reidy, 2004).

A Self-Description Inventory

Questionnaire (SDIQ) (See Appendix A) adapted from Marsh's Self Description Questionnaire (SDQ) (Marsh, 1990) was used to collect data from individual self-reports of the learners' knowledge, attitudes or behaviours in learning situations. In addition, correlation of self-concepts and academic achievement on the basis of the following moderator variables: school location (urban/rural), school type (government/non-government) attended, and type of attendance (day/boarder) was also determined as well as their contribution to self-concepts and academic achievement.

Participants

Participants were 1281 above- and below average secondary school learners. Participants were drawn from ten purposely-selected schools to represent the wide range of secondary schools by type (government: 68.9% & non-government: 31.1%), location (urban: 57.6% & rural: 41.4%), type of attendance (boarding: 24.5%; day: 74.2%). Responses were used to test hypotheses as listed above. School mid-year examination results in compulsory subjects (English, mathematics, an indigenous language (Ndebele or Shona), science and history) were used as measures of academic achievement.

Self-Description Inventory Questionnaire (SDIQ) and Measures

The questionnaire comprised 25 questions divided into two sections (Biographical and emotional self-concept scale). Questions appear on Appendix A. Responses were recorded on the response sheet, Appendix B. The first section of six questions (1-6) focused on *biographical data* namely, school location, school type and type of attendance.

The second section comprised 25 questions on emotional self-concept with a reliability coefficient of 0.80. Questions required respondents to rate themselves on emotional anxiety, depression and happiness (e.g. "I become anxious towards exam time", "Low marks generally depress me.")

Responses to questions were on a five point Likert rating scale ranging from Definitely Disagree (1), Disagree (2), Uncertain (3), Agree (4) and Definitely Agree (5).

For *physical ability*, learners were asked to rate their ability, interest in sports, games and physical activities. For example, "I am able to do physical work," "I am poor at sports". "I am often active in class."

For *physical appearance*, learners were asked to rate their attractiveness, how their appearance compares

with that of others, how they thought they looked and how others thought they looked using the same scale as for physical appearance. For example, "I have an attractive face." "I would like to change some parts of my body." "I am happy with my size."

Thirdly, questions on the *emotional self-concept* (32-56) asked the learners to rate themselves as being calm and relaxed, emotionally stable, how much they worry, their level of anxiety, curiosity, depression and happiness in academic situations. For example, "I become anxious towards exam time." "I get excited at passing exams." "Low marks generally depress me." "I cry easily." There were 25 questions in all answered on a five point Likert scale.

Fourthly, questions on the *social self-concept* (57-81) sought information on the learners' relationships with parents, educators and peers.

For the learners' relationships with parents, learners were asked to describe their perceptions of how well they got along with their parents, and whether they liked their parents or are liked and supported by the parents. For example, "I have a good relationship with my parents," "I often quarrel with my parents."

For the *learner-educator relations*, learners were asked to describe how they felt about their interactions with the educators. For example, "Educators like me," "Educators often ignore me." "Educators often shout at me."

For *relationships with peers*, learners were asked to describe perceptions of their interactions with peers of the same and opposite sex. For example, how popular they were, how easily they made friends with members of the same or opposite sex. Some of the items read as follows: "I make friends easily." "I am very popular with members of the opposite sex." "My classmates do not like me." "My peers reject me." Negative items were scored in the reverse, that is, *Strongly Disagree* (5), *Disagree* (4), *Uncertain* (3), *Agree* (2), *Strongly Agree* (1). There were 25 questions on the social self-concept.

Fifthly, the *general* and *cognitive/academic self-concept* questions comprised the general and subject specific self-concepts. Generally, questions addressed issues such as attribution for success or failure, persistence on task, goal setting, problem solving, school environment, gender, and competence generally and in individual subjects.

The self-concept in *specific subjects* was measured with items such as; "I am good at mathematics." "I do not like science." "I get poor marks." "I like most school subjects." Responses were presented on a separate answer sheet (See Appendix B).

The above is a summary of the description of the questions and scales used for data collection for this study. The scales described represent the five self-concept domains, three of them non-academic (physical, emotional, and social), one general and the cognitive/academic self-concepts. Having looked at the self-concept data collection instruments, the following section looks at achievement data, which is also the dependent variable for the current study.

Content and Face Validity

Content and face validity were addressed using the judgement of an established researcher knowledgeable on the whole issue of self-concept. Reliability of the questionnaire was determined by a Cronbach Alpha correlation coefficient. Cronbach Alpha is a measure of internal consistency (reliability) of what questions are meant to measure or describe, in this case self-concept domains. Coefficient was within the acceptable range of 0.65 to 0.90 for personality attributes such as emotional *self-concept*. (McMillan & Schumacher, 1993).

ETHICAL ISSUES

Permission to administer the questionnaire was sought from the Ministry of Education, Sport, Culture and Arts' Head Office, regional offices and heads of schools and parents. Individual participants were told that participation was optional. The purpose of the study was explained.

Procedure

Twenty above-and below average learners were selected at each urban/rural, Government and non-government day and boarding schools respectively. School records were used to identify the level of ability of the learners. Participants were given two sheets of paper, one containing the questions (Appendix A) and the other, the answer sheet (Appendix B). Each participant was asked to indicate their response to each question by writing down a number in the box corresponding to the chosen response on the answer sheet, Appendix B. Participants were asked to respond to emotional self-concept questions expressing how they felt about themselves and their academic achievement in school as a whole. Participants were asked to answer every question as truthfully as possible. Instructions on how to complete the questionnaire were also read out to the participants to ensure that there was no

misinterpretation of what they were expected to do. Questions raised were answered to clarify any concerns. All the questionnaires and answer sheets were collected at the end of the exercise. The questionnaire was self-administered and took between 5 to 10 minutes to complete. Participants were thanked for their co-operation and participation.

RESULTS OF THE QUANTITATIVE RESEARCH: THE QUESTIONNAIRE

The biographical data of respondents

A total of 1281 junior (Form 1 & 2) and (Form 3 & 4) secondary school male and female learners participated in the study. Details of the sample are given in table 1.

Table 1 Biographical data of adolescents

Group	Frequency	Percentage
Gender		
Male	627	48.9
Female	653	51.0
Missing	1	1
Total	1281	100
Form/Grade		
Junior (Forms 1&2)	673	52.5
Middle (Forms 3&4)	608	47.5
Total	1281	100.0
Location of School		
Urban	738	57.6
Rural	530	41.4
Missing	13	1.0
Total	1281	100.0
Age		
13 years	159	12.4
14 years	332	25.9
15 years	313	24.4
16 years	298	23.3
over 16 years	179	14.0
Total	1281	100.0
School Type		
Government A	302	23.6
Government B	258	20.1
Government C	321	25.1
Non-Government	399	31.1
Missing	1	.1
Total	1281	100.0
Type of Attendance		
Boarder	314	24.5
Day Scholar	951	74.2
Missing	16	1.2
Total	1281	100.0

The average age was about 14.5 years with the youngest being 13 years and the oldest 16 years plus. Participants were drawn from ten purposely selected schools to represent the wide range of secondary schools by type (government & non-government), location (urban/rural), and type of attendance (boarding/day) and level of performance in public examinations (high/low). Of these six were from Greater Harare urban and four from Mashonaland East Region which is predominantly rural. There were five Government and five Non-government schools. Of the Government schools, 'A' schools were situated in low density suburbs, 'B' in high density suburbs and 'C' in rural areas. Two of the Government urban schools offered boarding and day school places while one was entirely day. Both rural Government schools were day schools only.

Three of the Non-government schools were situated in the urban areas and the other two were boarding schools in rural areas. Boarding schools recruited learners from all over the country unlike day schools which enrolled learners from the surrounding areas only. Among the participating schools were those at the top of the school league tables on the national 'O' level examination results. From each school high and low performers participated according to the information supplied by the schools. Both juniors and seniors were included in the sample. The sample was deemed to be representative of the Zimbabwe school population. Responses were used to answer research questions/problems and to test hypotheses 1 to 13 of the current study presented in the sections that follow.

Research problem1

*Is there a significant correlation between general and specific self-concepts and academic achievement of urban and rural learners?

H₀₁ There is no correlation between general and specific self-concepts and academic achievement of urban and rural learners.

This hypothesis was tested statistically. The results appear in table 2.

Table 2 Correlations between self-concepts and academic achievement of urban and rural learners

Factors	Correlation with Achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
Urban					
Achievement	1	.084*	.071	.111**	.349**
Physical	.084*	1	.449**	.545**	.409**
Emotional	.071	.449**	1	.401**	.404**
Social	.111**	.545**	.401**	1	.492**
Cognitive	.349**	.499**	.404**	.492**	1
Rural					
Achievement	1	.163**	.062	.304**	.435**
Physical	.163**	1	.352**	.596**	.570**
Emotional	.062	.352**	1	.331**	.327**
Social	.304**	.596**	.331**	1	.670**
Cognitive	.435**	.570**	.327**	.670**	1

** = Correlation is significant at the 0.01 level ($p < 0.01$)

* = Correlation is significant at the level 0.05 ($p < 0.05$)

According to table 2 the correlations between the physical, social and cognitive self-concepts and academic achievement of urban and rural learners are significant and positive. The rural learners recorded relatively higher correlations than the urban learners suggesting a possible stronger influence on the learners' academic achievement. The null-hypothesis was rejected at the 1%-level of significance for the social and cognitive self-concepts for both the urban and the rural, and at 5%-level for the physical self-concept of urban learners. The relationship between the emotional self-concept and academic achievement of both the urban and rural learners was not significant. For both groups, the correlations were low. However, the correlations between achievement and cognitive self-concepts were moderate for urban and rural learners. An examination of the correlations between individual self-concepts reveals moderate to high correlations. For example, social and physical correlations (urban: $r = .545$, rural: $r = .596$), social and cognitive correlations (urban: $r = .492$, rural: $r = .670$), emotional and cognitive correlations (urban: $r = .404$, rural: $r = .327$), physical and cognitive correlations (urban: $r = .499$, rural: $r = .570$). The

results seem to suggest that increased involvement in sporting activities may improve social relations which in turn lead to better cognitive self-concept and achievement for urban learners and vice versa. The correlations are even higher for learners in rural schools.

Research problem 2

Is there a significant correlation between general and specific self-concepts and academic achievement of learners from different school types?

H₀₂ There is no significant correlation between general and specific self-concepts and academic achievement of learners from different school types.

The results after testing this hypothesis are presented in table 3.

Table 3 Correlations between self-concepts and achievement of learners from different school types

Factors	Correlations with Achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
Government A	1	.251**	.124*	.248**	.423**
Achievement					
Physical	.251**	1	.362**	.591**	.571**
Emotional	.124*	.362**	1	.344**	.307**
Social	.248**	.591**	.344**	1	.617**
Cognitive	.423**	.571**	.307**	.617**	1
Government B	1	.161**	.050	.114	.358**
Achievement					
Physical	.161**	1	.461**	.599**	.557**
Emotional	.050	.461**	1	.417**	.346**
Social	.114	.599**	.417**	1	.606**
Cognitive	.358**	.557**	.346**	.606**	1
Government C	1	.148**	.072	.282**	.294**
Achievement					
Physical	.148**	1	.280**	.590**	.609**
Emotional	.72	.280**	1	.351**	.383**
Social	.282**	.590**	.351**	1	.679**
Cognitive	.294**	.609**	.383**	.679**	1
Non-Government	1	.093	.143**	.180**	.492**
Achievement					
Physical	.093	1	.473**	.551**	.483**
Emotional	.143**	.473**	1	.413**	.464**
Social	.180**	.551**	.413**	1	.478**
Cognitive	.492**	.483**	.464**	.478**	1

** = Correlation is significant at the 0.01 level ($p < 0.01$)

* = Correlation is significant at the level 0.05 ($p < 0.05$)

Table 3 indicates that the physical, emotional, social and cognitive self-concepts are significantly and positively correlated with academic achievement of learners in Government A schools. The null-hypothesis is rejected on the 1%- or the 5%-level of significance.

For Government B schools, only the physical and cognitive self-concepts are significantly and positively correlated with academic achievement. In government C schools, the physical, social and cognitive self-concepts are significantly and positively correlated with the learners' academic achievement. Learners in Non-government schools' emotional, social and cognitive self-concepts are significantly and positively correlated with their academic achievement. The null-hypothesis is rejected on the 1%-level of significance in all the aforementioned cases. Once again, the correlations between the cognitive, social and physical self-concepts are significantly high and positive for all Government schools and moderate for the Non-government schools.

Overall the results indicate significant correlations between the learners' academic achievement and:

- (a) Physical self-concepts of learners in Government A, B and C schools;
- (b) Emotional self-concepts of learners in Government A and Non-government schools,
- (c) Social self-concepts of learners in Government A, C and Non-government schools and
- (d) Cognitive self-concepts of learners in all the school types.

The results indicate that the school one attends may influence academic achievement in some way.

It is important to note also that the physical and social self-concepts correlate significantly with the cognitive self-concept in the different school types (See Table3). The correlations are highest in Government C schools: physical and cognitive self-concepts ($r = .609$), social and cognitive self-concepts ($r = .679$) and physical and social self-concepts ($r = .590$). For Non-government schools the relationship is, however, low. The results imply that an improvement in the physical fitness and ability, and social relations of the learners in the rural secondary schools is likely to lead to substantial improvement in the learners' academic achievement. Similarly, an improvement in their involvement in physical activities such as sports is likely to improve their social relations, resulting in more positive cognitive self-concepts and possibly better academic achievement.

Research problem 4

Is there a significant correlation between general and specific self-concepts and academic achievement of boarders and day scholars?

H_{03} there is no significant correlation between general and specific self-concepts and academic achievement of boarders and day scholars.

A two-tailed Pearson's correlation coefficient test was administered and the results are shown in table 4

Table 4 Correlations between self-concepts and academic achievement of boarders and day scholars

Factors	Correlation with Achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
Boarders					
Achievement	1	.177**	.212**	.245**	.531**
Physical	.177**	1	.475**	.576**	.489**
Emotional	.212**	.475**	1	.397**	.435**
Social	.245**	.576**	.397**	1	.555**
Cognitive	.531**	.489**	.425**	.555**	1
Day Scholars					
Achievement	1	.132**	.073*	.184**	.327**
Physical	.132**	1	.384**	.591**	.590**
Emotional	.073*	.384**	1	.386**	.385**
Social	.187**	.591**	.386**	1	.608**
Cognitive	.327**	.590**	.385**	.608**	1

** = Correlation is significant at the 0.01 level ($p < 0.01$)

* = Correlation is significant at the level 0.05 ($p < 0.05$)

The results show that all the specific self-concepts were significantly and positively correlated with the academic achievement of boarders and day scholars. Boarders have the highest and moderate ($r = .531$) correlation between the cognitive self-concept and academic achievement. The correlation coefficients are higher for the boarders suggesting a better learning environment than for the day scholars. The null-hypothesis was rejected at the 1%-level of significance for all the different self-concept correlations with achievement for boarders, and all except the emotional self-concepts for the day scholars. For the correlation with emotional self-concept of day scholars the null-hypothesis was rejected at the 5%-level of significance.

According to table 4 the physical and social self-concepts correlate highly with the cognitive self-concept of day scholars and boarders. The relationship is stronger for the day scholars. This might mean that the more positive the day scholars' physical and social self-concepts were, the more they were likely to have positive self-concepts and

better academic achievement. Association with emotional self-concept was however, weak.

Self-concepts, academic achievement of urban and rural learners (location)

Results demonstrated that a positive and significant relationship existed between the physical, social and cognitive self-concepts and academic achievement of urban and rural learners. The results were in agreement with earlier literature findings by Dembo (1994:461), Mwamwenda (1995:68), Hamachek (1995:420), Mboya (1996:388). Interview results confirmed the pattern. Both urban and rural learners reported that involvement and ability in sports, and good appearance enhanced their confidence in whatever they do, including schoolwork. In addition, those activities helped learners acquire time management and self-discipline skills which aided learning and improved their academic achievement. Literature has already indicated that feeling good about one's body or physical attributes contributed towards a positive physical self-concept which in turn improved academic achievement.

Furthermore, the physical and social self-concepts correlated more significantly with the cognitive self-concept as well as the physical and social self-concept. The relationship was stronger for the rural than urban learners. This implied that, by enhancing the non-academic self-concepts, feelings about the learners' academic competence was also improved leading to better achievement.

Self-concepts, academic achievement of learners in different school types

Results showed positive and significant correlation between academic achievement and the cognitive self-concept of the learners in all school types. Government A and Non-government schools registered moderate coefficients and the rest were low. This was probably the result of selective admission practices in which the more able learners were recruited while the other two school types enrolled whoever came along.

Literature and empirical evidence have shown that the school one attends, whether it was high or low achieving, played a significant role in shaping the learners' self-concepts and their academic achievement (Dembo, 1994:456). There was general agreement that the cognitive self-concept was positively and significantly related to academic achievement in all school types and was highest in Non-government schools. Learners in the latter are generally high achievers who openly professed their high level of academic competence and intellectual capability during interviews. Their considerably higher mean score ($M=63.24$) compared with ($M= 52.15$ to 54.90) for Government schools confirms the sentiments.

All the learners except those in Government B schools, concurred on the significant effect of relations with significant others particularly parents and educators, and popularity among schoolmates in raising their academic achievement. Literature also reported that positive feedback from significant others had a positive effect on their academic achievement (McGrath & Repetti, 2000:713; Biehler & Snowman, 1997:414). Literature and empirical evidence have shown that a positive social self-concept, especially positive relations with parents, educators and peers helped to improve the self-concept and academic achievement (McGrath & Repetti, 2000:713). In particular, positive feedback with regard to academic performance raised the self-concept and academic achievement of the learners in Government A, C and Non-Government schools and led to higher academic achievement in future.

Physical attributes and involvement in sports and feeling good about their appearance or body image were significantly correlated with achievement for all government school learners, but not for Non-government learners. For the latter the physical self-concept was strongly related to the cognitive self-concept ($r=0.492$) indicating complementary influence in academic situations. Government schools tend to have a full sports programme for the whole year while Non-government schools tend to emphasise on the academic work much more in terms of resources - human, material and time. This may explain the differences.

During interviews learners in Government A schools and Non-government schools were quite open in expressing their dissatisfaction and satisfaction respectively with their schools as providing a supportive learning environment and that success brought them a lot of joy while failure caused depression. Though Government A and C schools showed no significant correlation between emotional self-concept and academic achievement, relationship with the cognitive self-concept was positive and strong ($r=0.571$) for both, indicating a complementary influence in academic achievement situations. Literature has indicated that positive emotions promoted effort and performance (Nakamura and Seligman in Fontana, 1997:34). Results of the current study support earlier research.

The findings of the present study suggested that, the current practice by some parents to choose the schools or transfer their children from one school to another, "better" school was wise and likely to be beneficial to their children in terms of raising their self-concepts and academic achievement.

Self-concept, academic achievement of boarders and day scholars (type of attendance)

The study showed significant and positive relationship between the academic achievement and the cognitive and all the non-academic self-concept domains of both day scholars and boarders. This implied that the type of attendance, as a boarders or day scholar had some influence on shaping the physical, emotional, social and cognitive self -

concepts of the adolescent learners. Since average correlation coefficients and mean mark are higher for boarders, it can be safely concluded that boarding schools offered better conditions for shaping the learners' self-concepts leading to better academic achievement. The results supported earlier findings that school attended shaped the self-concept of learners in specific self-concept domain and not the general self-concept (Dembo, 1994:456). Type of attendance as a boarder or day scholar had a significant impact on the physical, emotional, and cognitive self-concepts and none for the social and general self-concepts.

In addition, day scholars' and boarders' physical-, social self-concepts correlated highly, positively and significantly with the cognitive self-concept. This also applied to the physical and social self-concepts. The implications were that by raising the learners' physical and social self-concepts, the cognitive self-concept was likely to be raised also, leading to better academic achievement.

SUMMARY

Lower levels of academic achievement in Zimbabwe secondary schools continue to cause great concern among parents, educators and authorities in education. Initiatives, such as increasing the quantity and quality of learning resources have not raised the pass rates to the expected levels. Literature has demonstrated that self-concept was important as mediating, predictive variables, and correlate of academic achievement and that the relationship was reciprocal. The current study investigated the relationship between learner self-concept and achievement of adolescents in Zimbabwe secondary schools. Results were based on 1281 questionnaire responses by male and female adolescent secondary school learners and from interviews. The main hypothesis: *There was no relationship between the general and specific self-concepts and academic achievement of adolescent learners in Zimbabwe secondary schools by different school types, location and type of attendance*, was rejected. The general and specific self-concepts: the *physical, emotional, social and cognitive* self-concepts were significantly and positively correlated to the academic achievement of adolescent learners. Correlations between the specific self-concepts were also significant and positive, indicating a possible complementary influence on academic achievement. Pearson's correlation coefficient was used to test the significance of the relationship, while interview data explained it. From the results of the current study and the theoretical framework presented, it appeared that self-concept had a positive role to play in the academic achievement of adolescent learners in Zimbabwe secondary schools. Therefore, an understanding of self-concept and how it operated in the learners by 1) parents, educators and learners themselves, 2) administrators who establish and maintain a learning environment supportive of learning, was important. While improving the self-concept might be a complex issue because of its multidimensional nature, it was, nevertheless essential in improving the level of achievement of individual learners and schools. Parents and educators should guard against a decline in belief in *self* to prevent the deterioration or slump in learning motivation and performance overall or in specific subjects. More research was needed in order to increase our understanding of how the self-concept developed and operated in the learners in different schools and subjects, to enable those involved with the learners to gain a deeper understanding so that their assistance could be more effective.

IMPLICATIONS

The study has demonstrated that the school one goes to matters in terms of academic achievement and development of self-concept for achievement. Therefore the current practice of some learners changing from one school to another perceived as better was advised. Further research was required to uncover the characteristics of every school that influenced development of positive self-concept and academic achievement.

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