

Chapter 1

Introduction and overview of the research problem

1.1 INTRODUCTION AND RATIONALE

1.1.1 Introduction

Over the last couple of decades society, including the society of Zimbabwe, has placed more and more emphasis on the academic achievement of its citizens. However, there is a growing concern about the lower levels of academic achievement of secondary school learners, shown by their poor performance in public examinations in Zimbabwe (Gordon, 1995:1). In the Ordinary level (O-level) examinations taken after four years of secondary education in 2002 and 2003, for example, only 13.8 and 12.8 percent of the learners who sat for the examinations passed the five or more subjects necessary to gain a full O-Level Certificate respectively (Zimsec, 2002a). Consequently, fewer learners qualified to proceed to Advanced level (A-level), that is, six years of secondary education, and to tertiary institutions (Gordon, 1995:1).

In order to improve their children's pass rates, some parents in Zimbabwe have resorted to sending their children to high-achieving schools, most of which are expensive, with some charging as much as US\$600 to US\$1 000 per term. Though the fees continue to rise in most of these schools, the scramble for places in high-achieving schools continues, in the hope that children will achieve above-average examination results. The Editor of the *Sunday Mail* (07/01/01, 06/02/02) aptly captured the parents' sentiments and concerns about the high failure rate:

Y that they would rather sacrifice the few dollars they make to send their children to boarding schools which had better facilities, discipline and low staff turnover as they are assured of a pass unlike in day schools.

The sentiments expressed above underline the importance Zimbabwean parents attach to high academic achievement. In addition, the current socio-economic conditions in Zimbabwe, where

job opportunities are limited, with a more than 70% unemployment rate, the pressure on children to achieve is even greater. Young people now realise that academic achievement and tertiary education are the determining factors in finding employment at home and abroad, and in establishing a career. They realise that they have to meet certain minimum academic requirements in order to gain admission into tertiary institutions in preparation for their careers. For example, to gain entry into the Medicine, Law and Accounting Degree Programmes at the University of Zimbabwe, learners have to have at least 15 points in three Advanced level subjects, that is, all three at grade **AA** (University of Zimbabwe Admissions Circular, 2000). Thus, the difficulties caused by the socio-economic conditions and the large numbers of learners who perform below the average grade level have become some of the pressing concerns among educators and parents in Zimbabwe.

There is also an increasing awareness that individual differences in intelligence alone cannot account for all or even the majority of the differences in learners' scholastic achievements (Myburgh, Grobler & Niehaus, 1999:163). Shaffer (1996:473) affirms the point when he says, **AY**even though intelligence predicts academic achievement, the relationship is not perfect **Y**because children differ in achievement motivation - their willingness to strive to succeed at challenging tasks and to meet standards of accomplishment. **@** Education has, thus, become concerned with the physical, social and emotional development of the individual with much attention being given to factors contributing to the academic achievement of learners other than to intellectual ability. For example, Gordon (1995:1) attributes poor performance to factors outside the school, inferior academic aptitude and intelligence. On the other hand, the development of the self-concept, in particular, has also become a central theme in education (Mostert, 1995:6). The varying views on the causes of underachievement has consequently generated interest in predicting or explaining scholastic achievement and the need to take corrective measures to redress the underachievement in recent years (Myburgh *et al*, 1999:165).

In addition to sending their children to high achieving schools, the researcher has also found that some parents in Zimbabwe hire individual subject tutors for their children. Educators also organise weekend and holiday lessons in order to improve the learners' scholastic achievement in public

examinations. These measures have generally been ineffective and have done very little to modify the learners' achievement patterns which have generally remained low.

Further studies of factors influencing academic achievement are therefore necessary to enable educators to plan wisely for the academic achievement of individual learners. In view of the above, some studies have been conducted to demonstrate the importance of the self-concept for academic achievement (Hamachek, 1995; Mwamwenda, 1995; Craven & Marsh, 1996; Trusty, Watts & House, 1996; Marsh, Kong & Hau, 2000). These will be examined in the next section.

1.1.2 Background and rationale for the study

As was previously mentioned, a number of studies have been conducted with most demonstrating the importance of the self-concept, and the correlation between self-concept and academic achievement, as the following examples will show.

1.1.2.1 *The importance of self-concept for academic achievement*

Self-concept as a mediating variable

The importance of developing and maintaining a positive self-concept has been apparent in educational programmes, especially those designed to meet the needs of exceptional learners such as the gifted or the learning disabled (Craven & Marsh, 1996:12). The same authors posit the importance of the self-concept as

a mediating variable that facilitates the attainment of other desired outcomes such as a positive self-concept which affects positively other academic behaviours such as persistence on tasks, course selection, educational aspirations and attributions for one's successes or failures.

To underscore this point Combs, Avila and Purkey (1972:44) cite an example by Mudra of Illinois University demonstrating how a negative belief of the self can lead to failure:

*What a boy believes about himself is really important. We had a student at Greeley who scored in the 98-percentile test, and he thought that he had a 98 IQ. And because he thought he was an average kid, he knew college would be hard for him. He almost failed in his first term. He went home and told his parents, **I don't believe I'm college calibre,** and the parents took him to school and talked with the college counsellor. When he found out that 98 percentile score meant that he had a 140 IQ, he was able to do **AA** work before the end of the year was over.*

Craven and Marsh (1996:13) also cite an example by Gross about an extremely gifted learner, aged 11 years and 4 months, who had an IQ of about 200. He scored a remarkable score of 710/1000 on a Mathematics Scholastic Aptitude Test (SAT), and had been allowed grade skipping and acceleration in both Mathematics and English. However, the learner had an unrealistically low self-concept of his ability in English such that he expressed astonishment and disbelief when he scored 580/1000 on an English SAT and requested a re-scoring of his English test remarking that: **I couldn't have done as well as that!**

In addition, Craven and Marsh (1996:12) further suggest that academic success tended to reinforce subsequent self-perceptions of academic capabilities, and that gains in academic achievement were unlikely to last unless there were also changes in academic self-concept. Emphasising the importance of self-concept for academic achievement, Dembo (1994:456) reported that educators have become increasingly aware of the impact that an individual's self-concept has on classroom behaviour and achievement, and that learners' problems in school may have their source in the lack of a positive self-concept.

Furthermore, Brogan (1998:1), in a review of early research on self-concept reported that the learners' level of achievement might be related to the perceptions they had of themselves as learners. He also pointed out that how learners feel about their abilities may, for better or for worse, consciously or unconsciously, influence their academic performance. For example, learners who have high self-concepts tend to experience higher academic achievement than their counterparts with low self-concepts. Hamacheck (1995:420) re-affirms this view when she concluded that academic achievement may not simply be an expression of the learners' ability but also of the self-concept, which when positive, helps them feel confident and able, but when negative causes them to feel hesitant and uncertain.

Correlation between self-concept and academic achievement

The first wave of self-concept studies in the 1950s by Benjamin, Reeder, Buckley, and Scanlan (Hamachek 1995:420-421) also found a significant correlation between self-concept and academic achievement. Ever since then, several studies have been conducted with most finding a significant correlation between academic achievement and self-concept, thereby emphasising the importance of the self-concept for academic achievement. For example, Hamachek (1995:420-421), following a review of self-concept literature came to the conclusion that a relationship existed between self-concept and academic achievement and that the relationship was reciprocal, with each variable affecting the other. Consequently, learners have to do well in school in order to have a positive self-concept about their academic abilities and a positive self-concept was a necessary pre-requisite for doing well in school. From these results she also concluded that learners with a high self-concept tended to approach school-related tasks with confidence, and that success in those tasks reinforced their confidence. The opposite was also likely to be true for children with a sense of inferiority or low academic self-concept. According to Mboya (1989:39), the global self-concept and self-concept of academic ability correlate positively with academic ability and the relationship between the self-concept of ability correlated more strongly with academic achievement than the relationship between global self-concept and academic achievement. Consequently, educators have to be sensitive to learners' self-concepts and their perceived academic ability. Hamachek (1995:422) further underscores both the importance of self-concept for academic achievement and the reciprocal relationship, with the following conclusion of the review regarding self-concept research:

It is difficult to find ways to help students do better in school without also exploring ways to help them feel better about themselves as learners. At the same time it is almost impossible to help students improve their self-concepts without assisting them finding ways to improve their school performance.

Self-concept as a predictor of academic achievement

Self-concept was also regarded as important for predicting academic success. For example, Hamachek (1995:421) concluded from the review of literature by Wattenberg and Clifford (in Hamachek, 1995) that self-concept scores of kindergarten children predicted reading ability more accurately than did intelligence tests. The findings seem to lend support to the theory that consistent success or failure had an effect on the self-concept of the learner and that the level of school achievement is influenced by one's self-concept of ability. Mostert (1995:6) sums up the importance of self-concept for academic achievement in the following quotation:

A positive self-concept is one of the most vital elements for success, and since the self-concept is both a personal and motivational variable, its overall contribution to the variance of academic achievement should be quite high, and that individuals seem to be motivated to perform in a manner consistent with their self-concept.

Similarly, Mwamwenda (1995:365) makes two points to emphasise the importance of self-concept for academic achievement: Firstly, educators generally believe that an understanding of self-concept and what it involves is essential if education is to achieve its ultimate goal of developing the human's fullest possible potential. Secondly, an awareness of the role that self-concept plays in human behaviour and development will enable educators to deliberately introduce self-concept growth as an integral part of whatever they do in their interactions with learners.

In a similar study conducted by Mwamwenda (1995:368) in Botswana, the results show that a significant relationship exists between the learner's self-concept and performance in the final set of examinations, thereby confirming the hypothesis that **Athe learner's self-concept can serve as a reliable predictor of academic achievement@.**

However, not all self-concept research has shown a positive correlation with academic achievement as is illustrated in the following examples:

1.1.2.2 Conflicting research results

Several researchers have, for example, shown that higher achievers attending higher ability schools had negative self-concepts and experienced lower achievement than equally able learners who attended lower ability schools (Dembo, 1994:460; Marsh, Kong & Hau, 2000:338;

Craven, Marsh & Print, 2000:52). In a study of urban African-American elementary learners, Marchant (in Trusty *et al*, 1996:29) found a negative relationship between self-concept and academic achievement. Similarly, Finn and Cox (in Trusty *et al*, 1996:29; Garzarelli, Everhart and Lester in Muijs, 1997:265) found no significant relationship between self-concept and achievement for the weak and the gifted learners.

Wylie (in Muijs, 1997:265) also found no significant relationship between the general self-concept and achievement, though a significant relationship existed between cognitive self-concept and achievement.

Despite the conflicting results, self-concept appears to be an important psychological construct influencing academic achievement. It is against this background that more research on the relationship between the learner's self-concept and academic achievement in Zimbabwe is important in order to strengthen the basis for academic achievement in future (Brogan, 1998:1).

Combs *et al*, (1972:44) also reported that people in auxiliary professions such as educators, who ignored the importance of the role of the self-concept of their learners, were in grave danger of defeating the objective of their help. This is because the client will soon ignore the help being given as irrelevant, thereby handicapping the effectiveness of the helper. A study of students' self-concepts can therefore be important in promoting an understanding of how young people deal with academic tasks. Purkey (in Berg, 1990:4) underscore the need for parents and educators to understand and appreciate the importance of self-concept in education in the following statement:

An overwhelming body of contemporary research points instantly to the relationship between self-concept and academic achievement and suggests strongly that self-concept can no longer be ignored by parents and teachers.

It is, therefore, important to investigate the relationship between self-concept and academic achievement in order to rescue those students who may be victims of their own negative beliefs about themselves. Furthermore, a knowledge and understanding of the relationship between the learner's self-concept and academic achievement will assist educators to improve the academic achievement of the learners in countries like Zimbabwe where pass rates in public examinations

at national level and some schools are considerably low. The next section will illustrate this latter aspect.

1.1.2.3 Low academic achievement in Zimbabwe secondary schools

In Zimbabwe the proportion of successful O-level candidates passing in five or more subjects has dropped significantly from about 63% in 1980 to about 13% in 2000 compared with previous years (Nyagura, 1991:209; Zimsec, 2002b). Table 1 illustrates the A/O level pass rates in Zimbabwe between 1998 and 2001.

TABLE 1: NATIONAL O= LEVEL PASS RATES IN ZIMBABWE 1998 TO 2001

Year	No. of candidates entered	No. of candidate passing 5+ subjects	% Pass
1998	244 083	35 593	14.58
1999	242 329	38 036	15.69
2000	264 056	36 659	13.88
2001	272 125	3 8 077	13.99
2002	274 772	37 804	13.8
2003	275 576	35 606	12.8

Source: Zimsec, 2002a

Table 1 shows very low pass rates for Zimbabwe between 1998 and 2001. An examination of some individual school results shows that some schools, especially from the District Rural Council (schools run by local authorities in the rural areas), urban and rural day- government secondary schools are registering very low pass rates (0%- 10%) as well. On the other hand, non-government day and boarding schools register pass rates as high as 98% (Zimsec, 2002a).

In their analysis of the 1998-2003 O= level results, the Zimsec (2002a) has attributed high pass rates in non-government schools to the availability of qualified and experienced educators as well as an adequate resource base for teaching and learning. On the other hand, inadequate human and material resources have explained low pass rates. The low pass rates at both the national and school levels provide adequate evidence that there exists a problem of academic achievement in Zimbabwe, which needs to be explained and addressed.

The next section looks at some of the research that has been conducted in Zimbabwe to explain academic achievement.

1.1.2.4 Previous research on academic achievement in Zimbabwe

Previous research on academic achievement in Zimbabwe has tended to focus on global issues or factors such as resources, school type, educator quality, family background, and school environment (Nyagura, 1991; Nyagura & Reece, 1990; Nyagura & Riddell, 1991; Dambudzo, 1998).

A study by Gordon (1995:71) on underachievement by secondary school girls indicates that educators' attitudes and expectations had a significant influence on the performance of secondary school girls in Zimbabwe. In addition, feminine emotional characteristics, physical and mental disabilities and cultural and primary socialisation were given as some of the causes of underachievement by girls. It was reported that girls' emotional attachments, especially in love and romance, were central to their self-concepts. This tended to interfere with learning. In addition, shyness also inhibited active participation in class, leading to lower achievement in school. Girls were also characterised as physically weak, a cause for their underachievement in practical subjects such as woodwork and metalwork. For example, of the candidates who sat for the O-level examinations in 2003, only 29% girls passed woodwork compared with 63% boys. This compares with Fashion and Fabrics where 26% girls passed compared with 22% of the boys. Though girls and boys were portrayed as equally academically competent, they had different aptitudes which explained gender differences in performance in specific subject areas such as the sciences and arts. For example, in 2003 44% boys passed physical science compared with only 29% girls. On the other hand, 57% girls passed Shona compared with 46% boys (Zimsec, 2002a). Lack of parental support and encouragement by parents were also cited as responsible for girls' underachievement (Gordon, 1995:29-32). This is the only self-concept and achievement study in Zimbabwe the researcher has come across. The quest for more information on the role of the self-concept on academic achievement remains. In addition, this was a qualitative study. It did not statistically establish the significance of the relationship between self-concept and academic achievement, which the current study seeks to do.

In addition to the above, there does not exist much literature on self-concept and achievement conducted within the African context, while that on the developed world is abundant. It is against this background that the current research seeks to investigate the significance of the relationship between the learners' self-concept and academic achievement in order to provide further explanation for the low pass rates by examining one of the personality variables, namely self-concept. It is hoped that results from this study will enable educators, school principals and parents to work as partners in education to enhance the performance of the learners in public examinations through self-concept development, and to add to the African literature.

1.2 PROBLEM STATEMENT

In view of the above background and rationale, the researcher states the research problem as follows: *Is there a significant relationship between learner self-concept and academic achievement in Zimbabwean secondary schools?*

1.3 AIMS OF THE RESEARCH

In view of the aforementioned problem statement the main aim of the research was to investigate the relationship between learner self-concept and academic achievement in Zimbabwean secondary schools.

Secondary aims were to:

- ! conceptually analyse the term as well as to determine the relationship between each of the following: general self-concept, social-, emotional-, physical- and cognitive self-concepts and academic achievement;
- ! examine gender, age and standard(form/grade) differences with regard to general self-concept, social, emotional, physical and cognitive self-concepts and academic achievement;
- ! examine the relative contributions of general self-concept, social, emotional, physical and cognitive self-concepts to academic achievement; and
- ! examine learner self-concept and academic achievement by school location, type and type of attendance (boarder/day scholar).

1.4 DEFINITIONS OF TERMS

1.4.1 Self-concept

A review of literature reveals no clear and universally concise accepted definition of the term self-concept. However, the following definitions seem to clarify the concept:

Biehler and Snowman (1997:410) and Dembo (1994:481); define **Aself-concept** as ideas individuals have about themselves and the value they place on their behaviour. Myburgh *et al* (1999:166) defines self-concept as **Athe totality of a complex, organised, and dynamic system of learned beliefs, attributes and opinions that each person holds to be true about his/her personal existence**. Kobal-Palcic and Musek (1996:64) and Biehler and Snowman (1997:410) elaborate on the multidimensional and complex nature when they say that self-concept has many different areas such as the general, the academic and the non-academic self-concepts. Moonie, Pensley, Stretch and Price (2004:126), define self-concept as the way we feel about ourselves, and that a simple way of understanding self-concept is to see ourselves as having four **›selves**: physical, intellectual, emotional and social.

Mwamwenda (1995:363) adds to the definition when he says that self-concept is a person's way of perceiving himself/herself, which may be either positive or negative as a result of self-evaluation. According to Dembo (1994:456) as well as Biehler and Snowman (1997:410), self-esteem is the value or judgement individuals place on their behaviour. The cognitive self-concept is **Ahow I see myself**, while self-esteem is **Ahow I feel about myself**. The two terms are inseparable since self-esteem is based on the self-concept and explains how one feels about oneself. Consequently, the terms are often used interchangeably in education literature. Self-concept or self-esteem is achieved by comparing oneself with peers or with admired others or from a history of success or failure. Thus, self-concept and self-esteem are distinct constructs of the *self* that are at the same time theoretically related.

From the above it has transpired that the definitions of the self-concept focus on the description and evaluation of the self. They also focus on the nature of the self-concept as encompassing the positive and negative ideas of the self, its complex, multi-dimensional, dynamic and global nature.

For the purpose of this study, the terms self-concept and self-esteem are used interchangeably to denote the descriptive and evaluative aspects of the self and no distinction will be made between them. In view of this, psychologists simply refer to the general or global self-concept as

the aggregate of beliefs and images one holds about oneself. In this study it refers to the social, physical, emotional and cognitive aspects. These terms will be defined separately.

1.4.2 Social self-concept

Kang, Shumow, and Vandell (1996:453) as well as Myburgh *et al* (1999:172) define social self-concept as learners' conceptions of themselves in a social context, which reflects or measures the extent to which learners deem that they are effective, accepted, respected and appreciated by others within a social context. Huitt (1998:1) and Myburgh *et al* (1999:172) define social self-concept as the extent to which learners believe that they are popular with others, capable of getting along with others, making friends easily and living up to any situation, as well as the degree of self-esteem they attribute to themselves in a social context.

In this study, social self-concept will be used to mean beliefs about oneself in relation to significant others such as educators, parents and peers within a given social context such as the family and the school.

1.4.3 Cognitive self-concept

There is a general agreement among researchers on the meaning of cognitive or academic self-concept. For example, Marsh (in Huitt, 1998:3) as well as Kobal-Palcic and Musek (1996:65), Martin and Debus (1998:518) and Stipek and Gralinski (1996:406) define cognitive self-concept as the learners' appraisals of their academic competence, which reflects the extent to which learners believe in their intellectual abilities, performance and interest in school subjects in general. Huitt (1998:3) refers to the cognitive self-concept as relating to how well we do in school or how well we learn. Similar to Marsh and Kobal-Palcic and Musek, he identifies two levels: a general cognitive self-concept of how good we are overall and a set of specific content-related self-concepts that describe how good we are in mathematics, science, social science, languages, *et cetera*. Myburgh *et al* (1999:172) provide a more comprehensive meaning incorporating the cognitive, social and emotional aspects about it when they describe the cognitive self-concept as:

The learners= conceptions of their academic competence, the extent to which students believe in their intellectual abilities and possibilities and that they are respected and appreciated by others in this regard. It describes among other things the extent to which they take pride in their own achievements and set high academic standards for themselves, select friends with a view to their academic achievements and express enthusiasm for their schoolwork.

In this study, the terms **Acognitive and academic self-concept** will be used interchangeably to refer to an individual=s conception of both the general and subject or content specific competence in academic situations.

1.4.4 Emotional self-concept

According to McGrath and Repetti (2000:714) emotional self-concept refers to feelings such as depression, anxiety and anger one has about oneself in a given situation. It is part of the non-academic self-concept. Kobal-Palcic and Musek (1996:65) describe emotional self-concept in terms of emotional stability or perceptions about oneself as being calm or relaxed or how much one worries or gets excited or simply experiences one goes through while performing or approaching a task, which enables one to judge one=s capabilities.

In this study, emotional self-concept will be used to refer to perceptions about oneself regarding such feelings as depression, anxiety, happiness, excitement and stress which learners go through, as well as their influence on learning and achievement.

1.4.5 Physical self-concept

According to Mwamwenda (1995:68) physical self-concept is the attitude the learners form about themselves on the basis of what they are told about their physical changes or their appearances. If attitudes are positive they will contribute towards a positive physical self-concept, whereas, if it is negative it will contribute towards a negative self-concept. Alternatively, the physical self-concept can be defined as the beliefs learners have about what they are told about their physical attributes or their reactions towards what they are told about themselves. According to Dembo (1994:461) and Huitt (1998:2), physical self-concept is simply the feeling one has about one=s body and

oneself generally or the feelings generated by such attributes. Kobal-Palcic and Musek (1996:65) give a broader definition when they say that physical self-concept is the perception about one's physical abilities, skills, interest in sports, games, physical activities and physical appearance.

In this study, physical self-concept will be used to refer to beliefs about one's physical attributes and abilities, and their relationship to academic achievement.

1.4.6 Academic achievement

According to Kang, Shumow and Vandell (1996:453), academic achievement describes learners' academic self-competence, conduct and grades. Howcroft (1991:111) describes academic achievement in terms of the actual mark or score obtained in an examination.

While Kang *et al* (1996:453) refer to the grade, Howcroft (1991:111) uses the actual mark attained to describe academic achievement. Either the actual mark or grade can be used to describe the performance of an individual in academic situations. Gordon (1995:3) defines academic achievement as commonly used to denote a level of attainment measured by some form of objective tests, For example, O-level examination.

In this study academic achievement will be used to refer to performance in a given examination or the level of attainment of learners measured by their performance in the examination, tests or any other form of assessment.

1.4.7 Zimbabwe

1.4.7.1 Location and size

Zimbabwe is a landlocked country in Southern Africa. It spans an area of 390 757 square kilometres. The country is divided into nine educational regions, namely Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Matabeleland North, Matabeleland South, Masvingo, Midlands and Harare. A Regional Director for Education is responsible for all schools in his or her region, and heads each region (see figure 1).

FIGURE 1: EDUCATIONAL REGIONS OF ZIMBABWE

1.4.7.2 Population

According to the United Nations report, Zimbabwe's population is about 12,9 million (BBC, 25/04/2005). Of these about 51% are female. Of the total population, about 45% are under the age of 15 years and three percent are above 65 years of age. Thirty one percent of the population lives in urban and 69% in rural areas. Three million learners are currently at school. Of these, about 771 065 are in secondary schools and the rest are in primary schools. Of these, males constitute 52% of the school population (Ministry of Education, Sport and Culture, 2002).

1.4.8 Secondary school

According to the 1996 Zimbabwe Education Act, >school= means any institution, other than a correspondence college recognised by the Ministry of Education, which provides post-primary school education (*The Education Act, 1996:19*).

In this study, the term *secondary school* is used to refer to any post-primary school (government, non-government, boarding or day, rural or urban) offering formal education to boys and/or girls from Form I to IV, aged between 13 and older than 16 years. Generally, non-government schools are well equipped with both human and material resources and achieve better examination results than government schools. Rural government and local authority schools have more limited learning resources than urban government schools.

1.4.9 Learner

According to Mwamwenda (1995:183) a learner is someone whose behaviour changes as a result of what one has experienced. Dembo (1994:4) simply describes a learner as one for whom educators deliberately plan or organise actions to induce learning through experience and training.

In this study, *learner* is used to refer to all those adolescents (Forms 1 to 1V) attending formal secondary schools, who learn from educators.

1.4.10 Adolescence

According to Mwamwenda (1995:63 & 68) adolescence is a fascinating, interesting and challenging period (13-18 years of age) of human growth and development characterised by great physical, social, emotional and physiological changes which play a determining role in how boys and girls perceive themselves and their behaviour.

In this study, the same meaning was adopted for the term *adolescence* referring especially to secondary school learners.

1.5 RESEARCH DESIGN AND METHOD

1.5.1 Introduction

This section briefly presents an overview of the research design employed in this study. It includes ethical measures, the main hypothesis and issues of validity and reliability of the research.

1.5.2 Research design

The research was conducted in two phases, a quantitative phase followed by a qualitative phase, as follows:

- (1) The study consists of a descriptive research design to describe learner self-concepts and their achievement without manipulating the variables. Descriptive results can also be used to investigate relationships (McMillan & Schumacher, 1997:281 & 285). Thus, the relationship between learner self-concept and academic achievement in secondary schools in Zimbabwe was investigated.
- (2) Interviews were conducted with selected learners to generate qualitative data.

Details of the above are given in Chapter 4.

1.5.3 Ethical measures

In all research, ethical issues are important. In view of this, the following ethical issues received particular attention by the researcher: informed consent, no deception of subjects, no violation of privacy, statement of co-operation with collaborators, release or publication of findings and restoration of subjects or respondents, wherever possible and necessary.

These issues are highlighted in more detail in Chapter 4.

1.5.4 Hypothesis

The study sought to investigate the relationship between learner self-concept and academic achievement. The focus was on the four dimensions of self-concept: the social, emotional, physical and cognitive self-concepts.

In view of this, the following null-hypothesis was tested:

There is no significant relationship between general and specific self-concepts and academic achievement of learners in Zimbabwean secondary schools.

1.5.5 Validity and reliability

This study sought to establish the nature of the relationship between learner self-concept and academic achievement. Validity and reliability are very important considerations in this study. The instruments used, the measures identified and the subjects, all called for validity and reliability considerations by the researcher. Choice of appropriate instruments to measure self-concepts and identification of appropriate achievement measures were equally important considerations for this study.

More detail is given in Chapter 4.

1.5.6 Method

1.5.6.1 Sampling

Secondary school learners formed the population for this study. In the quantitative phase, the study employed a stratified random sample of 1281 secondary school learners from different high and low performing urban and rural, government and non-government schools in Zimbabwe. Stratification ensured representation of different schools, genders, abilities, ages and localities.

An attempt was made to include high and low achieving boys and girls in the sample. For the qualitative phase purposeful selection of participants was employed.

1.5.6.2 Data collection

Adapted Self-Description Questionnaires II by Marsh (1990), referred to in the current study as the Self Description Instrument (SDI), was used to collect data on all four dimensions of self-concept, that is, social, emotional, cognitive and physical self-concepts. It uses a six point Likert scale.

The scale was chosen because it is a self-report designed to measure multiple dimensions of self-concept, one of the objectives of the study. The current study used a five-point scale.

Interviews were conducted with learners in order to enrich the quantitative data. Mid-year test scores for learners in Forms one to four were used as measures of achievement in this study.

1.5.6.3 Data processing

The appropriate Pearson's correlation coefficient and analysis of variance (ANOVA) statistical techniques were employed to test the relationships between the variables such as, learner self-concept and academic achievement.

For the qualitative part, the data was analysed as explained in Chapter 4.

1.6 DIVISION OF CHAPTERS

Chapter 1 presents an introduction to the research problem: introduction, background, rationale, problem statement, aim of the research, definition of key terms, research design and method, ethical issues, main hypothesis, concepts of validity and reliability, sampling, data collection and processing.

In Chapter 2, the physical and emotional self-concepts are examined critically, with a focus on possible relationships with academic achievement.

In Chapter 3 the social and cognitive self-concepts are studied in-depth. Once again, the focus is on the possible influence of these variables on academic achievement.

Chapter 4 describes and explains the research design appropriate for the research topic in greater detail. Focus is on data collection procedures and its analysis.

Chapter 5 presents the data, its analysis, interpretation and discussion to answer the research questions or hypotheses.

Chapter 6 presents an evaluation consisting of findings, conclusions and recommendations on the entire study. Limitations of the study will also be highlighted.

Chapter 2

Physical self-concept, emotional self-concept and academic achievement

2.1 INTRODUCTION

This chapter presents a review of the literature with a special focus on the physical and emotional self-concepts and how they relate to academic achievement. The self-concept will be described and explained in the next section in order to enhance the understanding of the self-concept.

2.2 NATURE OF THE CONCEPT

Shavelson, Hubner and Stanton (in Purkey, 1988) reviewed self-concept literature in 1976 and described the self-concept as organised, multi-faceted, hierarchical, stable, developmental, evaluative and differentiable. A brief description of each characteristic will be given below.

2.2.1 Organised nature of the self-concept

According to Purkey (1988:2) the self-concept is organised. This means that it is generally stable and is characterised by orderliness and harmony. The organised quality of self-concept tends to give consistency to the personality. Consistency refers to an unchanging quality. For example, the more central a particular belief is to one's self-concept, the more resistant one is to changing that belief. Again the harmony or unity characterising the self-concept means that success or failure is likely to impact on the way one views oneself as well. For example, failure or success in a highly regarded area is likely to lower or raise one's self-evaluations respectively in other areas as well. This is because the individual's experiences constitute data on which he/she bases his/her perceptions of the self. Such experiences are interlinked into fewer and broader categories, thereby enabling the individual to function effectively from more meaningful data (Battle, 1982:22;

Dembo, 1994:456). In other words, the self-concept enables one to give more meaning to experiences.

FIGURE 2: THE HIERARCHICAL ORGANISATION OF SELF-CONCEPT

2.2.2 Multifaceted and hierarchical nature of the self-concept

Further to the review of self-concept literature in 1976, Shavelson, Hubner and Stanton (Purkey, 1988) proposed the multi-faceted and hierarchical model of self-concept. It was suggested that the general self-concept is composed of four *first* order self-concept domains: the academic or cognitive self-concept, social self-concept, emotional self-concept and physical self-concept. These self-concept domains illustrate the multi-faceted quality of self-concept. For each self-concept domain there are different levels or ranks from the general self-concept to the more specific self-concepts, hence the idea of hierarchy (see figure 2). According to Myburgh *et al* (1999: 166; Waugh, 1999:1) the academic self-concept can be divided further into *second* order specific subject self-concepts like English, history, mathematics, science *et cetera* which can explain learner achievement in each subject. Social self-concept can be divided into peer self-concept and significant others self-concept. Emotional self-concept will refer to specific emotional states such as anxiety, love, happiness, depression and anger. Finally, the physical self-concept comprises physical ability and physical appearance self-concepts.

The subdivision can go on and on showing the different levels of the self-concept as shown in Figure 2. Every learner has a distinct self-concept in a specific situation or context or school subject. It is therefore, imperative for educators to identify the specific type of self-concept when dealing with every learner because each of the facets influences the way a learner behaves. Knowledge of the multifaceted and hierarchical composition of the self-concept will enable educators to understand, describe and explain learner behaviour. Franken (1994:443) underlines the importance of understanding the multi-faceted quality of self-concept when he states that **A**there is a great deal of research which shows that the self-concept is, perhaps, the basis for all motivated behaviour**Y@**

2.2.3 Development of the self-concept

Self-concept emerges in the early months of life and is shaped and reshaped through repeated experiences, particularly with significant others, because the self-concept is learned; and no one is born with a self-concept (Moonie, Pensley, Stretch & Price 2004:128; Purkey, 1988:2). For

example, young children are influenced by their families and carers while adolescents are influenced more by their peers, friends and educators. According to Moonie *et al* (2004:129) age makes a difference in the way children describe themselves and in the way adults think about their lives. Our self-concept grows as we grow older. For example, young children can only describe themselves in simple terms like, **I** am a boy@ **I** am short**Y**@ On the other hand, adolescents can describe their self-concepts in abstract terms such as beliefs, likes, dislikes and relationships with others. Through such experiences, children develop positive or negative impressions of themselves, depending on their interactions with their environment and significant others (Child, 1995:260). According to Mwamwenda (1995:63, 68), the physical, social, physiological and psychological changes experienced by adolescents have an impact on their self-concept and behaviour. Knowledge of such developmental aspects of self-concept will help in understanding the learners= behaviour in academic situations and will enable educators to seek appropriate solutions for problems.

The above represents descriptions of the self-concept, but there is an evaluative aspect, which is described and explained below.

2.2.4 Evaluative aspect of the self-concept

Shaffer (1996:469) states that as children develop, they not only understand themselves more but also begin to evaluate the qualities that they perceive themselves as having. This evaluative aspect of the self is called *self-esteem* or the general self-concept. Shaffer (1996:469) also reviewed literature by Dweck and Elliot (1983), Hammen and Jaenicke (1987) and came to the conclusion that children with a high self-esteem are generally satisfied with the type of person they are, recognise their strengths and weaknesses, and are confident about their competencies and abilities to overcome their weaknesses. On the other hand, children with a low self-esteem view themselves negatively and are generally pessimistic and less confident. Biehler and Snowman (1997:410) as well as Battle (1982:23) echo the same view when they say that as the individual matures, he/she learns to evaluate his/her performance, actions and behaviours in different situations, and also in response to evaluations by significant others. Because of this, the individual is expected to evaluate him/herself in relation to peers and parents academically, or according to

an ideal, standard or benchmark. For example, some learners may perceive themselves *negatively* if they perform below expectation or some pre-determined benchmark or if they get a grade lower than expected or were capable of achieving. They may also feel a sense of failure when, in fact, educators, parents and peers feel happy about their performance. Similarly, perfectionists fall into the trap of persistent failure whenever they fail to achieve a perfect state or if parents are not satisfied with anything less than a certain grade (Battle, 1982:23).

Biehler and Snowman (1997:410) report on learners who see themselves as either achievers or failures. Cultures or group norms become frames of reference or models, which may be important in determining how individuals evaluate themselves and behave when performing a specific task. For example, if society values education and achievement, failure will be frowned upon and the learner's self-concept will decline with every failure. On the other hand, if success is not valued, failure may raise the self-concept while success lowers it.

The characteristics of the self-concept have been presented highlighting its four components: the academic/cognitive, social, physical and emotional self-concepts. The next section presents the physical and emotional self-concepts and how they relate to the academic achievement of learners. The physical self-concept will be presented first.

2.3 PHYSICAL SELF-CONCEPT AND ACADEMIC ACHIEVEMENT

Having looked at the characteristics of the self-concept, the following section examines the physical self-concept and its relationship to academic achievement.

2.3.1 Physical self-concept

This is one of the non-academic dimensions of self-concept which relates to the perceptions about the physical abilities, interest in sport, appearance, gender, age, height, body size, complexion, clothes, home, *et cetera* (Kobal-Palcic & Musek, 1996:65; Huitt, 1998:2-3). According to Mwamwenda (1995:68) psychologists are more interested in the psychological effects, perceptions and implications of the physical self-concept and subsequent behaviour. For example, if the

attitude towards one's body is positive, a positive self-concept will develop, and if negative, a negative self-concept will develop. In other words, the reactions to our physical attributes such as appearance, body size, maturity and activities dependent on physical skills will influence the self-concept (Dembo, 1994:461; Mwamwenda, 1995:68). The focus of this study will be on the age, gender, physical appearance and abilities and how they relate to academic achievement. The idea of age will forthwith be considered in relation to self-concept and achievement.

2.3.1.1 Age

According to Mwamwenda (1995:69) the changes that occur during adolescence are not at the same age for each adolescent. There are early, normal and late developers whose stages of development have social, intellectual and psychological implications for adolescent boys and girls. These will be discussed in the sections that follow.

In a review of pre-1977 self-concept literature, Wylie (in Mboya, 1999:389) found no relationship between age and self-concept for those aged between 6 years and 50 years. However, studies by Hart (1985); Nicholls (1979); Reid and Fitts (1988); Marsh (1985) (in Mboya, 1999) reported a decline of pre-adolescents' self-concepts as they grew older. Huitt (1998:24) cites an example of black children whose self-concept declined from 80% at the time of entry into the elementary school, to five percent at the time of entry into senior high school. This may be explained by peer influence which tends to be more dominant during adolescence. Shaffer (1996:477) supports the view when he says,

Peers are also an important influence and can undermine parents' efforts to encourage academic achievement. To the adolescent, popularity brought by success in physical activities and social acceptance appears to be more important than academic success.

Several other studies cited by Mboya (1999:389) such as Bachman and O'Malley (1977); Flemming and Courtney (1984); McCarthy and Hoge (1982); Savin-Williams and Demo (1984) indicate that self-concepts increase during middle and late adolescent years, while Dusek and Flaherty (1981); Engel (1959) and Le Gette (1982) reported stability of self-concept during the same period. Mboya

(1999:389) also reviewed a Nigerian study of secondary and university learners and reported an increase in the level of self-concept with age. The results reported so far show an inconsistent relationship between age and self-concept.

Research findings presented above show that the relationship between age, self-concept and academic achievement are inconclusive. Mwamwenda (1995:70) attributes the variations to cultural differences. There is therefore, a need to conduct more research focusing on age and both the global and specific self-concept domains in different contexts.

The next section looks at physical appearance, self-concept and achievement.

2.3.2 Physical appearance, learner self-concept and academic achievement

The physical shape of our body, our height, weight, hair, eyes and skin colour all influence how we see ourselves and what we think about ourselves. Many people believe that there is an ideal look=which they should resemble. If we look good then we have a positive self-image. If we think we do not look attractive we may have a negative self-image. A negative self-image may make us feel bad or give us feelings of low esteem. A poor self-image may cause us to lack confidence or even feel depressed about our relationships with other people (Moonie *et al* 2004:130-131). During adolescence, the physical qualities of the individual can have a considerable effect on the development of his/her overall self-concept. In recent years, much emphasis has been placed on the physical appearance of both men and women in all societies. Many people are concerned about their looks. The media has contributed to this state of affairs through advertisements to the effect that physically fit and beautiful people are considered to be more desirable (Mostert, 1995:1). Gerdes and Moore (1989:78) emphasise the point:

Physical appearance is emphasised daily through numerous advertisementsY the excitement which surrounds beauty and body building competitions is further evidence of the value attached by society to physical beauty. Adolescents in particular are under the impression that good-looking people are intelligent and competent among other qualities. This seems to raise their physical and academic self-concepts.

According to Dembo (1994:461-462) there appears to be a strong correlation between self-image and physical looks for both boys and girls. Having an acceptable body is regarded as an important factor in evaluating oneself positively. Furthermore, reactions to one's body can lead to either a positive or a negative self-concept, which in turn can influence learning and academic achievement. For example, learners who are either too small or too big for their age group tend to be ridiculed by their peers, thereby causing them to feel inferior and socially unacceptable. This often impacts negatively on their self-concepts, learning and academic achievement (Mostert, 1995:11). Several researchers have confirmed the assumption that fitness training improves the self-concept to such an extent that learners who feel good about themselves physically scored high on self-concept tests and were also highest on academic achievement.

Women, particularly adolescents, are easily affected by the way they and others view their bodies because physical appearance has a strong relationship with self-concept. This in turn influences other areas of a person's life such as academic achievement and socialisation (Mostert, 1995:12; Dembo, 1994:463).

However, research also appears to be inconclusive regarding this aspect. For example, no significant correlation was found between physical appearance and academic achievement in a study of 180 girls at two rural secondary schools in Botswana though there was a significant correlation with social involvement and sports participation (Mboya, 1999:388). Corey and Corey (1990:146) sum up the importance of physical appearance when they say:

If you feel basically unattractive, unappealing or in some way physically inferior these self-concepts are likely to have a powerful effect on other areas of life.

According to Mostert (1995:3) physical appearance and physical self-concept in particular is a significant issue in the life of adolescents. Since research on physical appearance, self-concept and achievement has been inconclusive there is need for more research on the subject to generate more evidence.

Having looked at the physical appearance in general, the physical well-being will be examined for its relationship to self-concept and academic achievement.

2.3.3 Physical well-being, self-concept and academic achievement

There exists a broad range of physical disabilities and health impairments, which may affect the learners= educational performance. These include communication disorders, visual impairment, being hard of hearing as well as health impairment. The effect these have on academic achievement will be dealt with separately.

2.3.3.1 Communication disorders, self-concept and academic achievement

According to Dembo (1994:511) speech impairments such as stuttering or impaired articulation may handicap the learner's educational performance since these often lead to poor spelling and sentence construction. This may in turn affect academic performance in language and other verbal-academic subjects due to negative interpersonal relationships and the possible development of a poor self-concept by speech-impaired learners. Extensive and frequent criticism and demands for better speech production from learners who stutter may influence their self-concepts and academic achievement negatively.

2.3.3.2 Visual impairment, self-concept and academic achievement

Learners who are blind or partially sighted will have problems with reading and this will hinder or reduce working rate and overall performance unless arrangements are made for special devices such as braille reading material for the totally blind or enlarged print or glasses for the partially blind. However, if such learners are expected to do the same work and their level of performance is to be the same as that of their peers, their self-concepts may be positive. The same learners will however, perceive themselves as inferior if they are expected to perform at a lower level. This may lower their self-concepts and academic achievement as well (Dembo, 1994:507).

2.3.3.3 Deaf and hard of hearing, self-concept and academic achievement

Hearing impairment affects communication and thus social interaction since this involves communication of ideas between individuals. Failure to understand instructions may lead to inappropriate responses and academic failure. If parents, educators and other professionals fail to understand and appreciate the hearing impaired, it may influence their self-concepts negatively and lower their academic achievement (Dembo, 1994:505).

2.3.3.4 Health impairment, self-concept and academic achievement

Learners with health problems may exhibit limited strength or alertness or may be absent from school frequently. Some of them may suffer from self-pity or may be over-protected resulting in their exclusion from class activities. In addition they may fail to finish certain assignments on time and may be rejected by their peers. They are often made to feel worthless and incompetent. Some educators may even expect them to do less work than the others. This negatively affects their self-concepts and academic achievement (Dembo, 1994:514).

2.3.4 Summary of physical self-concept and academic achievement

The research results on physical self-concept described above have shown that learners with physical disabilities tend to have more negative self-concepts than their non-handicapped peers because they believe that they do not have the ability to achieve. Thus, these learners may have low expectations for future achievement (Dembo, 1994:490). However, it has been observed that such learners have the potential to succeed. Educators need to be sensitive to the negative perceptions of these learners when they help them to succeed. It has also been demonstrated that there is a significant relationship between physical appearance, self-concept and academic achievement.

The following section looks at the emotional self-concept and how it relates to academic achievement.

2.4 EMOTIONAL SELF-CONCEPT AND ACADEMIC ACHIEVEMENT

Emotional self-concept is another non-academic component of the general self-concept. Emotional self-concept is examined in order to show its relationship to academic achievement. Focus will be on positive and negative emotions and their impact on self-concept and achievement. According to Strongman (1996:111,114) depression, anger, embarrassment and anxiety can be classified as negative concepts while love, pride, happiness and excitement are positive aspects of emotional self-concept. Negative emotions cause distress and everything possible should be done to get rid of them or reduce their impact on the learner. On the other hand, positive emotions are motivational and have to be enjoyed. Emotions also guide behaviour (Strongman, 1996:111, 114).

These will be considered in the sections that follow in relation to their influence on academic achievement.

2.4.1 Emotional intelligence (EI)

Broadfoot (1998:25) points out the need for educators to recognise what makes one learner more keen and successful and the other less successful. She attributes this fact to the learner's emotional intelligence as much as to his/her intellectual abilities.

In a study of the relationship between emotional intelligence and academic success, AbiSamra (2000:6) reports that emotions, feelings and values were vital for a person's well-being and achievement in life. Quality emotions and feelings (positive emotions) such as love, pride, happiness and excitement, he argues, help learners give their best in the classroom. Educators should therefore try to promote and sustain positive emotions to enable their learners to perform at their best. Negative emotions, on the other hand, which may cause learners to be aversive and think negatively, interfere with prolonged periods of concentration and cause difficulties for learners to reach their potential as compared to those who were positive. Fontana 1997:340) supports these views when he says that positive emotions are associated with positive effort and performance while negative emotions inhibited the memory, with a negative effect on learning and achievement. Poor performance, he argues, may lead to depression. However, Gordon (1995:27) reports that romantic love may be responsible for girls' underachievement, as the following quote demonstrates:

Girls' involvement in relationships with boys and men becomes obsessive, leaving them with little time and motivation to work hard at school. Girls' emotional attachments, it was felt, become central to their lives and fundamental to their feminine self-concepts.

The following section looks at depression, another negative emotion and how it influences self-concept and achievement.

2.4.2 Depression

In a study of the interaction between academic achievement and self-concept, Brogan (1998:3) points out that feeling worthless can lead to depression, and depression can inhibit performance. She went on to remark that if a learner does not feel worthwhile he/she might not feel like doing

his/her best. Furthermore, fear of failure may lead learners to hold back and do nothing. Similarly, constant failure and the accompanying feelings of incompetence tend to be discouraging and demoralising because the student soon gets convinced that he/she lacks the ability to succeed, therefore it does not make sense even to try. Depression can result in a negative emotional self-concept leading to inaction and poor academic achievement. This may lead to anxiety, as will be explained in the next section.

2.4.3 Anxiety

According to Purkey (1988:3) self-concept continuously guards itself against loss of self-esteem, for it is this loss that produces feelings of anxiety. Researchers have identified different types and degrees of anxiety among learners. According to Dembo (1994:167), there is a generalised fear for the total school situation, or of specific aspects of the school such as learners, peers, particular subjects or tests. In the case of school phobia the learner may refuse to go to school altogether (Dembo, 1994:167). On the other hand, school subjects like mathematics seem to evoke more anxiety than others (Dembo, 1994:167). This may be explained by the learner's low self-concept in the subject, fear of the subject, lack of trust in one's ability and past experience, which did not create confidence in the learner. Low grades and avoidance of the subject have been registered as outcomes of anxious feelings.

Wiest, Wong and Kreil (1998:602) report that learners with higher intrinsic motivation, higher school achievement, and favourable perceptions of their competence have lower academic anxiety. Learners with perceived competence earned better grades than did those with less positive views of themselves. On the other hand, test anxiety is an example of negative emotions which has a debilitating effect on school performance. Sadly, it increases through the elementary to high school and beyond, and is strongly and negatively correlated with indices of intellectual and academic performance.

Test anxiety comprises two dimensions namely, *worry* and *emotionality*. Worry is linked to the cognitive aspects of anxiety such as negative beliefs, troubling thoughts, and poor preparation, while emotionality refers to reactions like tension and nervousness. Both have a negative effect

on performance but worry is worse because it persists throughout the test, while emotionality declines once the test has commenced (Dembo, 1994:168).

However, not all anxiety is associated with poor performance because small amounts of anxiety can facilitate learning. A feeling of confidence and preparedness for an examination and a little anxiety can serve as motivation to excel (Dembo, 1994:167; Strongman, 1996:116).

2.4.4 Summary of emotional self-concept

The above examples have demonstrated that emotional self-concept plays an important role in academic achievement. The emotional self-concept can either enhance or lower achievement. Negative emotions such as anxiety, as an important emotional self-concept state, has been found to influence achievement negatively if the intensity is high, while low level anxiety can promote achievement through increased motivation. Anxiety can be generalised to the entire school situation or be focused on a specific subject or academic task such as tests. Positive emotions on the other hand, raise the self-concept and achievement as well. Consequently, when studying emotional self-concept it is important to identify the context and to describe and explain its effect on behaviour.

2.5 SUMMARY

The nature of the self-concept has been discussed with a focus on its significant characteristics. Two non-academic constructs of the self-concept, namely the physical and emotional self-concepts were also discussed in relation to academic achievement. Literature has demonstrated a significant and positive relationship between physical and emotional self-concepts and academic achievement. For example, anxiety, fear, worry and feelings of incompetence tend to influence achievement positively or negatively depending on their level of intensity. For example, test anxiety was found to have a negative effect on academic performance if it was intense. Satisfaction with one's physical attributes, including appearance, is positively related to academic achievement. Knowledge of these characteristics will go a long way in enhancing our understanding of human behaviour or how self-concept influences achievement.

The next chapter looks at the social and the cognitive self-concepts and their relationship with academic achievement.

Chapter 3

Social self-concept, cognitive self-concept and academic achievement

3.1 INTRODUCTION

In the previous chapter the physical and emotional self-concepts and their relationship to academic achievement were presented. In this chapter the researcher presents the learners' social and cognitive self-concepts and how they relate to academic achievement. As mentioned in the first chapter (see section 1.4.2), the social self-concept will focus on how learners view themselves in social contexts or their perceptions of how other people, such as the family and the school, view them socially. On the other hand the cognitive self-concept will focus on thought processes or what the individual learner thinks or believes about himself/herself in academic achievement situations (see section 1.4.6). The social and cognitive self-concepts will be presented separately in more detail.

In dealing with social self-concept or how the learner thinks significant others perceive him or her in this regard, the researcher will examine learners in two important social contexts, namely the family and the school. The role of parents, educators and peers, commonly referred to as significant others, will be discussed in relation to the self-concept and academic achievement. According to Kozier and Erb (1988:511), significant others are individuals or groups of individuals who take on special importance for the development of the self-concept during a particular life stage. It is through social interaction with significant others and the interpretation of the feedback on how others perceive and label him/her that a person develops attitudes towards himself/herself. Combs, Avila and Purkey (1972:48) sum up the role of significant others in shaping the self-concept as follows:

Man is primarily a social animal and it is from experiences with other people that his/her most crucial concepts of the self are derived. People learn who they are from the ways they are treated by the important people in their lives. It is only significant people who have an effect on our self-concept.

Biehler and Snowman (1997:414) underscore the role of significant others in self-concept when they say:

The support and feedback for one's academic accomplishments by parents, educators and friends were the primary determinants of a positive academic self-concept which leads to the feeling of being satisfied and pleased about one's accomplishments and motivation.

In this chapter the researcher seeks to examine the relationship between learners' social and cognitive self-concepts and their academic achievement. In doing so, the influence of parents, educators and peers on learner self-concept will be discussed.

3.2 SOCIAL SELF-CONCEPT AND ACADEMIC ACHIEVEMENT

According to Myburgh *et al* (1999:172), the social self refers to the learners' perception of themselves in a social context. This measure of self-concept reflects the extent to which learners deem themselves effective, accepted, respected and appreciated by others in social contexts. For the learner, it also describes the extent to which they, among other things, believe that they are popular with others, capable of getting along with others, making friends easily and living up to any situation. These factors influence the social self-concept of the learners. The following sections examine what the literature says about the relationship between learner social self-concept and academic achievement. In doing so, focus will be on the influence of parental, educator and peer acceptance or rejection on the learners' academic achievement.

3.2.1 Social self-concept and academic achievement

According to Myburgh *et al* (1999:174) a positive social self-concept is associated with a higher level of academic achievement. In other words, learners who deem themselves to be effective, accepted, respected and appreciated by others in a social context experience a high standard of academic achievement or excellence at school. Hay, Ashman and Van Kraayenoord (1998:462)

underscores the point when they say that the social environment is a significant agent that influences the self-concept. On the other hand, learners who become discouraged in the face of social challenges tend to have low expectations of future success as well as self-worth (Wiest, Wong & Kreil, 1998:601). The research findings show that a positive self-concept contributes to the learners performing better, which in turn raises their self-concepts, resulting in better performance. In addition, a positive social self-concept tends to encourage the learners' participation in learning tasks. Improved participation is likely to raise levels of performance.

According to a publication of the National Education Service of the United States of America entitled: *Improving black students achievement: School-related factors and teacher behavior that contribute to low self-image in students* (2001:2), all human beings need acceptance and approval. As a result, humans are often loyal to those who show an understanding of their shortcomings, appreciation of their strengths and approval of their unique talents and abilities. Young people in particular, have strong needs for achievement and approval. Therefore, educators who love learners and appreciate their efforts and performance are likely to encourage positive behaviour and enhance their abilities and performance, while detachment and disinterest weaken social and personal bonds leading to poor performance.

The next section looks at the relationship between parental acceptance and rejection of the learner and academic achievement.

3.2.2 Parental acceptance and rejection of the learner and academic achievement

Hamachek (1995:428) reviewed self-concept literature by Brookover, Erickson and Joiner (1967); Backman and O'Malley (1986) and Coopersmith (1967) and came to the conclusion that learners whose parents are involved and supportive and who set reasonable and reachable expectations have positive social self-concepts. The view is also supported by Shaffer (1996:477) who points out that parents who encourage achievement and who respond warmly to successes are likely to raise mastery-oriented children who enjoy challenges. This can be explained by the fact that parental relationships have been found to correlate significantly and positively with the formation of self-concept. In addition, parental gender stereotypical attitudes and beliefs, such as boys

should prepare for male roles as family breadwinners while girls have to do domestic chores influence self-concepts and academic achievement. For example, boys have been reported as being under greater parental pressure to succeed than girls (Hay *et al*, 1998:467). Such attitudes do influence parental expectations which in turn influences self-concepts and performance in school (Gordon, 1995:36).

Consequently, learners of supportive parents tend to perform better at school than their counterparts whose parents are less involved, less supportive and who set expectations that are either too high or too low. Furthermore, general parental attitudes such as satisfaction with their children's performance and the value they place on academic achievement correlated highly with children's perceptions of their competencies and academic achievement (McGrath & Repetti, 2000:722). In addition, parental encouragement of curiosity, persistence and mastery of learning influenced motivation positively while negative attitudes had a negative influence on motivation and academic achievement. Involvement in school matters and being supportive are regarded as proxies for learner acceptance by parents while less involvement and less support were symbolic of rejection. Looking at this analogy it would appear that acceptance is associated with positive achievement while rejection is associated with failure. The above examples underline the importance of considering parental influence and attitudes in order to understand the children's perceptions of their academic competence and achievement (McGrath & Repetti, 2000:722).

Educators also play a crucial role in the education of learners. This will be discussed in the next section.

3.2.3 Educators, learner social self-concept and academic achievement

According to Babad (1995:372) the educator's affective behaviour, especially towards low and high achievers, and the learners' subsequent reactions to it, are critical in shaping their social self-concept. He reports that educators often provide learning support and less pressure to achieve towards low achievers, and a warmer emotional climate and more positive affect to high achievers. Generally, educators have been known to transmit more negative affects to lower achievers

(Babad, 1995:361-2). Consequently, low achievers have tended to decline in their academic performance while the high achievers excel.

Babad (1995:363) further reports of educators who generally tend to favour girls who are academically good even if they may not be the best. On the other hand, other learners tend to keep a social distance from the educator's favourites and often display angry reactions towards such educators. However, if the learners who are the educator's favourites are already popular with other learners, there will be no negative reactions towards them. Similarly, as stated above (see section 3.2.1), an educator who loves all learners and appreciates their effort and performance is likely to encourage positive behaviour and enhance their abilities. On the other hand, detachment tends to weaken social bonds leading to poor academic performance. Thus, the educator's different affective behaviours towards learners or treatment of learners can raise or lower their social self-concept and subsequently their academic achievement in school. In addition, educator's attitudes and treatment of learners in school tends to influence their expectations and academic self-concepts. Gordon (1995:72), describing the role played by educators in the development of the self-concepts of girls in Zimbabwe secondary schools, has this to say:

It is within the school itself, during interactions with educators that girls develop their ideas about what they are or are not capable of doing, about whether or not they are academically able. Educator's response to, and treatment of girls in school are thus important influences on girls' aspirations and motivation. Negative beliefs about girls' abilities, labelling and characterisation as people of different abilities and aptitudes Y

These results help to show the importance of the educator in both self-concept development and the academic achievement of the learners.

In the following section the role of peer acceptance and rejection in academic achievement will be illustrated.

3.2.4 Peer acceptance, peer rejection and academic achievement

According to Hunt (1997:717), adolescents tend to spend more time with peers than with their parents. Consequently, satisfaction with peer relationships leads to the development of a positive social self-concept. She goes on to say that adolescents who are accepted by their peers tend to experience positive self-concepts and higher academic achievement. On the other hand, those less accepted experience both social and academic problems. For the adolescents, conformity with peer norms is a critical factor. For example, if peers do not value academic achievement, any member of their group who becomes academically successful is rejected while the desire to retain group membership often leads to the decline in general cognitive self-concept and low academic achievement (Woolfolk, 1995:163). The opposite is likely to be true. Shaffer (1996:477) underscores the point when he says:

Peers are also an important source of influence on grade school children and adolescents and can sometimes undermine parents' efforts to encourage academic achievement. They were more concerned with having the athletic and social skills that lead to popularity. Since peer acceptance is highly important to most adolescents, perhaps it is not surprising that some of them emphasise academic goals less and social goals more, particularly if they attend schools where few learners are highly achievement oriented.

Trusty *et al* (1996:36) underscores the same point when he describes friendship as a cultural institution that transmits knowledge and offers support. He points out the importance of peer relationships to the educational progress of Afro-American adolescents. Trusty *et al* (1996:36) reiterates that peer-related social self-concepts or peer acceptance are more highly associated with academic achievement than are educator-school related social self-concepts. In a study involving Afro-American adolescents, Trusty *et al* (1996:29) came to the conclusion that social self-concept accounted for a significant amount of variability in academic achievement after controlling socio-economic status. This is echoed by Hay *et al* (1998:467) who say that, apart from physical appearance and relationships with parents, adolescents felt that relations with peers significantly influenced the formation of self-concepts. Wiest *et al* (1998:606) agree with the idea when they say that peer groups are an essential element in the motivation process which is crucial for school success.

Trusty *et al* (1996:30) reviewed a study of Afro-American elementary school learners by Marchant (1991), and concluded that there is a negative relationship between social self-concept and

academic achievement. This has been explained by the fact that academic achievement among the Afro-American learners was not always consistent with their racial and cultural goals and that a negative social stigma was attached to academic achievement. For example, Fordman and Ogbu (in Shaffer, 1996:477) in their study of black students' success, came to the conclusion that high achieving Afro-American learners in some inner city schools ran the risk of rejection by their Afro-American peers if their academic accomplishments caused them to be perceived as 'Acting white'. Consequently, lower academic achievement was generally common among the Afro-American adolescents.

According to Park (1998:32-34) researchers have found a link between social skills and academic achievement or performance. For example, stable peer acceptance during the early school years tends to protect learners from early academic difficulties while peer rejection precedes early academic difficulties. This view is supported by Downey, Lebolt, Rincon and Freitas (1998:1074) in their study of peer social rejection in urban minority fifth to seventh graders in the United States of America. They found that learners who were sensitive to rejection tended to behave more aggressively, experienced increased interpersonal difficulties and declines in academic functioning over time than non-rejection sensitive learners. Rejected learners were also associated with low socio-economic status and with the fact that they were academically less skilled than accepted learners (Pettit, 1996:267).

Furthermore, Buhs and Ladd (2001:550) report that rejected learners were more likely to experience negative peer treatment, participate less in the classroom, express the desire to avoid school and perform less well on achievement measures.

In a study of the social integration of handicapped learners into the mainstream, according to Thomas (1998:1), non-handicapped learners form negative impressions of handicapped classmates. For example, they may regard them as mentally retarded, learning disabled or impaired. These negative perceptions of such learners may be evidence of rejection by non-handicapped peers. However, such mainstreaming of handicapped learners can lead to acceptance or rejection depending on the role the educator plays in fostering acceptance and the development of social skills, such as co-operation. If made to feel accepted the handicapped

learners are likely to benefit from the close relationships with their non-handicapped peers leading to maximum academic achievement. According to Trusty *et al* (1996:37) the results described above seem to suggest that the use of peer tutoring, mentoring or facilitation may be beneficial to the learners.

Hamachek, (1995:426) in a review of self-concept literature by Rotherham (1987) and Yarworth and Gauthier (1978) reports of learners who are assertive and others who give in too easily to others. She concludes that learners who are assertive and willing to take interpersonal risks are more likely to have positive social self-concepts than those who were less assertive and took fewer risks. Learners who have positive social self-concepts are generally bolder and more confident in their interpersonal relationships. They foster positive feelings about themselves in academic situations, which help them to perform better academically. Those who are less confident tend to give up quickly when their peers perform better than them. As a result, learners with positive social self-concepts are capable of working independently on tasks because they are more confident of their abilities while learners with lower self-concepts who lack confidence require more help and supervision and are often restless when doing schoolwork.

The popularity of the learner will be examined in relation to academic achievement in the following section.

3.2.5 Popularity, social self-concept and academic achievement

According to Ladd (1990:1081) learners who have many classroom friends at the time they enter school have more favourable perceptions of the school. Learners maintain such friendships and grow to like their school more as the year progresses. He reports that making new friends was positively associated with school performance gains. On the other hand, early peer rejection tends to lead to less favourable perceptions of the school, higher levels of school avoidance and lower academic performance.

According to Hamachek (1995:414), learners with positive social self-concepts tend to be more popular and enjoy better interpersonal relationships than learners with lower social self-concepts.

Popularity in this context is regarded as a reflection of the learner's success in developing interpersonal relationships and self-confidence, which is often accompanied by general academic and subject competence.

Huitt (1998:4) posits that satisfaction with peer relationships is important in the development of a positive social self-concept and higher academic achievement. However, not all learners who display self-confidence and popularity among peers are successful academically. Negative indicators such as quietness, shyness, hesitance, a lack of popularity and minimal involvement in class may be a preferred life-style if it is accompanied by academic success. However, when such characteristics are accompanied by unhappiness and fear, failure may be the outcome (Hamachek 1995:417). Owing to their confidence, learners with positive social self-concepts often prefer to work on their own while those with low social self-concepts seek assistance from others.

3.2.6 Summary of social self-concept and academic achievement

This section highlighted how social relations with parents, educators and peers, and in particular support, acceptance, rejection and popularity in academic situations influence social self-concept and academic achievement. Learners who have positive self-concepts and enjoy sound interpersonal relations are popular, accepted and supported, tend to be more confident and do better academically than those who enjoy less support and popularity and are rejected by significant others or are in the low self-concept group. Thus, the social self-concept generated by interactions with significant others can influence their overall achievement or performance in specific subjects.

3.3 COGNITIVE SELF-CONCEPT AND ACADEMIC ACHIEVEMENT

According to Stipek and Gralinski (1996:397) the cognitive self-concept deals with perceptions of causes of academic performance which figure prominently in theories of achievement motivation and have important implications for the behaviour of individuals in academic situations. In other words, cognitive self-concept has to do with beliefs about one's ability, effort, performance, intelligence and behaviour in general and in specific situations such as subject areas or specific tasks. Craven *et al* (2000:55), emphasise the point when they say that a positive cognitive self-concept is linked to academic effort and persistence, coursework selection, educational aspirations, completion of high school and subsequent university attendance.

According to Hamachek (1995:420) the way learners feel about their abilities may affect their academic performance. Consequently, academic achievement may not simply be an expression of the learners' abilities but also of their self-concept of ability which, when positive, helps them feel confident and able but, when negative, cause them to feel hesitant and uncertain.

In this section learners' cognitive self-concepts and their relationship with academic achievement will be examined. In doing so, focus will be on behaviours that may constitute outer signs of feelings that reflect a learner's cognitive self-concept which influences how he/she performs in school. The following are some of the behaviours or experiences and feelings which reflect one's

cognitive self-concept: attribution beliefs, goal setting, past academic performance, task persistence, attitude towards school and nature of the schoolwork preferred. Each one of these will be examined in more detail. Before this is done, the relationship between the general self-concept, cognitive self-concept and academic achievement will be examined briefly.

3.3.1 General self-concept, cognitive self-concept and academic achievement

According to Huitt (1998:21), academic or cognitive self-concept relates to how we perform or learn in school. There are, however, two levels namely the general academic self-concept which describes how good we are overall, and a set of specific content related self-concepts that describe how good we are in specific subjects such as mathematics, science, languages etc. The relationship between self-concept and school achievement is content or situation specific. For example, the general self-concept is moderately related to academic success overall. On the other hand, subject related self-concepts are highly correlated to success in the relevant content area. In an investigation of the relative importance of global/general self-concept and self-concept of academic ability, Mboya (1989:39) concluded that the general self-concept and self-concept of academic ability correlate positively with academic achievement. However, the relationship between self-concept of academic ability correlated more strongly with academic achievement than did the general self-concept (Marsh, 1992:35). Reviews of self-concept research by Hamachek (1995:420) confirm the relationship in terms of direction and strength.

According to Wiest *et al* (1998:603), learners with high-perceived general competence or in a given subject, earned better grades than did those who had less positive views of themselves. Learners who are confident about their ability tend to tackle problems more competently than their counterparts who lack confidence. Task persistence is one other behaviour to be considered in relation to cognitive self-concept and academic achievement.

3.3.2 Task persistence, cognitive self-concept and academic achievement

Hamachek (1995:416) reports that learners who have high cognitive self-concepts tend to persevere in doing difficult tasks because they have confidence in their abilities to accomplish.

Consequently, they are prepared to invest time, money and effort to complete challenging tasks successfully. On the other hand, their counterparts are often less confident and less motivated to persevere at a task when they know that the chances of success are minimal. Thus, success at a task will promote more positive cognitive self-concepts and more success while failure decreases it. The self-concept held by the individual is influential in goal-setting behaviour as will be illustrated below.

3.3.3 Goal-setting, cognitive self-concept and academic achievement

According to Hamachek (1995:425) learners with positive cognitive self-concepts and who experience success more often tend to set realistic and achievable goals which enable them to experience success. On the other hand, low self-concept learners set unrealistically high and unreasonable goals whereby making success difficult and impossible. This tends to reinforce their failure orientation and protects them from success (Hamachek, 1995:425). When learners succeed or fail, they explain the outcome differently depending on whether they are success or failure oriented. This will be presented below as attributions for success or failure.

3.3.4 Past performance, cognitive self-concept and academic achievement

According to Hamachek (1995:426), learners at various grade levels have experienced successes and failures. Those experiencing success tend to project a more positive cognitive self-concept than those with more failure experiences. For example, learners dropping out of school have cited negative experiences such as poor grades and repeating a grade as some of the main reasons for dropping out. Since success has been linked to high self-concept and academic achievement, failure would also contribute to a low self-concept and future failure in academic situations. For example, learners have first to do well in school in order to have a positive cognitive self-concept. According to Hamachek (1995:421) reviews of literature by (Kifer (1975); Weikart (1971); Johnson and Robison-Awana, Kehle and Jensen (1986) led to the conclusion that academic achievement precedes a positive self-concept. In addition, cognitive self-concept tends to improve significantly and commensurately with high academic achievement for higher school learners of both sexes (see section 1.1.2.1). There is therefore evidence to show that following an improvement in

achievement, learners with previously low cognitive self-concepts tend to have improved their self-concepts. Thus, a learner's past performance can influence his/her academic success through the enhancement or not of self-confidence.

3.3.5 Attitude towards schoolwork, cognitive self-concept and academic achievement

Hamachek (1995:418) reviewed literature by Allen, Learner and Hinrichsen (1972), Diggory, Klein and Cohen (1964) and Felson (1984) and concluded that learners who believe in their academic competence tend to work harder and take schoolwork more seriously than learners who feel that they are less competent. Higher self-concept learners are less likely to miss classes and more likely to complete homework assignments and spend more time studying. This may be due to the fact that learners with positive self-concepts attribute higher performance to themselves and see more clearly the relationship between the effort they put into their work and their success. On the other hand, learners with negative self-concepts tend to work less hard because failure after some hard work will discourage them more (Hamachek, 1995:427). Consequently, it is better for them to earn poor grades with no effort at all for this is consistent with their self-concept.

Canfield (1992:24) points out the role of the educator in influencing the cognitive self-concept and academic achievement of learners when he said that

learners do better in school when they feel better about themselves.

He illustrates the point when he cites the example of a learner who had problems with his mathematics and was now doing well. Asked why he was performing well in mathematics he replied, *It is because I like myself now when I am with you* (Canfield, 1992:26). The example serves to show the importance of positive learner-educator interaction on the cognitive self-concept and better academic achievement. Therefore, by reinforcing a positive cognitive self-concept educators help to enhance academic achievement, particularly that of slow learners. One's cognitive self-concept also helps to determine the nature of work one will prefer to do, as will be discussed in the following section.

3.3.6 Nature of work preferred, cognitive self-concept and academic achievement

Hamachek (1995:428), in a review of research data by Bandura (1989); Boggiano, Main and Katz (1988); and Harter and Connell (1984), seems to suggest that learners with positive cognitive self-

concepts and high perceived cognitive competence tend to prefer challenging work in order to feel a sense of accomplishment. On the other hand, their counterparts with low self-concepts shy away from mind-stretching work. This tends to affect their academic achievement negatively (Hamachek, 1995:419). She goes on to say that learners who think that cognitive competence is important and believe that they are cognitively competent are likely to reflect more positive self-concepts overall and to be more intrinsically motivated to do well in school. On the other hand, learners who think less of their academic competence tend to be less motivated to do well in school.

The following section looks at explanations given by learners for success or failure

3.3.7 Attribution beliefs, cognitive self-concept and academic achievement

Dembo (1994:154) describes attribution beliefs as the individuals' beliefs about the causes of their successes or failures. He identifies four major causes, namely ability, effort, task difficulty and luck. Ability and task difficulty were regarded as stable while effort and luck were variable or could change from time to time. He observes that high cognitive self-concept learners attribute their success to either ability or effort while failure is attributed to inadequate effort. Success is therefore regarded as a source of inspiration and renewed confidence. On the other hand, failure has the effect of energising the learners because it is not a reflection of their ability. Learners with low cognitive self-concepts, on the other hand, attribute their success to mere luck and do not attribute it to themselves. Failure is explained by inability because they do not believe that they have control over their academic destiny. Wiest *et al* (1998:605) seem to agree when they say that attributions for success or failure or locus of control as it is also called, have been linked to academic achievement. For example, higher academic achievement is associated with belief in internal control (intrinsic motivation) while lower achievement is linked with belief in external control or extrinsic motivation. Consequently, lower performers try to minimise the pain brought about by failure or to avoid failure by not trying at all. To them success implies an obligation to do well next time, something they find difficult to uphold or sustain. Hence they tend to be motivated to avoid failure rather than to succeed (Dembo, 1994:156; Hamachek, 1995:424). For example, learners scoring high marks in a subject like English, often attribute it to superior ability and not luck. The

high achiever will in future strive to maintain a high performance while for the low achiever the impact of success is rather insignificant because he/she takes no credit for it. Thus, a cognitive self-concept can influence the future performance of learners.

From the above description it can be seen that learner behaviours such as persistence at tasks, goal-setting, past performance, attitude towards school, the nature of work preferred and the nature of motivation and attribution beliefs reflect on the learner's cognitive self-concept and academic achievement.

The next section looks at the cognitive self-concept and academic achievement in individual subjects.

3.3.8 Cognitive self-concept and academic achievement in individual subjects

Research evidence already presented in sections 3.3.2, 3.3.3, 3.3.4, 3.3.5 and 3.3.6 has shown that behaviours and experiences such as task persistence, goal-setting, past performance, attitude towards school and schoolwork, and the nature of schoolwork preferred reflect on the learner's cognitive self-concept which in turn influences academic achievement overall and in individual subjects. Gender, future roles and occupations and self-comparisons will be examined for their influence on cognitive self-concept and academic achievement in individual subjects. Gender will be examined first.

3.3.8.1 Gender, cognitive self-concept and academic achievement

According to Woolfolk, (1995:171) gender refers to judgements about masculinity and femininity while sex refers to the biological differences. Gender-role identity is part of our self-concept or beliefs about characteristics and behaviours associated with one's sex as opposed to the other. Consequently, people with a feminine/masculine identity would rate themselves high on characteristics associated with their gender. Generally, a masculine identity has been associated with more positive self-concepts than a feminine identity (Woolfolk, 1995:171).

Research on the relationship between gender, self-concept and academic achievement has generally been inconsistent (Hay *et al* 1998:461). On the one hand it is reported that pre-adolescent girls in general do better than boys, while on the other hand, no gender differences in performance were noted. The examples that follow will illustrate these views.

According to Mwamwenda, (1995:366) secondary school boys and girls aged 18 years of age showed no significant gender differences in single sex schools in the former Transkei. The apparent lack of difference between the self-concepts of boys and girls and their academic performance was explained by the fact that both boys and girls were exposed to education, and that the expectations of educators and parents for both were the same. Similarly, Mboya (1999:395) found very little evidence to suggest gender influence on global and domain specific self-concepts of adolescent learners in co-educational high schools in Khayelitsha, Cape Town, South Africa.

In a related study, Hay *et al* (1998:462) found no gender differences in the mathematics achievement in the early school years, though boys began to excel in mathematics reasoning and demonstrated higher achievement than girls through high school into adulthood. There were also no gender differences in mathematics, general school and general self-concept scores. However, research results on gender and academic achievement have not always been consistent, as the following examples will show.

Mboya's (1999:389) review of self-concept literature on Africa by Ezeilo, (1983); Mwamwenda, (1991); Olowu, (1984) concluded that gender differences existed in self-concepts. Vrey (1996:53) also found variations in performance in mathematics where pre-adolescent girls tended to do better than boys. Boys, however, tended to excel in mathematics reasoning and demonstrated higher achievement than girls towards the end of elementary to high school and adulthood. According to Hay *et al* (1998:466) pre-adolescent girls displayed higher scores in mathematics and reading comprehension than boys while boys reported higher physical abilities and physical appearance self-concepts. The results confirm earlier research by Harter (1981) (in Hay *et al*, 1998:466). Gordon (1995:72), in her qualitative study of causes of underachievement by girls in Zimbabwe, concluded that girls' lower self-concepts were responsible for their underachievement. Girls performed poorly

in physically challenging subjects like Woodwork and Metalwork, as indicated previously (Gordon, 1995:62).

Research results presented show inconsistency in the relationship between gender, self-concept and achievement, hence the need for more investigation. The next section looks at physical appearance and its relationship to academic achievement.

In Zimbabwe both boys and girls are being offered the same subjects. For example, gender specific subjects such as fashion and fabrics, metalwork and food and nutrition are offered to learners of both sexes. Factors other than the availability of subjects influence learners' subject choices. For example, gender typing of subjects may be related to girls' academic self-concepts and to their perceptions of feminine abilities, aptitudes and beliefs about appropriate future roles for women, degree of difficulty or masculinity (Gordon, 1995:61-62). For example, mathematics, history and geography are often regarded as difficult and masculine, while English is regarded as easy and more suitable for females. Subjects regarded as masculine are generally perceived as mentally and physically demanding, difficult, and therefore inappropriate for women. These findings support the findings of Stumpf and Stanely (1996:353) who reported more females taking languages (French, Spanish and Modern Hebrew), while more males preferred physics, chemistry, mathematics and computer science. They report that males tend to score higher marks in the sciences while females do better in languages. Thus, there is gender imbalance in both participation and actual performance, which may be a reflection of differences in cognitive self-concepts in the different subjects. For some, trying hard in these subjects is not necessary since failure is obvious. However, despite the fact that some learners regard mathematics as difficult, it has remained a favourite subject for both boys and girls because of its importance in future occupations (Gordon, 1995:62).

3.3.8.2 Occupation, cognitive self-concept and academic achievement

In Zimbabwe, steps have been taken to offer both boys and girls the same subjects at school (Gordon, 1995:61). Consequently, at high school a number of male learners take subjects such as needlework and cookery, and girls woodwork, metalwork and technical graphics, previously

the preserve of females and males respectively. However, performance in these subjects by learners who enroll for subjects often typically for the opposite sex is rather poor due to gender stereotyping of the subjects as either feminine or masculine (Gordon, 1995:61). For example, if a subject is perceived as masculine, difficult and inappropriate for female occupations and future roles, a low cognitive self-concept develops leading to lower academic performance and *vice versa*. Thus, gender can influence the learners= cognitive self-concepts and their academic achievement in individual or group of subjects.

3.3.8.3 *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 to 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, 1998:517). 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, 1998:518).

Furthermore, the school context in which the learner is operating can raise or lower the learner's cognitive self-concept and academic achievement (Craven & Marsh, 1996:13). For example, the **Big fish little pond effect** theory (bflpe) advanced by Craven and Marsh (1996:12), 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* (1998:312) 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 learner's 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 positive and are competent in their subject areas tend to inspire their learners with confidence and to 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, 1994:456).

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.

3.3.9 Summary of the cognitive self-concept and academic achievement

The literature review presented above has demonstrated that a relationship exists between the cognitive self-concept and academic achievement. Moreover, persistence at tasks, goal-setting, attributions for success or failure, past academic performance, attitude towards school and the nature of work preferred reflect on the learner's cognitive self-concept which in turn influences academic achievement overall and in specific subjects. Gender was also found to have an influence on the cognitive self-concept of the individual through gender stereotyping of occupations and subjects.

3.4 SUMMARY

From the literature presented it has emerged that acceptance, support, popularity and the rejection of learners by parents, educators and peers can influence the social self-concept of learners significantly, which in turn influence their level of academic achievement. In general, acceptance tends to raise the social self-concept and academic achievement while rejection lowers it.

It has also emerged that cognitive self-concept and academic achievement are dynamically interactive and reciprocal. Similarly, the school one attends was found to have an effect on the learners' cognitive self-concept and their achievement. Of great interest, however, is the finding that high achieving schools do not always raise the cognitive self-concept and academic achievement of the learners. Contrary to expectations, such schools can lower the learners' cognitive self-concept and academic achievement due to self-comparisons which make some of the learners feel incompetent among other high performers.

The next chapter looks at the methodology used for this study.

Chapter 4

Research design

4.1 INTRODUCTION

In chapters 2 and 3 the conceptual framework of the self-concept domains: the physical, emotional, social and cognitive and how they relate to academic achievement were discussed. The discussions were based on the related literature review on the self-concept and academic achievement. In the literature reviewed the extent to which each of the physical, emotional, social and cognitive self-concepts were related to academic achievement was indicated.

In this chapter, the research design used to determine the relationship between learner self-concept and academic achievement in Zimbabwe secondary schools will be outlined. Specific research questions, the null and alternate hypotheses and methods used in conducting this study are stated. In pursuance of the research aim, specific research questions are outlined below.

4.2 THE RESEARCH PROBLEM

The current study seeks to answer the following research quotation: *Is there a significant relationship between learner self-concept and academic achievement in Zimbabwean secondary schools?*

4.2.1 Research aims

In view of the aforementioned research problem, it is the aim of this study to investigate the significance of the relationship between learner self-concept and academic achievement in Zimbabwean secondary schools. In order to appreciate and understand the research problem more, the following secondary aims were investigated:

- 4.2.1.1 to determine the significance of the relationship between each of the following: general, physical, emotional, social and cognitive self-concepts and academic achievement;
- 4.2.1.2 to examine gender, age and standard (form/grade) differences with regard to the general; physical, emotional, social and cognitive self-concepts and academic achievement;
- 4.2.1.3 to examine the relative contributions of the general, physical, emotional, social and cognitive self-concepts to academic achievement; and
- 4.2.1.4 to investigate or examine learner self-concept and academic achievement regarding school location, school type and type of attendance, e.g. day school or boarding school.

Below follow specific research problems/hypotheses that emanated from the review of literature on similar topics to test the relationship between learner self-concept and academic achievement in Zimbabwe secondary schools.

4.3 HYPOTHESES/PROBLEMS

For the purposes of statistical analysis, the null-hypothesis was used to test for the significance of the relationship between learner self-concept and academic achievement at the 1%- or 5%-significance level. The null- and alternate hypotheses for this study are presented below.

Research problem 1

Is there a significant correlation between general and specific self-concepts and academic achievement?

H₀₁: There is no significant correlation between general and specific self-concepts and academic achievement.

Research problem 2

Is there a significant correlation between general and specific self-concepts and academic achievement of both genders?

H₀₂: There is no significant correlation between general and specific self-concepts and the academic achievement of both genders.

Research problem 3

Is there a significant correlation between general and specific self-concepts and the academic achievement of junior and senior learners?

H₀₃: There is no significant correlation between general and specific self-concepts and the academic achievement of junior and senior learners.

! Research problem 4

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

H₀₄: There is no correlation between general and specific self-concepts and the academic achievements of urban and rural learners.

! Research problem 5

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

H₀₅: There is no significant correlation between general and specific self-concepts and the academic achievement of learners from different school types.

! Research problem 6

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

H₀₆: There is no significant correlation between general and specific self-concepts and the academic achievement of boarders and day scholars.

! Research problem 7

Is there a significant correlation between general and specific self-concepts and the academic achievement of learners of different ages?

H₀₇: There is no correlation between general and specific self-concepts and the academic achievement of different ages.

! Research problem 8

Is there a significant difference between the academic achievement and the different self-concepts of male and female learners?

H₀₈: There is no significant difference between the academic achievement and the different self-concepts of male and female learners.

! Research problem 9

Is there a significant difference between the academic achievement and the different self-concepts of junior and senior learners?

H₀₉: There is no significant difference between the academic achievement and the different self-concepts of junior and senior learners.

! Research problem 10

Is there a significant difference between the academic achievement and the different self-concepts of urban and rural learners?

H₁₀: There is no significant difference between the academic achievement and the different self-concepts of urban and rural learners.

! Research problem 11

Is there a significant difference between the academic achievement and the different self-concepts of learners of different ages?

H₁₁: There is no significant difference between the academic achievement and the different self-concepts of learners of different ages.

! Research problem 12

Is there a significant difference between the academic achievement and the different self-concepts of learners from different school types?

H₁₂: There is no significant difference between the academic achievement and the different self-concepts of learners from different school types.

! Research problem 13

Is there a significant difference between the academic achievement and different self-concepts of boarders and day scholars?

H₁₃: There is no significant difference between the academic achievement and different self-concepts of boarders and day scholars.

4.4 RESEARCH DESIGN AND METHOD

The main aim of the current study was to describe learner self-concept and to determine the relationship between learner self-concept and academic achievement in Zimbabwean secondary schools. Consequently it was decided to use both the traditional quantitative method of measuring the relationships by means of statistical correlations and the more complex, but information rich, qualitative research design. The two were used to complement each other. The two research designs are discussed separately below.

4.4.1 Quantitative research design

The current study employed the descriptive survey research design to measure learner self-concept and academic achievement at a point in time. It also allowed data collection from a larger number of learners than is generally possible with experimental or quasi-experimental research designs. McMillan and Schumacher (1997:32), point out that apart from being the most commonly used method in educational research, the descriptive survey design was preferred because it is objective in data collection at a point in time, quantifies variables and describes phenomena using numbers to characterise them. In addition, it examines relationships between variables without suggesting cause and effect. Best and Kahn (1993:121), underscore the point when they say that descriptive studies describe **what is**, with special reference to conditions or relationships that exist, and that it involves the formulation and testing of hypotheses. According to Cohen and Manion (1995:83), the descriptive survey design does not involve manipulation of subjects but simply measures subjects as they are in order to generate generalisations and to add to existing knowledge.

Unlike the qualitative research design, which involves direct observation of behaviour, surveys rely on individual self-reports of their knowledge, attitudes or behaviour. Consequently, validity of the

information collected depends on the honesty of the respondents (Mertens, 1998:105). However, the success of the survey also depends on clear articulation of the purpose(s) of the research, specific objectives and the spelling out of the information needed. Cohen and Manion (1995:83) have this to say in support of the survey:

...surveys gather data at a point in time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events...vary in their levels of complexity from those which provide simple frequency counts to those which present relational analysis.

The quantitative design generated numbers, which were analysed statistically making comparisons and correlations possible (Denscombe, 2000:174). In the present study, academic achievement is the dependent variable though, from the literature review, the self-concept can also be the dependent variable owing to its reciprocal relationship. The study used learners= mid-year 2003 marks for the core subjects; English language, mathematics, science, history and Shona/Ndebele. However, moderator variables such as gender, age, grade level, rural and urban locations, school type and type of attendance were also measured against the level of performance for their relationship with the self-concept and academic achievement.

Some studies have been carried out in Africa to demonstrate the relationship between the self-concept and academic achievement (Mwamwenda, 1995; Mboya, 1996, 1999; Gordon, 1995). However, very few such studies have been carried out in Zimbabwe, hence the need for the current study, which seeks to describe and to test the relationship between learner self-concept and academic achievement. The results from the current study will help to provide further explanation for the higher or lower academic achievement of adolescents. Consequently, the study will contribute to literature on the factors that influence academic achievement in Zimbabwe, thereby helping educators to improve the performance of learners at different levels of the school system overall, and in specific subjects.

Details of the quantitative research design are presented below.

4.4.1.1 Sampling

The target population for this study was all secondary school adolescent learners in the Harare and Mashonaland East Regions. There are 207 126 learners in total (108 649 males and 98 477 females). Of these 102 335 (51 524 males and 50 811 females) and 104 791 (57 125 males and 47 666 females) were in Harare and Mashonaland East Regions respectively (Ministry of Education, Sport and Culture, 2001:1-26).

For the quantitative research design, the study employed two samples, the pilot sample for the development of the instruments and the main sample for cross-validation of the substantive enquiry respectively.

The pilot sample

Thirty nine learners (20 boys and 19 girls) aged between 13 and 18 years were recruited from forms one to four at a secondary school in Harare to respond to the draft questionnaire. The learners were chosen from upper and lowest forms 1,2,3 and 4 to represent different grades and levels of ability. The subjects had similar characteristics to those that were used in the main study, except that they were all from an urban school, one of the localities as used later in the main enquiry.

The pilot sample enabled validation of the instrument by identifying ambiguities in both content and language in preparation for the data collection for the main sample. It also helped the researcher to have an idea of the time required to complete the questionnaire and to anticipate any problems likely to be encountered during the main data collection. Respondents were also asked to give written comments on the instruments (McMillan & Schumacher, 1993:249; Mertens, 1998:315). Only one respondent indicated lack of understanding of the meaning of the word, **Apeer@**. This was explained. The pilot study was conducted under the same administration procedures as expected for the main sample. It took the fastest respondent 12 minutes and the slowest 40 minutes to complete the questionnaire.

Though the respondents were chosen from the top and bottom classes, it would appear that most responded to question (6): **I am academically a high performer,** I am academically a low performer, to say that they were all **high performers.** This made it necessary to drop the question before completing the questionnaire for the main sample. Finally, the instrument was reproduced for administration to the main sample to be described in the section that follows.

The main sample

This study employed the stratified, purposive and convenience sampling procedure because of the heterogeneous nature of the target population, that is, the Zimbabwean school population. This generated homogeneous groups, such that each group contained subjects with similar characteristics (Borg & Gall, 1989:224; McMillan & Schumacher, 1993:162; Cohen & Manion, 1995:87; Denscombe, 2000:12). In addition, stratification enabled the researcher to assert some control over the selection of the sample in order to guarantee inclusion of crucial subjects or factors in the way they exist in the wider population. This made later generalisations of results possible (Denscombe, 2000:12).

Firstly, schools were stratified according to their geographical location (urban and rural), and academic performance, that is, high and low performance. Secondly, schools were divided according to the type: government and non-government (church, private and district council). In each school, learners were identified by gender and level of performance or ability, e.g. above and below average, and grade/form level (junior or senior) and type of attendance, namely day or boarding school scholar.

School records were used to obtain the class average test scores in order to identify the level of ability of the learners. For mixed ability classes, the top twenty and bottom twenty were selected for the study. All the schools participating practised streaming of their learners. This made identification of high and low performers easier. Learners in the top and bottom classes were included in the sample. Schools readily provided the data of the participants from the mid-year examination results.

The main sample comprised 1281 subjects ranging from form one to form four learners attending formal secondary schools. Details of the sample composition are given in Table 2. High and low performing schools were identified from the school league tables based on the Ordinary Level Examination Results. Schools (government and non-government) in the top 200 and bottom 200 out of 1570 schools on the league table were considered as high and low performers respectively.

Data were collected from both the above and below average learners. As already stated above, learners were selected by gender as well, in order to ensure representation of males and females. This is because the literature reviewed has shown that there is some difference in the self-concept and academic achievement between males and females.

The following section examines the questionnaire used for the current study.

4.4.1.2 The questionnaire

Collection of quantitative data for the purpose of this study, which seeks to determine the relationship between learner self-concept and academic achievement of secondary school learners, involved the use of questionnaires or the SDI. The SDI questionnaire was used to collect data on the moderator variables, the general, physical, emotional, social and cognitive self-concepts of adolescent learners in secondary schools in and around Harare. The questionnaire was preferred for this study because it generated quantifiable data ready for statistical analysis. Questionnaires allowed each one of the respondents to read and answer identical questions, thereby ensuring consistency in the demands of what respondents had to give as answers. Questionnaires generated standardised data, which made the processing of responses easier. Standard data also helped to increase the validity and reliability of the results.

In the current study, where the researcher sought to investigate the learners' feelings about themselves in academic situations, it was best to get the information straight from the **A**horses mouth@ through the questionnaire (Denscombe, 2000:87-88). Above all, the questionnaire enabled the researcher to reach a larger population scattered over a large geographical area of the Harare and Mashonaland East regions. The responses required in this study consisted of writing down a number corresponding to the preferred response chosen from a five point Likert scale provided. This was quite simple and straightforward.

Furthermore, various tests and questionnaires that have been used to measure personality features, such as the self-concept, already exist. These include the Self-Esteem, the Coopersmith Self-esteem Inventory, Piers and Harris Children's Self-concept scale, Rosenberg's Self-Esteem

Scale and the Self-Description Questionnaire (SDQ) (Marsh, 1990; Kobal-Palcic & Musek 1996:64-65). The SDQ scales measure the self-concept in the academic, non-academic, general school and general self-concept areas. These instruments require respondents to read and respond to declarative statements such as "I am good at mathematics,@I make friends easily."

The validity of these instruments has been strongly supported and accredited by recent research (Lau, Yeung & Jin, 1998:2). The instruments have been tested and supported extensively in non-western as well as western cultures, and have been found to be the best multidimensional self-concept instruments available (Lau, Yeung & Jin, 1998:2; Marsh & Roche, 1996:464).

The coefficient alpha estimates of reliability for these instruments range between .80 and .90 (Marsh & Roche, 1996:464). According to McMillan and Schumacher (1997:227), an acceptable range of reliability for coefficients for most instruments is between 0.70 and 0.90. In view of the above merits, the current study used the SDQ scales and their adapted versions, referred to in this study as the Self Description Instrument (SDI), to collect data in order to test the relationship between the learners= self-concept and academic achievement in secondary schools in Zimbabwe.

A brief description of each of the question categories is given below.

Structure of the (SDI) questionnaire

The SDI comprises six questions on biographical data (moderator variables), twenty-five each for the physical, emotional, social and cognitive/academic self-concepts. The SDI consists of 106 questions.

For ease of response, the questions on the biographical data were coded as follows; gender: male (1), female (2), school location: urban (1), rural (2), form/grade: junior (1), senior (2), type of attendance: boarder (1), day scholar (2), school type: government (1), non-government (2) (see Appendix A). For the rest of the questionnaire, responses on the five-point Likert scale applied: *Strongly Agree* (5), *Agree* (4), *Uncertain* (3) *Disagree* (2), *Strongly Disagree* (1). For questions stated

in the negative, scoring was reversed such that *Strongly Agree* was scored as (1) to *Strongly Disagree* (5).

The distribution and nature of the questions is presented below.

Firstly, questions (1-6) required the learners' biographical information or moderator variables such as gender, age, form/grade and school location and type, as well as the type of attendance. These were six in number.

Secondly, questions on the *physical self-concept* (7-31) sought information on the respondents' physical abilities, activities, interests and appearance. There were 25 questions in all. Learners responded on a five-point Likert scale ranging from *Strongly Disagree* (1), *Disagree* (2), *Uncertain* (3), *Agree* (4) *Strongly 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 look 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 like their parents or are liked and supported by their parents, for example, **AI** have a good relationship with my parents@, **AI** 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, **AEducators** like me@, **AEducators** often ignore me@, **AEducators** often shout at me@.

For *relationships with peers*, learners were asked to describe their perceptions of their interaction 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: **AI** make friends easily@, **AI** am very popular with members of the opposite sex@, **AMy** classmates do not like me@, **AMy** 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 in tasks, 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; **AI** am good at mathematics@, **AI** do not like science@, **AI** get poor marks@, **AI** 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.

The questionnaire as well as the key to the questionnaire are attached as Appendices A and B respectively. The key indicates which items focus on which variable. The items have been adopted and adapted from the literature review in chapters 2 and 3.

Achievement

Information about the learners' actual performance in school was obtained from school records. Test scores for compulsory subjects or the core subjects were used for this study. These are English, mathematics, science, Shona/Ndebele and history. Compulsory subjects were selected to ensure that there were no missing marks for all the participants.

4.4.1.3 Procedure

Permission to administer the questionnaire was sought from the Zimbabwe Ministry of Education, Sport and Culture's Head Office in the first instance, thereafter, from the Regional Offices and the school heads. The learners' consent was obtained. The individual respondents were told that they had the option to or not to participate. The purpose of the study was explained to the subjects before completion of the questionnaire commenced, namely, to investigate the relationship between the learner's self-concept and academic achievement in secondary schools.

Before leaving the researcher made an appointment with the head of the school who in turn decided on a suitable time and room for the researcher to meet the learners. The researcher tried to adhere to the times given in order to minimize the disruption of the school programme. The approach worked very well.

Participants were given two sheets of paper, one containing the questions (Appendix A), and the other, the answer or key sheet (Appendix B). Each participant was asked to indicate the response to each question by writing down a number on the answer sheet in the box corresponding to the chosen response to every question.

Learners were asked to respond to the 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 on the questionnaire as truthfully as possible. Instructions on how to complete the questionnaire were also read to the respondents to ensure that there was no misinterpretation of what they were expected to do. Questions raised by the participants were

answered to clarify any areas of concern. All questionnaires and answer sheets were collected at the end of the exercise. All the participants were thanked for their co-operation and participation at the end of the exercise.

4.4.1.4 Validity and reliability

The idea of validity hinges on the extent to which research data and the methods for obtaining data are deemed accurate, honest and on target (Denscombe, 2000:241). Validity addresses the question of whether one is measuring suitable indicators of the concept, accuracy of the results and the extent to which an instrument measured what it was intended to measure (Mertens, 1998:292). In practice however, the validity of an instrument is assessed in relation to the extent to which evidence can be generated in support of the claim that the instrument measures attributes targeted in the proposed research. In the current study, particular attention focused on content and face validity. These are examined separately and briefly in the following sections.

Content validity

Content validity is the extent to which the content of an instrument is judged to be representative of some domain, in this case, the self-concept of the learners or the adequacy with which it covers the appropriate content (McMillan & Schumacher, 1993:224; Mertens, 1998:294; Strydom, Fouche, Poggenpoel & Schurink, 1998:84). This was fulfilled by reviewing tasks in the measurement instruments, to ensure that they were representative of the learners' self-concepts and achievements.

In the current study, the researcher included twenty-five questions each on the physical, emotional, social, general and cognitive self-concepts, in addition to the six biographical questions or moderator variables. The questions addressed the aims, objectives and hypotheses of the study as a way of ensuring content validity as outlined in sections 4.2 and 4.3. In order to enhance content validity, the researcher subjected the instrument to the scrutiny of experts such as his supervisor.

The instrument was also pre-tested with learners of the same or similar characteristics as those of the main sample. Instructions were read to the respondents by the researcher to ensure uniformity in the understanding and interpretation of the questions before answering. Ambiguous items or language problems were modified so that they were clear. These measures enhanced the content validity of the instruments for better results.

The next section looks at face validity, which, though similar to content validity, is less systematic in its appraisal of the relationship between the criteria and the content of the text (Borg & Gall, 1989:256).

Face validity

Face validity is the judgment that the items or instruments appear to be relevant for measuring what they were purported to measure to those who completed or administered them (Borg & Gall, 1989:256; McMillan & Schumacher, 1993:224; Strydom *et al*, 1998:84).

In the current study, the researcher gave the instrument to an expert to check its face validity. The expert checked to see, on the face of it, if the questions tested the physical, emotional, social, and cognitive self-concepts. It was important to consider face validity because of the reactions it may arouse among the respondents. For example, face validity of research instruments may generate co-operation and increase motivation to participate, reduce the feelings of dissatisfaction of the participants and increase enthusiasm to answer, as well as that it may improve public relations between the respondents and the administrator (Strydom *et al*, 1998:84; McMillan & Schumacher, 1993:224). Face validity therefore, complemented information about content validity (Borg & Gall, 1989:256-257).

Having looked at validity, it is also important to examine reliability, another important consideration in research.

4.4.1.5 Reliability

An instrument such as a questionnaire is said to be reliable to the extent that independent administrations of it, or a comparable instrument, consistently yields the same or similar results (Strydom *et al*, 1998:86). Thus, the more reliable the instruments and measurements, the more consistent and dependable the results will be. While several procedures exist for establishing reliability such as test-re-test, and the split-half methods, the split-half is the most commonly used in educational research. The current study employed the Cronbach Alpha reliability coefficient, which is the most suitable one where questionnaires are analysed using statistical software such as the Statistical Package for Social Scientists (SPSS), and also where the responses are not scored as either right or wrong, and there is a range of possible answers for each question. McMillan and Schumacher (1997:230), sum up the suitability of the Cronbach Alpha reliability coefficient as follows:

... It is used for items that are not scored right or wrong, appropriate for survey research and other questionnaires in which there is a range of possible answers for each item.

In the current study, the researcher attempted to increase reliability by having a large number of questions, in this case 25 questions per self-concept dimension to make 100 questions, excluding those seeking biographical data. In addition, the researcher collected data from a heterogeneous group in terms of achievement. High and low academic performers formed the sample for this study, an arrangement that was intended to increase the reliability of the research findings.

The more heterogeneous a group is on the trait that is measured or the greater the range of scores, the higher the reliability (McMillan & Schumacher, 1993:230).

For the current study, reliability coefficients for the various SDI scales were as follows: physical- 0.84, emotional- 0.80, social- 0.73 and cognitive self-concepts 0.76. They are within acceptable range (0.65-90) of personality attribute such as self-concept, hence reliable for the study. Concern for reliability was important in the current study because reliability is a necessary condition for validity. Consequently, without reliability there can be no valid results (McMillan & Schumacher, 1993:232).

4.4.1.6 Analysis of quantitative data

The statistical procedure chosen for any study depends on the research question, the types of groups one is dealing with, the number of variables and the scale of measurement (Mertens, 1998:335-336). The data collected under the quantitative design was in quantity form. The Statistical Package for Social Scientists was used to analyse the data (Borg & Gall, 1989). The data collected guided the researcher on the form of statistical test(s) to be used.

In accordance with the stated aims and the hypotheses and research questions of the current study, the following statistical analysis techniques were used. The mean and standard deviation of each of the self-concept domains were calculated.

For the purposes of describing the learners= self-concepts, the following analyses were carried out:

Mean physical self-concept score. The sum of scores of responses to the physical self-concept divided by the number of respondents=questions.

Mean emotional self-concept score. The sum of the scores of responses to questions in this domain divided by the number of respondents.

Mean social self-concept score. The sum of the scores of responses in this domain divided by the number of respondents.

Mean cognitive self-concept score. The sum of the scores of responses in this domain divided by the number of respondents.

Results from the above were used to describe the adolescent learners= self-concepts and to relate them to academic achievement.

The Pearson Product Moment Correlation Coefficient was computed in order to determine the direction of the relationship between the general, physical, emotional, social and cognitive self-concepts and the academic achievement of adolescent learners in secondary schools in Zimbabwe. This enabled the testing of each one of the research questions and hypotheses presented in sections 4.3 and to reject or accept the null-hypotheses at the 5%- and 1%-confidence levels.

In addition, a t-test was also computed to test for the existence of any significant difference between unrelated groups. These are, males and females, urban and rural learners, junior and senior learners, boarders and day scholars in high and low performing schools in terms of their self-concept and academic achievement. Mertens (1998:333), clarifies the point when he says,

Inferential statistical tests such as the t-test are used when you have two groups to compare. If the groups are independent (different people in each group), the t-test for independent samples will be used while the t-test for correlated groups will be used for matched or similar groups.

In addition to the above statistical analyses, the analysis of variance (ANOVA) was also carried out in order to compare the learners' achievement and self-concepts of the learners by age and school type. This was followed by the *Bonferroni post hoc* tests to determine the exact location of the differences. Mertens (1998:333) explains the point in the following words:

If you have more than two groups to compare or when you have more than one independent variable, use the ANOVA for the analysis of data.

4.4.1.7 Summary of the quantitative research design

This section examined the quantitative research design and approach and its suitability for the current study. Research hypotheses and questions, which guided the study, were stated. Issues of sampling, validity and reliability were described and explained with special focus on measures to ensure both content and face validity. Reliability was also considered and the Cronbach Alpha reliability coefficient was used for the current study to establish the reliability of the research

instruments and the results. Data for the quantitative design was collected using the questionnaire, which yielded objective and quantifiable data ready for statistical analysis.

Apart from calculating the means and the standard deviations, the SPSS was used to conduct a statistical analysis to generate descriptive and correlation data for the current study. These include the Pearson's product moment correlation coefficient to test the hypotheses on the relationship between learner self-concepts and academic achievement, and the t-test for matching and non-matching groups for the significance of the relationship between the various self-concept domains and academic achievement at the 5%- and 1%- confidence levels. Finally, ANOVA was used to determine significant differences between the achievement and self-concepts of learners of different ages and learners from different schools. The results are presented in section 5.2.

The qualitative research approach is examined in the section that follows.

4.4.2 Qualitative research design and method: Focus group interview

4.4.2.1 Introduction

In section 4.4.1 the quantitative research design was described and explained as one involving the administration of questionnaires and the analysis of respondents' responses statistically. In the ensuing paragraphs the qualitative research design is described and explained. The current study used the focus group interview for data collection. This is described in section 4.4.2.2 below together with the rationale for its choice.

4.4.2.2 Focus group interviews

Under the qualitative research design, the researcher employed the focus group interview. Denscombe (2000:115); McMillan & Schumacher, (1993:432); Mertens, (1998:174), all describe the focus group interview as a strategy for obtaining a better understanding of a problem or an assessment of a problem by interviewing a purposefully sampled group of eight to ten people brought together, instead of individuals. It is a useful approach for exploring attitudes, perceptions, feelings and the ideas of a group, which relies on the interaction within the group, and focuses on

non-sensitive and non-controversial topics. This can help improve the validity and usefulness of the study findings. Borg and Gall (1989:24), argue that the best way to understand individuals is to form personal relationships with those being studied. The merit of focus group interviews have been summed up by Denscombe (2000:114) who says:

Focus group interviews help to reveal consensus views, may generate richer responses by allowing participants to challenge one another's views may be used to verify research ideas of data gained through other methods and may enhance the reliability of ...responses.

McMillan and Schumacher (1997:432) affirm the same view when they say:

Ythough group members are stimulated by the perceptions and ideas of each other, one can increase the quality and richness of data through a more efficient strategy than one on one interviewing. The focus group interview will take place after the objective questionnaire has been administered to expand on the quantitative data.

In the current study, the discussion focused on the physical, emotional, social and cognitive/academic self-concepts to elicit the learners=feelings and experiences in relation to their academic achievement. The information gathered was used to complement the objective quantitative data from questionnaires by giving more comprehensive information on the learner=s self-concept and its relationship to academic achievement (Borg and Gall, 1989: 381).

Interviews were conducted in groups of eight to ten male and female learners at each of the selected centres. Centres chosen were two non-government boarding schools in rural areas, two government rural schools, and three urban government schools. Non-government schools in urban areas refused to have the interviews conducted with their learners because they were busy preparing for the end of year exams. However, they allowed completion of questionnaires to go ahead.

Focus group interviews place particular value on the interaction within the group as a means of eliciting information, rather than just collecting each individual's point of view - there is special value placed on the collective view, rather than the individual view (Denscombe, 2000:115).

The researcher asked learners who offered to give their views by putting up their hands (volunteers) as well as those who did not (non-volunteers) in order to avoid biased responses.

Details on sampling, instruments, data analysis and trustworthiness are presented in the sections that follow.

4.4.2.3 Sampling

As in the case of quantitative research design, the qualitative research made use of sampling as well. However, sample size was not that important but the sample had to be representative. Consequently, a careful selection of both the site and the interviewees was crucial. This led to the use of purposive or convenience sampling instead of the random selection as preferred by the quantitative researchers. Sampling was therefore largely subjective in order to be inclusive of groups of interest (McMillan & Schumacher, 1993:382). In the current study, it was important that learners from rural and urban secondary schools who perform well and poorly in examinations, boys and girls and high and low achievers in both junior and senior secondary school classes were included as part of the sample.

The sections that follow describe how sampling was carried out for the current study.

4.4.2.4 Selection of interview location

Information regarding the site and its potential suitability was obtained from the heads of schools following the researchers' specification (McMillan & Schumacher, 1993:411).

In all, six schools were selected for the interviews. Of these, four were government and two non-government schools in the urban and rural areas of Zimbabwe. Due to inadequate facilities in some schools, a classroom at each school was identified for the focus group interviews. At the two non-government schools the heads allocated the school hall for the interviews. Not only was the selection of the site important, but also the selection of the participants. This is considered in the next section.

4.4.2.5 Selection and recruitment of participants

The selection and recruitment of the participants commenced with mapping and purposeful sampling. In the current study purposive selection of participants for the focus group discussion was used to ensure that learners from rural and urban, government and non-government, high and low performing schools as well as boys and girls of above and below average academic ability were included. Purposive sampling is a strategy for choosing small groups or individuals likely to be knowledgeable and informative about the phenomenon of interest, in this case self-concept and academic achievement (McMillan & Schumacher, 1993:413).

Specification of the selection criteria and the purposeful sampling strategies were meant to reduce threats to design validity (McMillan & Schumacher, 1993: 413). (In the research reports, the participants remained anonymous.) In the current study, learners who were above and below average in their academic performance were selected to participate in focus group interviews. The purpose and confidentiality of the study were explained to interviewees at the beginning as well as the fact that no views were either right or wrong.

4.4.2.6 Physical arrangement of the group

The eight to ten participants, depending on the specific school, and the researcher sat around a table for maximum eye contact with one another (Denscombe, 2000: 27). Participants wore nametags for maximising rapport in the recording room.

4.4.2.7 Recording of focus group interviews

The interview was tape recorded for a permanent and complete record of the responses (Denscombe, 2000:122). The researcher also took down notes during the interviews. In addition to tape-recording, the researcher also observed participants' gestures, facial expressions, intonation and other non-verbal responses to the speaker. These further assisted the interpretation of the interview talk later (Denscombe, 2000:127). The interviewer took note of consensus on key points, inconveniences and clues from the answers.

The following section examines the data collection instruments using focus group interviews.

4.4.2.8 Instruments

The researcher prepared an interview guide comprising five questions focusing broadly on the four dimensions of self-concept: the physical, emotional, social, and general and cognitive/academic.

The guide helped the groups and the interviewer to focus discussions on the study problem without restricting free expression.

In addition, a tape recorder was used to record the interviews in order to capture every detail.

McMillan and Schumacher (1997:432), sum the role of tape recorders up as follows:

*Y*Tape recording the interview ensures completeness of the verbal interaction, provides material for reliability checks ... The use of a tape recorder does not eliminate the need for taking notes to help reformulate questions and probes and to record nonverbal communication, which facilitates data analysis.

The advantage of audio tape recording is that it offers a permanent record that is complete (speech) and can be checked upon by other researchers later. However, it could not record non-verbal communication and other contextual actions that required the researcher's observation and interpretation skills. It is also regarded as the standard method of capturing interview data (Denscombe, 2000:122).

Video recording would also have been preferred because it captures both the verbal and non-verbal communication and the context. However, its use would have been more intrusive and could distract the attention of the respondents, and is also very expensive (Denscombe, 2000:122).

4.4.2.9 Interview guide

In order to provide an agenda and framework within which the group members interacted, the researcher used an interview guide (Borg & Gall, 1989: 451). This made it possible to obtain the data required to meet the specified research questions and problems. Where necessary, probes were used to gain more information from the respondents (see Appendix D). Interviewees were allowed some latitude in answering the questions in order to increase the richness of data provided.

For the current study, five open-ended and standardised questions (see Appendix C) were prepared beforehand and participants were asked the same questions. This was intended to increase the validity of the responses. Probes were also used to obtain more complete data about the relationship between the self-concept and the academic achievement of the learners (Borg and Gall 1989: 452).

The effectiveness of interviewing, however, depends on efficient probing and sequencing of questions (McMillan & Schumacher 1993: 430). The following is an example of the interview guide used for the current study to solicit information on the physical, emotional, social and cognitive self-concepts of the learners in Zimbabwean secondary schools (see Appendix C):

THE INTERVIEW GUIDE (Appendix C)

- (a) There is a general belief among parents, learners, educators and administrators that learners who participate in sports activities like soccer, netball, athletics, rugby and volleyball perform poorly in their academic schoolwork. Some parents even go to the extent of discouraging their children from participating in sport fearing that they will perform poorly in their academic work. Others also claim that the more beautiful or handsome one is the less one performs academically. Some also think that learners who are physically handicapped perform poorly in their academic work. What are your views on these issues?

The question was intended to establish whether the learners' feelings about their involvement in physical activities, their appearance and physical handicaps interfere with

learning and were responsible for better or worse academic performance in school. This gave the researcher an idea of whether the physical self-concept influences one's academic achievement positively or negatively.

- (b) How do you feel about your academic performance in the school generally? How do you feel when you pass or fail? Do you sometimes become anxious about your schoolwork or performance in school? How do these feelings influence your performance in school? How do feelings of anxiety and /or depression influence your performance in school?

The questions sought to establish whether or not emotional self-concept or anxiety and/or depression improves or decreases the learners' academic performance or attitude towards a test or whether the learners become anxious about the examination and how this influences their school performance in general and in individual subjects.

- (c) How do you rate your academic performance in the school/class generally? What are your impressions about the school with regard to promoting academic achievement for the learners?

- (d) Some learners in high performing schools perform very well in their schoolwork, and others badly. Similarly, learners in low performing schools also perform very well or poorly. What are your views about these experiences?

The question aimed at establishing the global/generalised school self-concept in a given school environment and its influence on academic achievement. It also sought to establish whether the reputation of a school as a high/low performer had an influence on one's self-concept and academic achievement.

- (e) How do you describe your relationship with other people (the head, educators, and peers) in the school? How does the relationship affect your performance in school?

The question was intended to elicit information about educator, parental and peer support/rejection and how it influenced academic achievement (social self-concept and

academic achievement). The question sought to elicit information about the popularity of the school as well.

- (f) Some people set high goals for life and others very low. What factors generally influence you in setting your goals?

Sometimes you perform very well and at other times badly in tests/examinations. Some learners think that they are not good at some subjects and yet they perform well in those subjects. How does your past performance influence your current and future performance in school? How do you explain your performance in your schoolwork generally? When faced with a difficult task, homework/assignment, what would you do?

Some learners also think that certain subjects are difficult. As a result they get low marks. What is your opinion on this?

There is a general belief among people that boys perform better than girls overall and in individual subjects. Do you think that it is possible for boys to take subjects traditionally meant for girls, or *vice versa*?

- (g) Girls are said to generally be afraid of mathematics. What are your views on these issues?

The question sought to elicit learners' views regarding their cognitive self-concept and in particular, goal-setting, attribution for success or failure, gender, influence of past performance and academic achievement overall and in individual subjects.

4.4.2.10 Procedure

Invitations were extended to the learners in advance through the heads of the schools concerned.

A pre-interview meeting was arranged with the selected participants. The meeting sought to explain to the participants the purpose of the interview, as well as to assure them of the confidentiality and anonymity of their responses, and to give an overview of possible topics for discussion. The importance of the data was also explained.

The pre-interview meeting resulted in the setting of ground rules to govern the interview sessions.

The ground rules included:

- (a) that everybody's views were important;
- (b) there would be no intimidation for having contrary views;
- (c) there were no right or wrong answers to questions;
- (d) only invited people would be admitted into the interview room;
- (e) frankness would be expected from every participant;
- (f) no cell phones were to be used during the interview;
- (g) each participant would wear a name tag with the first name only.

The meeting also helped establish rapport with participants and to create a warm and friendly atmosphere for the interview.

The interviewer grouped questions by self-concept dimension, that is, the general, physical, emotional, social, and cognitive/academic self-concepts. However, the researcher was open to receive the responses as they came without strictly adhering to the sequence of the questions.

This was done to ensure the smooth flow of information during the interview.

4.4.2.11 Qualitative data analysis

Data analysis for the current study involved a systematic process of selecting, categorising, comparing, synthesising and interpreting data in order to provide explanations of phenomena of interest, in this case, the self-concept and academic achievement (McMillan & Schumacher,

1993:480). In the current study, data analysis focused on the physical, emotional, social, general and cognitive self-concepts and how they related to academic achievement.

The structure of the interview guide automatically helped in the categorisation of interview data into the main self-concept themes. Additional data was coded in the text and synthesised into the relevant category for comparison and contrast with the academic achievement in order to establish patterns or relationships. Data analysis was done in accordance with the research questions and any data that emerged during the interview. According to Mertens (1998: 351), comparison is the main analytic process to build up and refine categories, conceptual similarities, and negative evidence and to discover patterns. Data analysis produced results reflecting the self-concepts of learners in different categories by level of ability, gender, age, location and type of the school and the reputation of the school as good or bad in terms of academic achievement (Mertens, 1998: 351).

Details of the responses and categorised data are given in Appendix D and section 5.3.

4.4.2.12 Trustworthiness

Trustworthiness in qualitative research concerns issues of reliability and validity. These issues are just as relevant as they are in quantitative research (McMillan & Schumacher, 1997: 385).

Reliability is the extent to which independent researchers can come up with the same or similar results for the same research problem (Denscombe, 2000:213; McMillan & Schumacher, 1997:385). Decisions taken during the research and their rationale must be seen to be reasonable.

In the current study, the researcher attempted to achieve trustworthiness of the results by detailing sampling. In addition, the sample was made representative by including, rural and urban, above average and below average, male and female learners from both government and non-government schools. The use of an interview guide, which covers the main self-concept domains being investigated namely, the general, physical, emotional, social and cognitive self-concepts and how

they relate to academic achievement in order to guide the study during data collection, also enhances the trustworthiness of the results.

Furthermore, the researcher, as the data collection instrument, spelt out the aims of the study and explained the importance of the study and any peculiar terms so that the researcher and the participants had the same meaning for the concepts in order to make interpretation easier. The same procedure was used for data analysis. The measures described under section 4.4.2, are all meant to ensure the trustworthiness of the results. It is also important to note that the qualitative research design was employed in this study in order to provide an extension of and richness to quantitative data collected using the questionnaire.

4.4.2.13 Summary of the qualitative research design

The section presented the focus group interview to be used for the qualitative research design. The rationale was explained as to complement the quantitative research design. Details of sampling were presented to include site and interviewee selection, the physical arrangement of the groups during the interview and how the information was recorded. The interview guide and the use of the tape recorder were described and justified as the main instruments used for the study. Details of the interview guide are presented as Appendix C. Procedures followed before and during the interview were also outlined. Data analysis for the qualitative study was described and explained together with issues of trustworthiness.

The next section examines ethical measures taken in the current study.

4.5 ETHICAL MEASURES

4.5.1 Introduction

According to McMillan and Schumacher (1997:182), ethics are generally beliefs about what is right or wrong, proper or improper, good or bad. However, there is no general agreement on what is ethically correct in research. Since most education research such as the current one deals with

human beings, it was necessary for the researcher to understand and appreciate the ethical and legal responsibilities involved in conducting the research. Consequently, the researcher demonstrated an awareness of and addressed ethical principles in the field. The ethical issues addressed in this study include: informed consent, confidentiality, violation of privacy, protection of the participants, co-operation with collaborators, release or publication of findings and the restoration of subjects. Each one of these is presented in more detail below.

4.5.1.1 Informed consent

The researcher sought the permission of the Zimbabwe Ministry of Education, Sport and Culture through a letter of permission (see Appendix E) to conduct the research in the schools. In the letter of permission the aims of the investigation, procedures to be followed during the investigation, possible advantages and disadvantages and the dangers the respondents were likely to face or exposed to were spelt out to the Head and Regional Offices, heads of schools and the respondents. This enabled the Ministry officials to grant the researcher permission to go ahead with the survey in the schools.

Once permission had been granted, the researcher visited schools to conduct the research. At the schools the researcher once again explained the purpose of the research and requested permission to meet the learners for the purpose of collecting data. The researcher stressed the fact that the learners were free to or not to participate. The purpose of the research was explained to the learners again, so that they could make up their minds about whether or not to participate.

Furthermore, the participants were told that they could participate or drop out at any point during the investigation, if they so wished. Anybody willing to participate after all this explanation was presumed to have given informed consent to the researcher to involve them in the investigation. McMillan and Schumacher (1997:183) have this to say about informed consent:

The subjects have a choice to participate or not to, disclosure is meant to give full knowledge and such co-operation of subjects before data is collected.

Even after permission to conduct the investigation had been granted, the research procedures adopted ensured confidentiality, and avoided the violation of the privacy of the individual. This is discussed in the following section.

4.5.1.2 Violation of privacy

Confidentiality means that the privacy of individuals was protected by ensuring that the data provided is handled and reported in such a way that individual identities are not disclosed and that no one would have access to individual data or the names of the participants except the researcher. The researcher ensured this by collecting data anonymously, using numbers on questionnaires as code names for individuals and schools and by reporting group as opposed to individual results. However, it is important also to note that confidentiality is difficult to define since its boundaries shift with any one given situation (Strydom *et al*, 1998:27).

In the current study, access to individual mark records was through the schools rather than directly from the respondents. Questions were asked about the physical, emotional, social and cognitive/academic self-concepts of individual learners using anonymous questionnaires and focus group interviews. While such questions encroached on the privacy of individual learners, obtaining such information was at the core of the investigation for its completeness. The information was to be treated confidentially and reported for the group rather than for individuals.

The researcher received adequate training in research methodology and was confident to carry out the current study successfully.

4.5.1.3 Co-operation with collaborators

The co-operation of educators in the schools was sought to get the interview participants together. The findings would be shared with the educators in order to help them understand and appreciate how the *self* influences the learners=academic performance in school. The sharing of the results involves the release or publication of the findings. This will be discussed in more detail below.

4.5.1.4 Release or publication of the findings

According to Strydom *et al* (1998:32), research findings must be published otherwise the whole exercise becomes useless. This has to be done clearly and objectively in a manner that is easy to understand and that avoids deceiving the reading public.

In the current study, the researcher acknowledges any shortcomings or limitations in the instruments, sampling, data collection and analysis methods in order to guide the readers in the interpretation of the results (see section 6.4). The researcher will release the results to the participants in a brief, objective and simple manner through the school heads without breaking confidentiality. This will be done in recognition of their participation in the investigation and good public relations. The language will be kept simple for the benefit of all the categories of participants who should know what happened to the information they supplied during data collection.

4.5.1.5 Restoration of subjects

On completion of the investigation the researcher held debriefing sessions with the participants. The sessions were intended to help rectify any misconceptions that may have arisen during the investigation in order to minimise any harm to individual participants. The debriefing was done in a constructive and non-threatening manner to enable both the learners and the researcher to complete the learning experience commenced at the beginning of the investigation.

4.5.2 Summary of ethical measures

The foregoing has outlined ethical measures the researcher bore in mind while conducting the research namely; informed consent, violation of privacy, co-operation with collaborators, release or publication of the findings and restoration of subjects. Since the study involved human beings it was important that ethical considerations be borne in mind in order to minimise any harmful effects on the participants. An investigation taken place in schools such as the current ones, required the understanding and co-operation of the Zimbabwe Ministry of Education Sport and Culture, Regional Directors, school administrators, educators, and the learners. Cohen and Manion (1995:360) sum up the importance of ethical measures in research in the following words:

Y the age of those being researched, whether the subject matter of the research is sensitive or not, whether the aims are subversive to the extent to which the researcher and the researched can participate and collaborate in planning the research, how data are to be processed, interpreted and used, the dissemination of the results: the guarantees of confidentiality are just some of the parameters that can form the basis of a specification of democratic ethics.

The following section presents the summary to the entire on research design and method.

4.6 SUMMARY OF CHAPTER

This chapter presented the research problem, research aims, and specific research questions/hypotheses of the study. Research designs used for this study were described and explained. These are the quantitative and qualitative methods. The chapter discussed the way in which the thirteen research questions/hypotheses were investigated using the quantitative and qualitative empirical research designs. The use of SPSS statistical package and coding techniques used for testing the hypotheses and analysing data on the research problem were stated.

Under each of the research designs, data collection methods that include sampling were described and explained. The questionnaire in the quantitative and the interview guide in the qualitative research designs were identified as the main data collection instruments. Issues of reliability and validity were also discussed for both research designs. This was followed by a brief description of the ethical measures observed during the study. These include: informed consent, violation of privacy, co-operation with the collaborators, release or publication of findings and restoration of subjects.

Secondly, the way in which the qualitative research was conducted using the focus group interview, was described and explained. In particular, interviews with focus groups, the use of the interview guide, the tape recorder, field notebook and observations were described. Data was analysed by coding the text in line with the self-concept domains investigated. This was also done in accordance with the research questions in order to establish the relationship between learner self-concept and academic achievement.

In the next chapter, the results of the study by means of the questionnaire and the focus group interviews will be presented, analysed and discussed.

Chapter 5

Results and discussion

5.1 INTRODUCTION

In chapter one the background, rationale, research aims and hypotheses of the research problem were presented. The focus of the study was to investigate the relationship between learner self-concept and academic achievement in Zimbabwe secondary schools. The study was prompted by the prevalence of low pass rates in public examinations and a desire to investigate factors that may influence the academic achievement of adolescent learners. In chapters two and three a comprehensive literature review was presented in order to develop a conceptual framework for the study and to generate the variables for the research instruments, the questionnaire and the interview guide. The literature review focused on the general, physical, emotional, social and cognitive self-concepts and how they relate to the academic achievement of the learners. The research design and the methodology were presented in chapter four. Details of the descriptive survey and the quantitative and qualitative approaches used in this study were presented. The questionnaire and the research guide and the research instruments used in this study were described and explained. Research problems and hypotheses for the study were presented in greater detail. Chapter five presents results from the questionnaire and interview data to address the main research problems and to test the hypotheses. Data presentation will be followed by a discussion of the results. In presenting the results, biographical data will be presented first, followed by findings on each of the thirteen research problems and hypotheses. Tables will be used for the presentation of the quantitative data. Interview data explain quantitative results. Hence, quantitative results will not be interpreted and will be discussed directly after presentation but in section 5.4.

5.2 RESULTS OF THE QUANTITATIVE RESEARCH: THE QUESTIONNAIRE

5.2.1 Biographical data of respondents

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

TABLE 2: 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
Senior (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	1.3
Total	1281	100.0

From the data presented in the Table 2, it appears that the average age of the respondents was about 14.5 years, with the youngest ones being 13 years and the oldest ones 16 years plus. Participants were drawn from ten purposely-selected schools to represent the wide range of secondary schools by type (government and non-government), location (urban/rural), type of attendance (boarding/day) and level of performance in public examinations (high/low). Of these, six were from the Greater Harare urban region and four from the 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 residential suburbs, 'B' in high-density residential suburbs and 'C' in rural areas. Two of the government urban schools offer boarding and day school residence while one is entirely a day school. Both rural government schools are day schools only. The proportion of each variable is given in Table 2 as a percentage.

Three of the non-government schools are situated in the urban areas and the other two are boarding schools in rural areas. Boarding schools recruit learners from all over the country unlike day schools, which enroll 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 typical of the Zimbabwe school population in that the sample came from schools that are similar to numerous others. For example, there were male and female learners from urban and rural locations, government and non-government boarding and day schools.

Responses were used to answer research questions/problems and to test hypotheses 1 to 13 of the study as presented in the sections that follow.

5.2.2 Research problem 1

Is there a significant correlation between general and specific self-concepts and academic achievement?

H₀₁: There is no significant correlation between general and specific self-concepts and academic achievement.

Data was collected on the general as well as specific self-concepts of learners, namely the physical, emotional, social and cognitive self-concepts. Pearson's correlation coefficient (r) was used to test both the direction and significance of the relationship with academic achievement. The results appear in Table 3.

TABLE 3: CORRELATIONS BETWEEN SELF-CONCEPTS AND ACADEMIC ACHIEVEMENT

Factors	Correlations	Significance
General self-concept and academic achievement	0.256	p<0.01
Physical self-concept and academic achievement	0.122	p<0.01
Emotional self-concept and academic achievement	0.065	p<0.05
Social self-concept and academic achievement	0.204	p<0.01
Cognitive self-concept and academic achievement	0.382	p<0.01

Table 3 shows that the general (r= .256, p<0.01) physical (r=.122, p<0.01), emotional (r=.065, p<0.05), social (r=.204, p<0.01) and cognitive (r=.382, p<0.01) self-concepts are significantly and positively correlated with the academic achievement. The null-hypothesis is therefore rejected on the 1%-level of significance for the general, physical, social and cognitive self-concepts and on 5%-level for the emotional self-concept. It is, however, important to note that all the correlations are relatively low (.065 to .382) suggesting that self-concept may have very little significant influence on the overall academic achievement of learners in Zimbabwe secondary schools.

5.2.3 Research problem 2

Is there a significant correlation between general and specific self-concepts and academic achievement of both genders?

H₀₂: There is no significant correlation between general and specific self-concepts and academic achievement of both genders separately.

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Correlations were calculated to determine the significance of the relationship between gender, specific self-concepts and academic achievement and the results are presented in Table 4.

TABLE 4: CORRELATIONS BETWEEN SELF-CONCEPTS AND ACADEMIC ACHIEVEMENT OF MALE AND FEMALE LEARNERS

Factors	Correlation with achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
Male					
Achievement	1	.195**	.060	.233*	.383**
Physical	.195**	1	.367**	.652**	.590*
Emotional	.060	.367**	1	.342**	.349**
Social	.233**	.652**	.342	1	.628**
Cognitive	.383**	.590**	.349	.628**	1
Female					
Achievement	1	.064	.070	.182**	.386**
Physical	.964	1	.454**	.519**	.526**
Emotional	.070	.454**	1	.418**	.413**
Social	.182**	.519**	.418**	1	.570**
Cognitive	.386**	.526**	.413**	.570**	1

** = correlation is significant (p<0.01)

From the information in Table 4 it would appear that there is a positive and significant correlation between the physical, social and cognitive self-concepts and academic achievement of male learners, and a significant correlation with the social and cognitive self-concepts of females. The null-hypothesis is therefore rejected on the 1%-level of significance for the correlations between (a) achievement and (b) social and cognitive self-concepts of both males and females and of the physical self-concept for males only.

The correlations are low in all instances. It is also important to note that the overall correlation between academic achievement and *cognitive* self-concept was rather low for both males and females (male: $r=.383$, female: $r=.386$), academic achievement and *physical* self-concept (male: $r=.195$, female: $r=.064$), academic achievement and *emotional* self-concept (male: $r=.060$, female: $r=.070$), academic achievement and *social* self-concept (male: $r=.233$, female: $r=.182$). The results show a significant and weak relationship between the *physical*, *social* and *cognitive* self-concepts and academic achievement of male learners, and academic achievement and the *social* and *cognitive* self-concepts of female learners. However, there was no significant relationship between the *emotional* self-concepts and academic achievement of both males and females on the one hand, and *physical* self-concept and academic achievement of females on the other. The results seem to suggest that the emotional self-concept of both genders, and the physical self-concept of female learners only may have nothing to do with the academic performance of learners in secondary schools in Zimbabwe.

According to Table 4, correlations between different specific self-concepts are quite high and significant. For example, the correlation between the *physical* and *social* (male: $r=.652$, female: $r=.519$), the *physical* and *cognitive* (male: $r=.590$, female: $r=.526$), the *social* and *cognitive* (male: $r=.628$, female: $r=.570$) self-concepts. The results imply that an improvement in physical abilities may enhance social relations, feelings of academic competence and academic achievement as well. Alternatively, academic success is likely to improve social relations significantly for both males and females.

The correlations are, however, low and positive between the *emotional* and the *physical* (male: $r=.367$, female: $r=.454$), the *emotional* and the *social* (male: $r=.342$, female: $r=.418$), the *emotional* and the *cognitive* (male: $r=.349$, female: $r=.413$) self-concepts. The emotional self-concept correlates significantly with the physical self-concept of males only, and with all other specific self-concepts of female learners. It is interesting to note that correlations between the emotional self-concepts of males and their social and cognitive self-concepts were not significant suggesting that the way male learners feel may have no influence on their relations and academic competence. On the other hand, female learners' emotional states may have some influence on their physical qualities, especially on their appearance, relationships and performance in school.

5.2.4 Research problem 3

Is there a significant correlation between general and specific self-concepts and academic achievement of junior and senior learners?

H₀₃: There is no significant correlation between general and specific self-concepts and academic achievement of junior and senior learners.

The hypothesis was tested to determine the significance of the relationship between the standard (junior and senior) of learners, self-concepts and academic achievement. The results are presented in Table 5.

TABLE 5: CORRELATIONS BETWEEN SELF-CONCEPTS AND ACADEMIC ACHIEVEMENT OF JUNIOR AND SENIOR LEARNERS

Factors	Correlation with Achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
Junior					
Achievement	1	.150**	.089	.266**	.442**
Physical	.150**	1	.40**	.602**	.579**
Emotional	.089*	.409**	1	.345**	.361**
Social	.266**	.602**	.345**	1	.626**
Cognitive	.442**	.579**	.361**	.626**	1
Senior					
Achievement	1	.078	.022	.120**	.300**
Physical	.078	1	.414**	.555**	.521**
Emotional	.022	.414**	1	.423**	.387**
Social	.120**	.555**	.423**	1	.572**
Cognitive	.300**	.521**	.387**	.572	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 in Table 5 show that there was a significant and positive correlation between the physical, emotional, social and cognitive self-concepts and academic achievement of junior learners. For the senior learners, it is only the correlations between (a) achievement and (b) social and cognitive self-concepts that are significant; the physical and emotional self-concepts are not. Consequently, the null-hypothesis is rejected on the 1%-level of significance for the physical, social and cognitive self-concepts and achievement of both the junior and senior learners and on the 5%-level for the emotional self-concepts and achievement of junior learners only. Although most of these correlations are low, the correlations between achievement and cognitive self-concept are moderate (junior: $r=.442$, senior: $r=.300$).

According to Table 5, correlations between individual self-concepts are quite high, positive and significant. For example, the social and cognitive (junior: $r=.626$, senior: $r=.572$); the physical and cognitive (junior: $r=.579$, senior: $r=.521$); and the physical and social correlations (juniors: $r=.602$, senior: $r=.555$). The results may suggest that an improvement in the non-academic self-concepts of junior and senior learners may also improve their cognitive self-concepts, leading to better academic achievement as well.

Once again, as in the case of gender, the emotional self-concepts of both junior and senior learners were not significantly related to achievement. However, the correlation between emotional self-concept and other specific self-concepts was significant though weak ($r=.345-.414$) for both junior and senior learners. The results may suggest that the emotional self-concept may have no influence on the performance of junior and senior learners in secondary schools in Zimbabwe but may have some influence on other specific aspects of the self.

5.2.5 Research problem 4

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

H_{04} : There is no significant correlation between general and specific self-concepts and academic achievement of urban and rural learners.

This hypothesis was tested statistically to determine the significance of the relationship between school location, specific self-concepts and the academic achievement of learners. The results appear in Table 6.

TABLE 6: 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 6, 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 of school location on the learners=academic achievement. The null-hypothesis was rejected on the 1%-level of significance for the social and cognitive self-concepts for both the urban and the rural, and on 5%-level for the physical self-concept of urban learners. The relationship between the emotional self-concept and the academic achievement of both the urban and rural learners was not significant suggesting a possible lack of influence on the academic achievement of both urban and rural learners. For both groups the overall 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 positive and 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 sport activities may improve social relations which, in turn, may lead to better cognitive self-concepts and academic achievement for urban learners. On the other hand, academic achievement may improve acceptance by family members, leading to better relations. The correlations are even higher for learners in rural schools.

5.2.6 Research problem 5

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

H₀₅: 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 to determine the significance of the relationship between school type, specific self-concepts and academic achievement are presented in Table 7.

TABLE 7: CORRELATIONS BETWEEN SELF-CONCEPTS AND ACHIEVEMENT OF LEARNERS FROM DIFFERENT SCHOOL TYPES

Factors	Correlations	Physical	Emotional	Social	Cognitive
Government A					
Achievement	1	.251**	.124*	.248**	.423**
Physical	.251**	1	.362**	.591**	.571**
Emotional	.124*	.362**	1	.341**	.307**
Government B					
Achievement	1	.161**	.050	.114	.358**
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					
Achievement	1	.148**	.072	.282**	.294**
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					
Achievement	1	.093	.143**	.180**	.492**
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 0.01level ($p < 0.01$)

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

Table 7 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 while the emotional and social self-concepts are not. In Government C schools the physical, social and cognitive self-concepts are significantly and positively correlated with the learners' academic achievement but not the emotional self-concept. For learners in non-government schools their 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) the physical self-concepts of learners in Government A, B and C schools;
- (b) the emotional self-concepts of learners in Government A and non-government schools;
- (c) the social self-concepts of learners in Government A, C and non-government schools; and
- (d) the 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. For example, schools where there exists a sports programme involving many learners may have some influence on the performance. Schools where learners are generally satisfied with their school as supportive of academic work, with adequate learning resources and where learners experience success more often tend to maintain learner emotional stability leading to better performance. Warm relations with educators and peers may motivate learners to work harder and improve their performance. Schools where learners' performance is appreciated, that offer a challenging learning environment where learners often experience success may increase learner confidence leading to better performance.

It is also important to note that the physical and social self-concepts correlate significantly with the cognitive self-concept in the different school types (See Table 7). 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 the social relations of the learners in the rural secondary schools is likely to lead to substantial improvements in their 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.

5.2.7 Research problem 6

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

H₀₆: 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 8.

TABLE 8: 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 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 on 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 the emotional self-concept of day scholars the null-hypothesis was rejected on the 5%-level of significance.

According to Table 8, the physical and social self-concepts correlate highly with the cognitive self-concept of day scholars and boarders; the physical and cognitive self-concepts (day: $r = .590$, boarder: $r = .489$); the social and cognitive self-concepts (day: $r = .608$, boarder: $r = .555$). The relationship is stronger for the day scholars. This may mean that the more positive the day scholars' physical and social self-concepts are, the more positive they are likely to feel about their academic capabilities. In addition, day scholars have to walk some distance to and from school and may be more physically fit compared to the boarders who live at the school. Furthermore, warm relations with educators and parents may contribute to their feeling more confident in academic situations. The correlation with emotional self-concept is, however, weak. All the specific self-concepts correlate positively and significantly with each other for both boarders and day scholar suggesting a complementary influence of the self-concepts.

5.2.8 Research problem 7

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

H_{07} : There is no significant correlation between general and specific self-concepts and academic achievement of learners of different ages.

The test sought to determine the significance of the correlation of self-concept and the academic achievement of the learners of different ages.

Results of a two-tailed Pearson's correlation test are given in Table 9.

TABLE 9: CORRELATIONS BETWEEN SELF-CONCEPTS AND ACADEMIC ACHIEVEMENT OF LEARNERS OF DIFFERENT AGES

Factors	Correlation with Achievement	Physical self-concept	Emotional self-concept	Social self-concept	Cognitive self-concept
13 Years					
Achievement	1	.269**	.051	.332**	.431**
Physical	.269**	1	.336**	.631*	.644**
Emotional	.051	.336**	1	.261**	.312**
Social	.332**	.631**	.216**	1	.726**
Cognitive	.431**	.644**	.312**	.726**	1
14 Years					
Achievement	1	.163**	.133*	.301**	.492**
Physical	.163**	1	.405**	.605**	.561**
Emotional	.133*	.405**	1	.340**	.363**
Social2	.301**	.605**	.340**	1	.562**
Cognitive	.492**	.561**	.363**	.562**	1
15 Years					
Achievement	1	.033	-.019	.121*	.368**
Physical	.033	1	.405**	.559**	.513**
Emotional	.019	.405**	1	.387**	.360**
Social	.121*	.559**	.387**	1	.608**
Cognitive	.368**	.513**	.360**	.608**	1
16 Years					
Achievement	1	.108	.038	.173**	.364**
Physical	.108	1	.399**	.571**	.519**
Emotional	.038	.399**	1	.437**	.407**
Social	.173**	.571**	.437*	1	.590**
Cognitive	.364**	.519**	.407**	.590**	1
Older than 16					
Achievement	1	.037	.080	.043	.130
Physical	.037	1	.509**	.534**	.575**
Emotional	.080	.509**	1	.450**	.401**
Social	.043	.534**	.450*	1	.555**
Cognitive	.130	.557**	.401**	.555**	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 indicate that there is a low to moderate, positive and significant correlation between the physical, social and cognitive self-concepts and the academic achievement of learners aged 13 years. The null-hypothesis was therefore rejected on the 1%-level of significance. In addition, their physical- ($r = .644$) and social self-concepts ($r = .726$) correlate highly with the cognitive self-concept and so does the physical and social self-concepts ($r = .631$). The results may suggest that the more positive the 13 year olds feel about their physical and social selves, the better their cognitive self-concepts, which may lead to better academic performance. Similarly, the more positive their self-image, the more popular they become. This may lead to more positive cognitive self-concepts leading to better performance in school. The emotional self-concept was not significantly correlated

with academic achievement. All the specific self-concepts were significantly and positively correlated with each other suggesting complementary influence.

For learners aged 14 years, there was a significant and positive correlation between academic achievement and the physical, emotional, social and cognitive self-concepts. The null-hypothesis was rejected on the 1%-significance level for all except the emotional self-concept, which was rejected on the 5%-level of significance. The correlation of the non-academic self-concepts with the cognitive self-concept is moderate, positive and significant, except for the emotional self-concept, which is weak. All other specific self-concepts correlate positively and significantly with each other. The social and physical ($r=.605$); physical and cognitive ($r=.561$); and social and cognitive ($r=.562$) self-concepts were the highest suggesting that an improvement in popularity or social relations may increase learners' physical abilities and feelings of academic competence. On the other hand, success in physical and academic activities may improve their popularity, as well as other social relations.

Only the social and cognitive self-concepts of learners were significantly and positively correlated with the academic achievement of the 15 year old learners. Thus, the null-hypothesis was rejected on the 1%-level of significance for correlations with the cognitive self-concepts and 5%-level for the social self-concepts. It is important to note that the emotional self-concept is negatively correlated with the academic achievement of the 15 year old learners. The latter seems to suggest that an increase in emotions such as anxiety due to changes in the physical, social and emotional development associated with adolescence may interfere with the learners' concentration in school leading to lower achievement. On the other hand, lower achievement may increase anxiety in the learners which may lead to a decline in academic performance in school. All other specific self-concepts are significantly and positively correlated with each other with the physical and social ($r=.559$); the physical and cognitive ($r=.513$); and the social and cognitive ($r=.608$) being the highest. Emotional self-concept had the weakest correlation with the other specific self-concepts implying the least influence.

For the 16 year old learners, only the social and cognitive self-concepts were correlated significantly and positively with their academic achievement. The null-hypothesis was rejected for

the correlation with social self-concept on the 1%-level of significance and on the 5%-level of significance for the cognitive self-concept. The results tend to imply a weak but significant influence of the social and cognitive self-concepts and that social relations and feelings of academic competence were more influential on learners' academic achievement for this age group. However, correlations between the social and the cognitive self-concepts ($r=.590$), and the physical and cognitive self-concepts ($r=.519$) are moderate, positive and significant. This may suggest that the enhancement of the social and physical self-concepts may improve the cognitive self-concept of the learners resulting in better academic achievement. The emotional self-concept had the lowest correlation ($r=.399-.437$) with the rest of the specific self-concepts.

According to Table 9, there was no significant correlation between all the specific self-concepts and the academic achievement of learners aged above 16 years. Consequently, the null-hypothesis may not be rejected for this age group. The results suggest that there is no significant relationship between self-concept and academic achievement for learners aged above 16 years.

Once again the correlations between the non-academic self-concepts and the cognitive self-concepts was moderate to high. For example, social and cognitive ($r=.555$); social and physical ($r=.534$); cognitive and physical ($r=.557$) emotional and physical ($r=.509$), emotional and cognitive ($r=.401$), emotional and social ($r=.450$). Overall the social and cognitive self-concepts of 13 and 15 year olds had the highest correlations, $r=.726$ and $r=.608$ respectively, suggesting a possible strong influence of the social relations on the cognitive self-concept, which may lead to better academic achievement leading to improved relations with significant others, especially parents. Perhaps an increase in sample size for this age group may yield statistically significant results.

5.2.9 Research problem 8

Is there a significant difference between the academic achievement and the different self-concepts of male and female learners?

H_{08} : There is no significant difference between the academic achievement and the different self-concepts of male and female learners.

A two-tailed t-test for unrelated groups was administered to determine the equality of average achievement and self-concept means for male and female learners. The results are shown in Table 10.

TABLE 10: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACHIEVEMENTS AND SELF-CONCEPTS OF MALE AND FEMALE LEARNERS

Factors	N	Mean	t-value	Df	Significance
Achievement:					
Male	627	56.43	.096	28	p>.05
Female	653	56.34			
Physical self-concept:					
Male	627	3.7284	1.285	1.278	p>0.05
Female	653	3.6936			
Emotional self-concept:					
Male	627653	3.2539	1.276	1278	p>0.05
Female		3.2247			
Social self-concept:					
Male	627653	3.6476	-1.1	1278	p>0.05
Female		3.6769			
Cognitive self-concept:					
Male	627653	3.8169	-1.977	1278	P<0.05
Female		3.8744			
General self-concept:					
Male	627653	3.6114	-0.288	1.278	p>0.05
Female		3.6174			

According to the results in Table 10, there was no significant difference between the average academic achievement and the physical ($t=1.285$, $p>0.05$), emotional ($t=1.276$, $p>0.05$) social ($t=-1.100$, $p>0.05$) and general self-concepts ($t=-.288$, $p>0.05$) of male and female learners. The null-hypothesis may not be rejected on the 5% level of significance. The mean marks for males (56,43) and females (56,34) confirm the result as well. The same trend applies to the mean scores for the physical, emotional, social and general self-concepts of male and female learners. (See Table 10.) However, Table 10 shows that there was a significant difference between the cognitive

self-concepts of male and female learners $t=-1.977$, $p<0.05$). Consequently, the null-hypothesis was rejected on the 5%-level of significance: the cognitive self-concepts of female learners are significantly higher and better than those of the male learners (female: 3.8744, male: 3.8169) although their achievements are similar.

5.2.10 Research problem 9

Is there a significant difference between the academic achievement and the different self-concepts of junior and senior learners?

H₀₉ There is no significant difference between the academic achievement and the different self-concepts of junior and senior learners.

A two-tailed test was administered to test the hypothesis. Table 11 illustrates the results.

TABLE 11: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACHIEVEMENTS AND SELF-CONCEPTS OF JUNIOR AND SENIOR LEARNERS

Factors	N	Mean	t-value	Df	Significance
Achievement: Junior Senior	673608	57.18 55.48	1.694	1279	p>0.05
Physical self-concept: Junior Senior	673608	3.7290 3.6898	1.447	1279	P>0.05
Emotional self-concept: Junior Senior	673608	3.2899 3.1831	4.692	1279	P<0.01
Social self-concept: Junior Senior	673608	3.6645 3.6613	0.12	1279	P>0.05
Cognitive self-concept: Junior Senior	673608	3.8763 3.8129	2.181	1278	P<0.05
General self-concept: Junior Senior	673608	3.6399 3.5864	2.571	1279	P<0.05

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

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

The results in Table 11 show that there were significant differences between the average emotional, cognitive and general self-concepts of junior and senior learners. The null-hypothesis may be rejected on the 1%-level or the 5%-level of significance. Table 11 indicates that junior learners have consistently higher averages for both the academic achievement and all self-concept scores than seniors and that juniors and seniors were similar in overall achievement, the physical and

social self-concepts. The results seem to imply that the higher self-concepts may have contributed to better performance by juniors.

5.2.11 Research problem 10

Is there a significant difference between the academic achievement and the different self-concepts of urban and rural learners?

H₁₀: There is no significant difference between the academic achievement and the different self-concepts of urban and rural learners.

A two-tailed t-test was used to analyse the responses from urban and rural learners to determine if there were significant differences in self-concepts and academic achievements. The results appear in Table 12.

TABLE 12: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACADEMIC ACHIEVEMENTS AND SELF-CONCEPTS OF URBAN AND RURAL LEARNERS

Factors	N	Mean	t-value	Df	Significance
Achievement: Urban Rural	738 530	56.40 56.51	-0.106	1266	p>0.05
Physical self-concept: Urban Rural	738 530	3.7880 3.6086	6.601	1266	P<0.01
Emotional self-concept: Urban Rural	738 530	3.2729 3.1908	3.526	1266	P<0.01
Social self-concept: Urban Rural	738 530	3.7364 3.5652	6.418	1266	P>0.01
Cognitive self-concept: Urban Rural	738 530	3.9555 3.7027	8.797	1265	P<0.01
General self-concept: Urban Rural	738 530	3.6879 3.5168	8.277	1266	P<0.01

According to Table 12, the physical, emotional, cognitive and general self-concepts of urban and rural learners differ significantly. The null-hypothesis was therefore rejected on the 1%-level of significance. According to Table 12, urban learners have better physical (urban: $M=3.7880$, rural: $M=3.6086$); emotional (urban: $M=3.2729$, rural: $M=3.1908$); cognitive (urban: $M=3.9555$, rural: $M=3.7027$) and general self-concepts (urban: $M=3.6879$, rural: $M=3.5168$) than rural learners. Their average test scores and social self-concepts were, however, similar.

5.2.12 Research problem 11

Is there a significant difference between the academic achievement and the different self-concepts of learners of different ages?

H_{11} : There is no significant difference between the academic achievement and different self-concepts of learners of different ages.

An analysis of variance (ANOVA) demonstrated a significant difference between the average achievements and self-concepts of learners of different ages. Table 13 illustrates the results.

Table 13 also shows significant differences in the general and specific self-concepts. The null-hypothesis was rejected on the 5%-level of significance.

Bonferroni post hoc tests were carried out to determine exactly where the significant differences were. The tests revealed that there were differences between:

- ⌘ the emotional self-concepts of 13 and 16 year olds ($p<0.01$);
- ⌘ the emotional self-concepts of 14 and 16 year olds ($p<0.01$);
- ⌘ the cognitive self-concepts of 14 year olds and learners older than 16 ($p<0.05$); and
- ⌘ the general self-concepts of 13 year olds and 16 year olds ($p<0.05$).

TABLE 13: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACHIEVEMENTS AND SELF-CONCEPTS OF LEARNERS OF DIFFERENT AGES

Factors	N	Mean	F-value	Df	Significance
Achievement: 13	159	59.60	3.074		
14	332	57.87		4	P>0.05
15	313	55.16			
16	298	55.60			
16+	179	54.13			
Physical self-concept: 13	159	3.7771	1.946		
14	332	3.7405		4	P>0.05
15	313	3.7020			
16	298	3.6608			
16+	179	3.6624			
Emotional self-concept:	159	3.3214	5.356		
13	332	3.2911		4	P<0.01
14	313	3.2210			
15	298	3.1715			
16	179	3.2145			
16+					
Social self concept: 13	159	3.7264	0.936		
14	332	3.6644		4	P>0.05
15	313	3.6560			
16	298	3.6532			
16+	179	3.6324			
Cognitive self concept:	159	3.8929	3.440		
13	332	3.9156		4	P<0.01
14	313	3.8325			
15	298	3.8097			
16	179	3.7612			
16+					
General self-concept: 13	159	3.6794	3.596		
14	332	3.6529		4	P<0.01
15	313	3.6022			
16	298	3.5738			
16+	179	3.5751			

According to the mean scores:

§ 13 and 14 year old learners have significantly better emotional self-concepts than 16 year old learners;

- \$ 14 year old learners have significantly better cognitive self-concepts than learners older than 16 years; and
- \$ 13 year old learners have significantly better general self-concepts than 16 year old learners.

Better self-concepts for 13 and 14 year olds are also associated with better test scores for the same age groups confirming the positive relationship between the self-concept and achievement.

5.2.13 Research problem 12

Is there a significant difference between the academic achievement and the different self-concepts of learners from different school types?

H₁₂: There is no significant difference between the academic achievement and the different self-concepts of learners from different school types.

Analysis of variance revealed significant differences in self-concepts and academic achievements of learners from different school types. The results appear in Table 14.

TABLE 14: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACHIEVEMENTS AND SELF-CONCEPTS OF LEARNERS FROM DIFFERENT SCHOOL TYPES

Factors	N	Mean	F-value	Df	Significance
Academic Achievement:					
Government A	302	52.15	31.814	3	P<0.01
Government B	258	54.90			
Government C	21	52.89			
Non-government	399	63.24			
Physical self-concept:					
Government A	302	3.7725	12.933	3	P<0.01
Government B	258	3.8354			
Government C	321	3.6506			
Non-government	399	3.6310			
Emotional self-concept:					
Government A	302	3.2449	12.611	3	P<0.01
Government B	258	3.3478			
Government C	321	3.2551			
Non-government	399	3.1517			
Social self concept:					
Government A	302	3.6837	5.756	3	P<0.01
Government B	258	3.7412			
Government C	321	3.5808			
Non-government	399	3.6648			
Cognitive self concept:					
Government A	302	3.8901	16.069	3	P<0.01

Government B	258	3.9681			
Government C	321	3.6880			
Non-government	399	3.8645			
General self-concept:					
Government A	302	3.6478	13.545	3	P<0.01
Government B	258	3.7222			
Government C	321	3.5436			
Non-government	399	3.5780			

The results in Table 14 demonstrate significant differences between the average achievements and self-concepts of learners from different school types.

Post hoc Bonferroni tests revealed the following instances of significant differences:

- # The average physical self-concept of learners in Government A schools differ significantly from the average self-concepts of learners in Government C and non-government schools ($p < 0.01$, $p < 0.05$); and
- # The average physical self-concept of learners in Government B schools differs significantly from the average self-concepts of learners in Government C and non-government schools ($p < 0.01$, $p < 0.01$).
- # The average emotional self-concept of learners in Government A schools differs significantly from the average self-concepts of learners in Government B schools ($p < 0.05$).
- # The average emotional self-concept of learners in Government B schools differs significantly from the average self-concepts of learners of Government A and C schools ($p < 0.05$; $p < 0.01$).
- # The average emotional self-concept of learners in Government C schools differs significantly from the average self-concepts of learners in Government B and non-government schools ($p < 0.05$; $p < 0.01$).

- # The average emotional self-concept of learners in non-government schools differs significantly from the average self-concepts of learners in Government A, B and Government C schools ($p < 0.05$; $p < 0.01$; $p < 0.05$).
- # The average social self-concept of learners in Government A schools differs significantly from the average self-concepts of learners in Government C schools ($p < 0.05$).
- # The average social self-concept of learners in Government B schools differs significantly from the average self-concepts of learners in Government C schools ($p < 0.01$).
- # The average cognitive self-concept of learners in Government A schools differs significantly from the average self-concepts of learners in Government C schools ($p < 0.01$).
- # The average cognitive self-concept of learners in Government B schools differs significantly from the average self-concepts of learners in Government C schools ($p < 0.01$).
- # The average cognitive self-concept of learners in Government C schools differs significantly from the average self-concepts of learners in non-government schools ($p < 0.01$).
- # The average general self-concept of learners in Government A schools differs significantly from the average self-concepts of learners in Government C schools ($p < 0.01$).
- # The average general self-concept of learners in Government B schools differs significantly from the average self-concepts of learners in Government C and non-government schools ($p < 0.01$).

According to Table 14, learners in Government B schools have the highest average means for all the self-concepts and second highest average achievement mean. The urban environment may be responsible for developing self-confidence in the learners because of the challenges it presents. Learners in Government A schools also enjoy high average self-concepts. Learners in

Government C schools have the lowest average means for academic achievement, social, cognitive and general self-concepts. This appears to be consistent with the low quality of learners enrolled in these schools. Learners in non-government schools have the highest average academic achievement mean but least for the physical and emotional self-concepts. Non-government schools, especially boarding schools enroll a majority of the brightest learners and have adequate learning resources, hence the highest average mean academic achievement score. On the other hand, Government C schools enroll lower performers and have limited learning resources. Low physical self-concepts may be the result of a limited sports programme in non-government schools compared with government schools. Low emotional self-concept may be caused by stress due to a competitive learning environment in non-government schools.

5.2.14 Research problem 13

Is there a significant difference between the academic achievement and the different self-concepts of boarders and day scholars?

H₁₃: There is no significant difference between the academic achievement and the different self-concepts of boarders and day scholars.

Results of a 2-tailed test of two groups, boarders and day scholars, to determine if there are any significant differences in self-concepts and academic achievement regarding type of attendance are shown in Table 15.

TABLE 15: SIGNIFICANCE OF DIFFERENCES OF AVERAGE ACHIEVEMENTS AND SELF-CONCEPTS OF BOARDERS AND DAY SCHOLARS

Factors	N	Mean	t-value	Df	Significance
Achievement: Boarder Day Scholar	314 951	65.01 53.70	0.102	1263	P<0.01
Physical self-concept: Boarder Day Scholar	314 951	3.6543 3.7316	-2.453 -2.390	1263	P<0,05
Emotional self-concept: Boarder Day Scholar	314 951	3.1280 3.2768	-5.642 -5.173	263	P<0.01
Social self-concept: Boarder Day Scholar	314 951	3.6971 3.6560	1.327 1.334	1263	P>0.05
Cognitive self concept: Boarder Day Scholar	314 951	3.9317 3.8245	3.191 3.232	1263	P<0.01
General self-concept: Boarder Day Scholar	314 951	3.6028 3.6220	-.796 -.783	1263	P>0.05

Table 15 shows that there is a significant difference in the academic achievement of boarders and day scholars ($p<0.01$). The null-hypothesis was rejected on the 1%-level of significance. Boarders achieved significantly better.

There are also significant differences between the physical ($p < 0.05$), emotional (< 0.01) and cognitive ($p < 0.01$) self-concepts of boarders and day scholars. The null-hypothesis was rejected on the 1%- or 5%-level of significance. Day scholars have significantly better physical (day=3.7316, boarder= 3.6543) and emotional (day=3.2768, boarder=3.1280) self-concepts, but boarders have significantly better cognitive self-concepts (boarder=3.9317, day=3.8245) and they achieve significantly better academically. This is to be expected since the Zimbabwean boarding schools enroll the brightest learners in the country. However, the lower mean self-concepts are rather difficult to account for. However, lower mean physical self-concepts for boarders may be due to a more limited sports programme owing to more time devoted to academic work. Lower emotional and general self-concepts may be the result of a stressful and competitive learning environment. Learners appear to be anxious to achieve and maintain a top position and may feel inadequate when they compare themselves with their peers, hence a lower general self-concept as well.

The following section presents results from the interviews.

5.3 RESULTS OF THE QUALITATIVE RESEARCH: THE FOCUS GROUP INTERVIEW

5.3.1 Introduction

Interview data was recorded and coded under broad categories as outlined in the structured interview guide (Appendix C). For example, data was collected on the learners= physical (psc), emotional (esc), social (ssc), cognitive (csc) and general (gsc) self-concepts and their relationship with academic achievements and coded accordingly. Further coding was done to reflect the views of the respondents.

The findings are as follows:

5.3.2 Physical self-concept and academic achievement

Respondents in urban and rural, government and non-government school, and junior and senior boys and girls reported that participation and ability in physical activities such as sport and a good physical appearance had positive effects on their self-concepts and academic achievements. They argued that greater participation and ability in sport, and a good appearance increased their confidence and improved their self-discipline, time management skills and mental health. These in turn aided learning and improved academic achievement. Details of the learners' responses are presented below.

5.3.2.1 Physical and mental health

Participation in sports improved the learners' physical fitness and mental health, thereby enabling them to concentrate better on their schoolwork. For example, *When doing sports you are exercising your body and your mind will be relaxing so that by the time you do your schoolwork, you will be refreshed and you will start a happy ending in your activities. If you are participating in sports you will be physically and mentally healthy. You will be jerked up in school and your mind will be opened up.* were some of the remarks of the participants. *The activities also helped in confidence building*, was said.

5.3.2.2 Confidence building

Participating and ability in sports raised one's confidence in whatever one does, including schoolwork: *By participating in sports you sometimes gain confidence in what you are doing*, one participant declared.

5.3.2.3 Training in time management and self-discipline

Confidence enhanced the self-concept and academic achievement through better time management and self-discipline skills gained through sports. Time management and self-discipline skills were both regarded as vital for success in academic situations. Remarks included: *If you do sports and academic work, they teach you time management depending on what type of person you are. When you do sports you are good at academic work as well. It means you are a good time*

manager@ ASport teaches you self-discipline, ... when you go home late, there are times when you can read and do academic work during weekends and holidays@

5.3.2.4 Competence in physical activities is associated with academic competence

There was general agreement among urban and rural respondents that competence in sports was positively associated with academic achievement: *AI n our school, our number one learner is a very good soccer player. Various other learners in the top ten play rugby and participate in swimming@* *ALearners who are good at sports may also be good at academic work@*, were some of the comments that were made.

5.3.2.5 Physical appearance and academic achievement

According to the participants being handsome or beautiful enhanced one=s confidence, which in turn contributes immensely towards one=s academic achievement. Respondents cited examples of handsome and beautiful people who were academically competent and successful as follows: *AThe more confident you are the better you are in whatever you try to do in life@* *AI f I thought I was pretty and everybody else told me that I am pretty, then I would think I am beautiful and I will be more confident and will be better in everything I do@* *ALook at me: I am pretty and I am intelligent@* *AHandsome and beautiful people can also do well in school@* *AI am quite handsome but do not have problems with my schoolwork@*

5.3.2.6 Good appearance is associated with academic competence

Both boys and girls indicated that good looks were positively associated with high intelligence and academic competence. Examples of comments include the following: *AI did an investigation about all the learners in this school and I found out that most of the handsome and beautiful learners are very intelligent@* *AThere are handsome boys and beautiful girls at the university and some girls are participating in the Miss Malaika and Miss Zimbabwe competitions@* *AI f you concentrate on reading and studying and forget about how beautiful you are, I think you will pass@*

5.3.2.7 Factors that influence physical self-concept and academic achievement negatively

Poor time management

Respondents in urban and rural areas reported that there were circumstances when physical activities and good appearance influenced physical self-concept and academic achievement negatively. For example, poor time management between physical activities and schoolwork: *AThere are people who take part in sports and spend three quarters of the day concentrating on sports. As a result their schoolwork will suffer@ AThere are some schools that make you concentrate strictly on sports and therefore you will lose academically@ ALet=s say I go for sports now until five o=clock. I get home late, bath and eat. I have less time for reading and homework@*

Physical activities cause fatigue

It was reported that participation in sports for a prolonged period cause physical and mental fatigue leaving one with less energy to do schoolwork. This lowered one=s ability to concentrate, thereby influencing one=s physical self-concept and academic achievement negatively. For example: *ASport disturbs a person academically because when you get home you will be tired and you will not do much schoolwork@*

Physical appearance and time management

In addition to the above, concentrating on one=s physical appearance at the expense of schoolwork influences academic achievement negatively: *AWhen people tell you that you are beautiful all the time, you tend to spend time staring at yourself in the mirror@ AI have a friend who spends half her study time looking at herself while we are studying. That can cause her studies to suffer@ AI know of some handsome and beautiful people who have become so full of themselves that they spend less time studying and more looking in the mirror@*

5.3.3 Emotional self-concept and academic achievement

Respondents were asked to express their feelings about their academic achievement in their current school, when they experienced success or failure, anxiety and depression. Responses to the questions revealed the learners' emotional self-concepts in academic situations. Overall success brought about excitement and joy while failure caused depression and feelings of hopelessness. The latter two tended to lower the self-concept of the learners and their academic performance as well. Anxiety and depression interfered with learning and achievement as a whole.

Details of the learners' responses are presented below.

5.3.3.1 Satisfaction with the school environment

Respondents in non-government schools, expressed satisfaction with their current schools, describing them as providing a favourable learning environment that promoted high academic achievement. Examples of observations include: *AI think our environment stimulates my results to higher levels@ AI think being at this school puts me on the road to success because there exists an environment of study and so you will always be studying because people around you are studying@* This is an expression of confidence in the school, which would raise the self-concept and academic achievement of the learners. The learners, however, cautioned against overconfidence and complacency arguing that success was not automatic and that there was a need for hard work in order to be successful: *AI do not think that I am on the road to success because I might not work hard and fail,@* one stated.

5.3.3.2 Satisfaction with performance

Success in academic work brought about feelings of satisfaction with performance, happiness, excitement and pride because adolescents cherish feedback from significant others. This tended to raise their self-concept and academic achievement in future tasks, as the following statements indicate: *AI feel very happy when I pass a subject@ AWhen I pass my tests I feel that I have done*

a good job **A** *This feeling of satisfaction for a job well done is a reaction likely to lead to higher self-concept and achievement in future.* **@**

Success also brings a sense of achievement and reward for good work, which increases satisfaction. For example: *Alf I pass I feel excited because I know that I will be happy that the studying I did will be pay off.* **@** *Alf I pass I feel like I am on top of the world,* **@** are two examples of the learners' comments.

5.3.3.3 Negative factors on emotional self-concept and academic achievement

However, high achievers expressed the sentiments that failure was a source of motivation: *AWhen I fail, I just try to work hard so that I can achieve good results in future.* **@** Other emotional effects of failure are the following:

Embarrassment

Failure in any academic task caused embarrassment to the learners. For example, *Al feel embarrassed when I fail a subject I am interested in,* **@** *Alf I fail I will be embarrassed because I think of the hard work I have put in and I try to do something to improve.* **@**

Failure brings about a sense of loss in the learners. It can be a loss of time, money or effort. In other words, there will be no reward for all the effort, time and money invested in one's learning. This feeling tends to lower self-concept and achievement. For example, *AWhen I fail in my examinations, I feel that I have wasted the money which my parents have paid for my school fees* **A**; *Alf I fail, I think of all the hard work I have put in* **Y** **@** are some of the observations made.

Depression

Failure can cause depression in some learners. Depression was described as interfering with one's orientation and academic performance in general. For example, *AWhen I fail, I feel depressed because of the effort I put in and it's very difficult to start to work hard to improve my mark,* **@** *AYou cannot concentrate when you are depressed,* **@** *AHa-a! It (depression) affects my performance*

because I will be feeling very bored and would not want to learn that day because my thinking capacity will be tired@ **A***Depression does really affect your performance. Let=s say in mathematics there are long division sums. I doubt it if you can work correctly whilst something is troubling you.@*
 In other words, failure undermines the learners= confidence, which will affect academic achievement negatively.

Feelings of anxiety

Anxiety was described as common among senior learners when examinations were approaching. Because of the importance of the examinations to the learners= future, there was a tendency to panic, especially when preparation has not been thorough. Feelings of anxiety tend to lower the level of performance. Some comments are: **A***When examination time approaches, you feel a bit scared and uneasy@* **A***You really feel anxious because, for instance the Form fours, are making plans for their future. So you feel restless and uneasy@* **A***Y**getting into the examination room you panic and write the wrong answers and yet you know the correct answer@* **A***If you are prepared for the examinations, there is nothing to be afraid of* **Y***you will do well.@*

5.3.4 Social self concept and academic achievement

Interview results on the learners= social self-concept and how it relates to academic achievement in secondary schools are now presented. From the responses it emerged that there were positive and negative factors that influenced the learners= social self-concept and consequently, their academic achievement. The social self-concept influenced academic achievement through social relations and interactions with significant others such as parents, educators and peers.

These will be presented in the following sections.

5.3.4.1 Positive influences on social self-concept and academic achievement

Parental support, encouragement and love

Respondents reported that parental support, encouragement and love (used as proxies for acceptance) tended to raise the social self-concept and encourage learners to work hard to succeed academically. Success was found to raise acceptance of the learners=behaviour even more by significant others in academic situations.

Quotes include the following: *ALook at my parents: they encouraged my brother to do everything and he is intelligent; so I also want to be encouraged by my them and I also want my parents to like me the way they like my brother, so that I can set my goals high and achieve them, so that my parents will learn to like me the way they like my brother.*@ Comments like this one emphasise the reciprocal nature of the self-concept and the reinforcement effect of encouragement leading to success. However, a positive social self-concept can, under certain circumstances, lead to failure. This happens when learners are overwhelmed by parental material support. Learners tend to become complacent in school and fail. For example, *Alf parents have a lot of money, their children may not mind about education because they know that even if they fail, they will get support from their parents.*@

Educators= support and academic achievement

Respondents in urban and rural areas, government and non-government schools were unanimous about the important role educators play in influencing learners= social self-concept and their academic achievement. Supportive behaviour such as encouragement and warm relations in academic situations (indicators of acceptance) by educators towards the learners had a positive effect on the learners= social self-concept and academic achievement. *AMy relationship with educators contributes a lot to my academic work because if educators are supportive and they like me, definitely my academic performance will be high*@ *AChildren sent to high performing schools with high pass rates do better because they are encouraged by the educators to work hard.*@ The ideas quoted above underline the crucial role the educator plays in self-concept building for better academic achievement.

Peer support and academic achievement

Peer support and collaboration raised the learners' social self-concept and academic achievement. Respondents singled out classes of high performers where they hoped to be exposed to healthy competition. Slower learners expected to receive assistance with their work from their more able counterparts. Others expressed the view that there would be an exchange of information. *Peers contribute a lot to my academic work because if they like me, they will definitely be supportive and my academic work will be high.* *Some learners understand their friends much better than their educators when concepts are explained.*

Relationships with members of the opposite sex

Boy-girl relationships were described as raising the social self-concept and academic achievement through inspiration, support and encouragement of one another. It was stated that such relationships enabled the sharing of ideas on academic issues. For example, *Having a girlfriend need not cause problems because the same girl might help you in solving academic problems, say in mathematics which you may not be able to solve on your own.* *You think, if I fail will Rudo (girlfriend) still like me? So you tend to study more so that you can achieve your goal and maintain the relationship.* *A girlfriend is someone you can share ideas with and do classwork.*

Others also stated that such relationships would not have a negative effect on academic achievement as long as one approached schoolwork seriously, with maturity and managed your time well: *What matters is the seriousness of the learners, ability to balance schoolwork with the relationship and your maturity. I believe you will succeed.*

5.3.4.2 Challenges to social self-concept and academic achievement

Rejection by parents

Lack of parental support, encouragement and love lowered social self-concept and academic achievement: *I want to be encouraged by my parents, and I also want my parents to like me so that I may achieve my goals.* was a comment made. Some stated that comparison with siblings lowered their social self-concepts and academic achievement. For example, *My parents*

contribute a lot to my being intelligent because if they compare me with my elder sister and if she is more intelligent than I am then obviously I will be shunned and put down. Then I will not try my best because I know that she will always be better than me@ illustrates this point.

Rejection by educators

Educator behaviour such as dislike of the learners, lack of encouragement and instilling fear in learners tended to lower their social self-concepts. This often leads to constrained communication between the learners and the educators, thereby lowering the level of participation in class and learning activities and achievement in general. For example: *AThere are some subjects I do not participate in and do not perform well in because of the responses given to my contributions by educators in the subject@ Alf educators do not like me most probably they will not be supportive of my work; so I do not think my performance will be high.@*

There are times when learners do not like certain educators as well. Hostility develops and the social self-concept is lowered with a subsequent drop in academic achievement. For example, *AThere are some educators whom you dislike; so they may brutalise you and it may end up in abuse@ Alf you and the educator do not get along well, the educator, when marking your books/tests may be hard on you. So I think there must be communication@ Alt is difficult to ask some educators questions; so when I want to ask a question I become afraid to ask and just keep quiet@* From the above it is clear that relations can raise or lower the social self-concept.

Rejection by peers

Negative comments given by other learners such as accusations of cheating and mockery to answers given in response to the educators= questions tend to lower the social self-concept among the learners and their academic achievement negatively. Such behaviour discourages learning and participation in class, leading to lower academic achievement. For example, *AThere are some subjects I do not participate in and do not perform well in because of the responses other learners give to the contributions I make in the subject@ ASometimes you may be accused of cheating when you did not.@* Others went on to say that lack of warm relationships among classmates leads to lower academic achievement due to lack of collaboration. For example, *Aln this class we are not friendly towards each other. We cannot even get together to work in other subjects, so our relationship with other learners can affect our ability in school,@* is one comment that was made. Another learner observed: *AOur relationship with other learners will also affect our*

learning because if we do not communicate well or we mock one another we will not pass our examinations.@ Discouragement and lack of friendship are indicators of rejection.

5.3.5 Cognitive self-concept and academic achievement

In this section respondents gave their views on the positive and negative factors that influenced the general and cognitive self-concepts and academic achievement of the learners. Generally, satisfaction with the school environment, self-rating and comparison, aspirations or goals in life, past performance and gender were singled out as influential in the promotion of a positive self-concept.

5.3.5.1 Satisfaction with the school environment

Respondents from government schools expressed dissatisfaction with their schools describing them as not offering a favourable learning environment for high academic achievement. The schools were reported as lacking or experiencing a shortage of learning materials, especially textbooks: *Our book facilities are not good as many books don't have all the pages. There is a shortage of books here*@; *Without books there is no learning. I do not think that you can get a job if you do not learn.*@ The school environment just described does not inspire learners with confidence at all. This depresses the self-concept and achievement as well.

Respondents from non-government schools had a positive general self-concept regarding their schools. They described them as providing a challenging, supportive environment, had high academic standards and healthy academic competition. These qualities raised the learners general self-concept, inspired learners with confidence and raised their academic achievement overall. One participant stated: *This school puts me on the road to success because the environment is one of studying; so in a way you will always be studying because people around you will be studying,*@ one stated, while another said: *I think our environment sort of stimulates my results to higher levels.*@

Slow learners went on to express the desire to be in the same class as high achievers where they will receive learning support and will be academically challenged: *AI want to be in a class of intelligent people who will teach me and give me the desire to pass because everyone will be passing.* This also raised their general self-concept and academic achievement. The school environment inspired learners with confidence, and they were likely to be more successful in school.

5.3.5.2 Self-comparison and academic rating

Not only did the learners rate themselves in academic situations but they also compared themselves in the group. For example, learners who rated themselves as intelligent, competent and academically capable had high general self-concepts and often experienced high academic achievement: *AI think my academic performance in school is quite good because last term I got more marks than I did the previous term.* Confidence in the self contributed significantly to a positive self-concept and better academic performance. For example, one stated: *AI all depends on what you are doing, you will succeed.* Some learners, however, cautioned against complacency in the event of attending a high performing school or being above average in school or class: *ABeing in this school does not automatically put me on the road to success because I might not work hard and fail and feel embarrassed.* Similarly those rating themselves low also had a negative self-concept of themselves.

5.3.5.3 Self-comparison and past performance

Comparing one's performance with the performance of one's classmates may raise or lower your self-concept. Respondents stated that past performance may raise the cognitive self-concept leading to higher academic achievement. Passing makes learners happy and encourages them to work harder for a better pass rate in future. In other words, success motivates learners to greater heights. Others may, however, become complacent and fail in future tasks. For example, one observed: *AI feel like working hard when I pass.* Even failure can raise the cognitive self-concept: *AWhen I fail I take this as a push that next time I will study harder and do better.* One expressed satisfaction at failing with the majority if he or she had been successful in a previous task: *AWhen*

*I have passed and then fail I look at why I have failed. If the test was hard and almost everyone failed, then, fine, I am with the rest of the crew and it's not so bad but if I am the only one, I check on myself and probably be depressed for a day or two or **Y** I feel it's life, there are ups and downs **Y** I can do it, and sometimes I cannot.@*

5.3.5.4 Class position and average scores

Class positions have the same effect as comparing, that is, it can raise the cognitive self-concept or even lower it depending on one's reaction: ***A**Let's say your average score is 70% because the test was easy and you are bottom of the class, you have to work harder to gain a higher position.@*

One learner stated that the class position was more important in raising one's cognitive self-concept because parents and relatives understood class positions better than average marks: ***A**Parents and relatives ask what number you are in class. They do not ask for the average mark. If you are last in the class, they conclude that you are not good enough.@*

In some cases it is not just a matter of comparing your performance with that of classmates but comparing your own achievements because you may not be able to beat some of your friends who are very good. In support of this one stated: ***A**Take the form fours, **chero mukaedzasei, the Yanongokukundai chete**@ (No matter how much effort you put into your work, **Y** (best learner in the school) will always do better than everyone else in this school. So do not worry). Therefore, if your objective was to do better than the top learner and he always beats you in every task, your cognitive self-concept may end up going down due to loss of confidence. You may find your overall performance deteriorating unless you persist or simply aim at gaining on him/her.*

5.3.5.5 Aspirations and goals

Occupational aspirations or the goals one sets for yourself can raise or lower your cognitive self-concept and the level of academic achievement. One learner declared: ***A**if you work hard and target on something, I think you can achieve that goal. If you target high you tend to look for things that may get you there, for instance, if you want to become a pilot or a doctor.@*

Others also said that the need for a high income may influence one to work hard if the occupation demands high academic qualifications. This may raise one's cognitive self-concept to achieve good results. However, another respondent raised a question on the wisdom of pursuing higher education that did not bring much money. One learner said: *What is the point of having a PhD when one has no money?* Views like this are likely to lower the cognitive self-concept and academic achievement because education was not seen as an avenue for higher earnings.

In addition to the above, the influence of one's role models may tend to raise or lower the cognitive self-concept and the level of academic achievement. *What may influence me to become a doctor is a relative who is a doctor, who is doing very well and I might also want to be like him/her,* a respondent declared.

Aspirations may be set as a result of parental or peer pressure. That may raise the cognitive self-concept and academic achievement: *Pressure from all angles, parents, relatives, and classmates may push you...* was a statement from a learner.

5.3.5.6 Gender, cognitive self-concept and academic achievement

Respondents reported that society generally regarded boys as academically more competent than girls. Consequently, boys tend to receive more and better support than girls for their education.

There is, however, general agreement between boys and girls that they are equally competent academically. Any difference may be the result of the environment and effort put into schoolwork: *I think women were not given a chance because long ago it used to be the case that men were always put before women so women did not get a chance to prove what they can do, I believe that we are the same and that if you work hard, then obviously you will do better and if you do not, you fail,* were some of the statements made by girls.

However, one participant also stated that boys were better because at form four, a boy and a girl both passed nine grade $\geq A$ subjects but when they do $\geq A$ levels the boy gains 15 points and the girl 13. *This shows that as they grow older, women's brains decrease hence women are generally slower than men.* Both boys and girls agreed on the existence of subject specific differences between them. For example, it was stated: *We think we are the same, but when it comes to*

physical science, technical subjects and mathematics boys are better whilst girls are better and more interested in fashion, accounting, English and Shona, one girl stated.

On the other hand, boys do not believe that they are as good as girls in English and other arts subjects: *All think girls are better in English and Shona*. Consequently girls tend to perform better than boys in the arts subjects. Boys' and girls' cognitive self-concepts are more positive in the respective subject areas leading to a better performance in them. Furthermore, the lack of female role models among the leading scientists confirms the females' inferiority in the science subjects, as one participant stated: *Of the physicists and mathematicians in the world, I have not heard of any woman*.

Gender stereotyping

Labelling girls as less able than boys tends to lower their cognitive self-concept, academic achievement and potential as a whole: *Girls do not do well most of the time because of what people say. I think sexual discrimination leads girls to do badly*. Some girls attributed their lower performance to the inferiority complex that has been placed on them by society: *Girls have this inferiority complex that has been put on them by society. We have always been told that we are no better than boys. We cannot do this and that. When that feeling sets into us, we do not do as well as we are supposed to. Our potential is lowered because society has made us think that we are worthless when, in actual fact, we are very great people*.

Admitting girls to institutions of higher learning on lower points than boys lowers their cognitive self-concept further, thereby lowering their academic performance overall or in specific subjects. One participant said: *By lowering the points you are actually making us believe that we cannot do it*.

Thus gender and stereotyping of subjects by both genders may raise or lower the cognitive self-concept accordingly.

5.3.5.7 Interest in subject(s)

The interest one has in a subject tends to raise or lower one's cognitive self-concept and achievement in it. You spend more time and effort on the subject if you are interested in it. For example, *When you like something, you tend to want to do it more and more. So, when you like a subject more than others, you study it more than others and you tend to experience success in it more often one said.* On the other hand, interest in a subject accompanied by complacency may lead to failure. *If someone says, I can do mathematics better than everyone, and the person does not practise, when the examinations come s/he does not know anything because of lack of practice and then he/she fails,* a learner declared.

Thus, the behaviour one adopts when interested in a subject will determine whether cognitive self-concept and achievement will rise or fall.

5.3.5.8 Challenges to cognitive self-concept and academic achievement

Apart from gender stereotypes, other challenges to cognitive self-concept include the following:

Dissatisfaction with the learning environment

Government schools that do not have adequate learning resources tended to depress the general self-concept and eventually academic achievement of the learners: *If there are no books there is no learning* *Many of our book facilities are not good. Many do not have all the pages and there is a shortage of books here,* were two observations made. These sentiments signify the lack of adequate support for learning in the school. The learners already see failure due to shortages of vital learning resources. This is likely to lower learners' general self-concept and achievement. Learners do not feel that the school environment is supportive of their academic endeavours. Consequently, their confidence is undermined and success cannot be guaranteed.

Similarly, classrooms with many lower achievers did not provide adequate challenge and most of the learners were disruptive, behaviour that did not support learning. Such schools and classrooms tended to lower the general self-concept and academic achievement of the learners: *I am not happy in my present class of slow learners because some of the learners will do negative things like making a noise and discouraging you from reading,* one stated.

Thus, school environment characteristics such as resources, calibre of learners and their behaviour can raise or lower the cognitive self-concepts and academic achievement of the learners.

5.3.5.9 *Self-rating and past performance*

Low scores and class position tended to lower the individual's cognitive self-concept. Similarly, persistent failure in a subject or course had the same effect with lower overall academic achievement. For example, *I am not really bothered by some subjects that I fail because I know that nearly every time I know I will get low marks, even though I try hard. So I am not really bothered by some of the subjects. I know that there are subjects that you fail and others which you pass, but I still believe that subjects which I fail are a waste of valuable time;* one said. The same applies to the apparent lack of improvement in terms of average mark or class position. Participants believed that such negative experiences lead to despondency, loss of self-esteem and a fall in overall academic performance.

5.3.5.10 *Aspirations and goal-setting*

When one believes that access to wealth or whatever one might want is not related to the possession of higher academic or professional qualifications, one tends to underplay the importance of education. Consequently, cognitive self-concept may be lowered and academic achievement as well. *It is better to go into business and earn more money than to acquire high academic qualifications which do not pay as much;* one learner said. A learner with such aspirations is not likely to put much effort into schoolwork at all because he does not believe that education will help him earn more money.

The following section discusses both the quantitative and qualitative research evidence.

5.4 DISCUSSION

5.4.1 Self-concept and academic achievement

The purpose of the study was to investigate whether a significant relationship exists between learner self-concept and academic achievement in Zimbabwe secondary schools. The specific aims were to determine the relationship between each of the following: general, physical, social, emotional and cognitive self-concepts and academic achievement. In addition, the purpose was to examine gender, standard (form/grade), age, school type and location and type of attendance differences with regard to the general, physical, emotional, social and cognitive self-concepts and academic achievement and to examine the relative contributions of each of the self-concepts to academic achievement.

The quantitative and qualitative evidence will be discussed in the ensuing sections.

Results from the investigation indicate that there is a significant and positive relationship on the 1% or 5% levels between the general, physical, social, cognitive and emotional self-concepts on the one hand and academic achievement on the other hand of adolescent learners in Zimbabwe secondary schools (see sections 5.2.2 & 5.3.2). In other words, the learners' general feeling of academic competence and confidence overall and in specific subjects or learning situations, impressions about the school as supportive of their academic endeavours or otherwise, social relations with significant others, emotional feelings and physical attributes and abilities may have some influence on the way they perform academically in school. The relationship is, however, low ($r=0.065$ to 0.382). Results are consistent with earlier research (Hamachek, 1995:420; Howcroft, 1991:106; Marsh, 1992:35; Mboya, 1989:39; Mwamwenda, 1995:368; Wiest *et al*, 1998:603). Both the qualitative and quantitative evidence show the significant relationship between self-concept and academic achievement. However, the results appear to contradict research findings by Marsh (1992) who reported that the general and non-academic self-concepts were not related to academic achievement.

In a nutshell, the results show the relative importance and value placed upon the self by the sample of secondary school learners in Zimbabwe to their academic achievement. Similarly, their academic achievement may have some association with the way they feel about various aspects of themselves.

5.4.2 Self-concepts, academic achievement and gender

Overall the results do not show significant differences between the academic performance and the self-concepts of male and female learners. An examination of the mean marks for males and females show similarity in academic performance between genders. (See section 5.2.9.) The results support earlier studies (Hay *et al*, 1998). This is however, contrary to research by Gordon (1995:72; Stumpf and Stanely (1996:355) who reported differences in academic achievement between males and females. The physical, social, and cognitive self-concepts are positively and significantly correlated to the academic achievement of male learners and the social and cognitive self-concepts of females are significantly related to academic achievement. (See section 5.2.3.)

The relationship is, however, low implying a possibly weak influence on academic achievement. The results support earlier studies by Mboya (1999:388) reporting a weak, positive and significant relationship between gender and scholastic achievement among African adolescents.

The role of gender on individual self-concept domains will be examined in the following sections.

5.4.2.1 *Physical self-concept, academic achievement and gender*

The results have shown that participation and competence in physical activities, as well as a good appearance tended to enhance academic competence, achievement and confidence in whatever the learners did. There was a significant relationship between the physical self-concept and academic achievement of males. (See section 5.2.3.) This may be due to the fact that male learners tend to volunteer participation in sports for popularity while girls shy away from physically challenging tasks. The results are in accordance with literature findings (Corey & Corey, 1990:146; Mostert, 1995:3; Dembo, 1994:463 and Mboya, 1996:388) who reported physical fitness and participation in sports as contributing to a positive self-concept and improved performance in school. Furthermore, the qualitative evidence has pointed out that participation in sports improves one's time management, self-discipline skills, and self-confidence. All these can aid effective learning and academic achievement in school. It was expected that physical appearance would correlate significantly with females' academic performance but this was not the case. Qualitative findings from the interviews suggesting that learners would remain focused on schoolwork instead of spending time on their appearance may explain why there was no significant correlation with

academic achievement for females. (See section 5.3.2.) It is important to note that physical self-concept correlated significantly with the cognitive self-concept. This implies that learners who participate in sports or are good at sports and improve their self-image are likely to improve their cognitive self-concepts leading to better academic achievement. The two seem to complement each other. Furthermore, by enhancing the physical self-concept one is likely to improve social relations, which in turn raise the cognitive self-concept and possibly academic achievement as well.

5.4.2.2 Emotional self-concept, academic achievement and gender

Statistical results showed no significant relationship between the emotional self-concepts and academic achievement of male and female learners. However, participants reported that they experienced feelings of joy, excitement and satisfaction when they passed and embarrassment and depression when they failed. Depression and anxiety were reported as affecting academic achievement negatively. (See section 5.3.3.) These results support findings by Dembo (1994:168) and Brogan (1998:3), who reported that depression and high levels of anxiety interfered with learning and academic achievement.

5.4.2.3 Social self-concept, academic achievement and gender

The literature stated the existence of a significant, positive relationship between social skills and academic achievement (Myburgh *et al*, 1999:174; Park, 1998:34; Buhs & Ladd, 2001:550; Huitt, 1998:4). According to this research, the learners' social relations, especially those of the learners with their parents, educators and peers were vital for improving individual self-concepts and the academic achievement of adolescent learners. Specifically support, encouragement, warm relations and acceptance by educators, parents and peers had positive effects on both self-concepts and academic achievement. (See section 5.3.4.) Therefore, establishing and maintaining warm and cordial relations with significant others at home and at school were necessary for a positive self-concept and the academic achievement of both males and females. While it was expected that boy-girl relationships would negatively influence academic performance, the learners reported that such relationships were supportive of high academic achievement, if managed with

maturity. Statistically, there were no significant differences between the average achievement of both boys and girls and their social self-concepts though social self-concept correlated significantly and positively with the academic performance of both males and females. (See section 5.2.3). The relationship is, however, weak. What is important here is that both the qualitative and quantitative evidence reported significant and positive relationships between the social self-concept and academic achievement. (See sections 5.2.3 & 5.3.4.) However, the moderate to high correlation between the physical and social self-concepts with the cognitive self-concept, and between the physical and social self-concepts seem to suggest that by improving the physical and social self-concepts, the cognitive self-concept is likely to be improved. This leads to better academic achievement. In other words, the non-academic self-concepts play a complementary role to the cognitive self-concept and achievement.

5.4.2.4 Cognitive self-concept, academic achievement and gender

The cognitive self-concepts of girls were significantly better than the cognitive self-concepts of boys. (See section 5.2.9.) However, the results contradict the study by Gordon (1995:62) who reported more superior cognitive self-concepts for males. The differences may be in subject areas of interest and actual performance. For example, interview reports indicated that males preferred and performed better in the sciences while females preferred arts, especially English, in which they performed better than males. According to the qualitative evidence, both agreed that there was gender stereotyping of subjects, which was regarded as responsible for the differences in performance in different subjects. (See section 5.3.5.) The results support studies by Stumpf and Stanely (1996:355); Gordon (1995:62); Craven and Marsh (1996:13) who reported gender differences in cognitive self-concepts. Overall, both agreed that they were equally competent academically. Mean scores confirm this assertion. (See section 5.2.9.) The results may be a reflection of the effectiveness of the 'girl child' or affirmative action strategies embarked upon since independence in 1980 to eradicate gender differences in all spheres of life. It may also mean that girls have taken up the challenge to equal their male counterparts academically before moving into other areas previously dominated by men.

5.4.3 Self-concepts, academic achievement and grade or form

Results showed no significant differences in the academic achievement of junior and senior learners overall. However, significant differences were noted between the emotional, cognitive and general self-concepts of junior and senior learners. Junior learners had more positive emotional, cognitive and general self-concepts. (See section 5.2.10.) The results seem to suggest that junior learners were more likely to perform better than senior learners. In other words, feelings of academic competence in general and in specific subjects or learning situations, satisfaction with the school environment as a good learning place and emotional stability may act as sources of motivation for the junior learners. The results are in agreement with research that reported a general decline of self-concept with age (Dembo, 1994:159; Huitt, 1998:4; Marsh, 1990:74; Mboya, 1999:389). However, the results contradict findings by Marsh (1992) that non-academic self-concepts have no significant relationship with the academic achievement of the learners. Because they are young, junior learners may be more easily motivated and respond more positively to the influence of significant others such as educators and parents. On the other hand, more mature adolescents tend to depend on peer influence and intrinsic motivation for them to perform. Similarity in mean scores is, however, difficult to explain. It should be noted, however, that tests taken by both juniors and seniors were not the same, therefore there is no reason to expect them to be similar or different for the two groups. A similar study using standardised scores or grades could be the subject of another investigation.

The physical and social self-concepts correlated positively and significantly with the cognitive self-concept while the physical self-concept also correlated with the social self-concept. Again the correlations were greater for juniors than for seniors. This may suggest that an improvement in the non-academic self-concepts may contribute towards improvement of the cognitive self-concept leading to the better academic achievement of both juniors and seniors. (See section 5.2.4.)

It is, however, interesting to note that the physical, emotional, social and cognitive self-concepts were positively and significantly related to the academic performance of junior learners. For seniors, the social and cognitive self-concepts only, were significantly correlated with academic achievement. (See section 5.2.4.) The results seem to suggest that the way junior learners react to the physical, emotional and social relations and feedback on their academic activities may have

some influence on their performance in school. On the other hand, social relations, particularly with parents and educators, and feelings of academic competence and reaction to feedback from educators on academic activities may have a significant influence on the performance of both junior and senior learners. In short, the grade or form correlated positively and significantly with the social and cognitive self-concepts of both junior and senior learners, and with the physical and emotional self-concepts for the juniors only. Based on these results, it would appear that the changes the junior learners experience on transition from the primary school to the secondary school may have had a significant influence on the way they perceived their social, emotional, physical and cognitive selves. They come face to face with new social relations, a new academic environment with a different curriculum and educators for each subject. Being young, they are more vulnerable to various influences and are still developing at a greater speed than the older learners. These changes may have influenced all aspects of the young adolescents' lives, which in turn may have influenced their academic achievement. Any negative experiences may slow down the junior learners' adjustment to the new environment leading to negative effects on their learning and academic achievement.

Later, senior learners appear to be more stable and rely more on intrinsic than on extrinsic motivation for their learning and academic achievement. This is demonstrated by weaker correlations. However, the physical and social self-concepts correlate significantly with the cognitive self-concept leading to better cognitive self-concepts. Once again, it is suggested that an improvement in the non-academic self-concepts of junior and senior learners may influence an improvement in their cognitive self-concepts that may lead to better academic achievement.

From the above it seems that age may influence academic achievement and self-concept.

5.4.4 Self-concepts and the academic achievement of urban and rural learners

Results have shown that a positive and significant relationship exists between the physical, social and cognitive self-concepts and academic achievement of urban and rural learners. (See section 5.2.5). The results are in agreement with earlier literature findings by Dembo (1994:461), Mwamwenda (1995:68), Hamachek (1995:420) and Mboya (1996:388). Interview results confirm the

pattern. Both urban and rural learners reported that involvement and ability in sports and a 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. (See section 5.3.2.) 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. (See section 2.3.)

There were no significant differences between the average achievement of urban and rural learners. (See section 5.2.11.) The results can be explained by the fact that the sample for the current study consisted of high achievers in selective non-government boarding and day schools located in rural and urban areas. Their inclusion may have narrowed or even removed the usual rural-urban differences in academic achievement. Because of this, the researcher would hesitate to conclude that school location does or does not make a difference to the academic achievement of learners. However, school location, urban or rural, accounted for significant differences in the physical, emotional, cognitive and general self-concepts of the learners. The urban learners had higher mean scores for all the self-concept domains. (See section 5.2.5.) This shows that the two locations were capable of developing the learners' self-concepts differently.

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

5.4.5 Self-concepts and the academic achievement of learners from different school types

The study has revealed significant differences between the overall academic achievement of learners in different school types and also their physical, emotional, social, cognitive and general self-concepts. Learners in non-government schools had the highest average test scores because they recruit high achievers from the entire country. They, however, registered the lowest average physical, emotional, and cognitive self-concept scores. (See section 5.2.13.) This may be due to the low emphasis on sports activities, anxiety to succeed and feelings of inadequacy in these highly and academically competitive schools. On the other hand, learners in Government C schools performed the lowest academically, possibly because they recruit learners from the locality, regardless of past performance or ability. They, however, fared better than learners from non-government schools in the physical and emotional self-concepts. This may explain the differences in overall academic performance. However, Government B schools, which registered the highest average scores for each self-concept domain, appeared to offer the best environment for developing the learners' self-concepts. The average academic performance was lower probably because of the wide range of abilities of the learners they recruit. (See section 5.2.6.) The results are consistent with those of an earlier study by the same author (Dambudzo, 1998:60) confirming significant differences in academic performance between government and non-government schools.

Correlation results show a 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 is probably the result of selective admission practices in which the more able learners are recruited while the other two school types take on whoever comes. (See section 5.2.6.)

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. (See section 5.2.6.) 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 this conclusion.

All 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 which may lead to higher achievement in future.

Physical attributes, 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 place the emphasis on 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, the 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 (Fontana, 1997:34). Results of the current study support earlier research.

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

5.4.6 Self-concept and the academic achievement of learners of different ages

Literature (Mboya, 1999:389; Dembo, 1994:159; Huitt, 1998:4; Craven *et al*, 2000:60) and empirical evidence have shown that the relationship between self-concept and academic achievement declines with age. In the current study, the social and cognitive self-concepts correlated significantly and positively with the academic achievement of learners aged 13 to 16 years. (See section 5.2.8.) For the 13 and 14 year olds, the emotional self-concepts also correlated significantly with academic achievement. (See section 5.2.8.) For the latter, correlations with the cognitive, social, emotional and physical self-concepts were quite significant. This may suggest a combined influence of the self-concepts on the cognitive self-concepts and academic achievement of the learners. This observation is confirmed by a high, positive and significant correlation between the physical, social and cognitive self-concepts. The same applies to the physical and social self-concept. (See section 5.2.8.)

As learners grow older a decline in self-concept is experienced. (See section 5.2.12.) The results support earlier findings by Huitt, (1998:24), but contradict Ezeilo (in Mboya, 1999:389) who, in a study in Nigeria reported an increase of self-concept with age. For example, while social and cognitive self-concepts were significantly related to academic achievement for the 13 to 16 year olds, this was not the case for those above 16 years. Regardless of age, social relations and

interactions and feelings on academic competence had a positive influence on the learners' self-concept and achievement.

Emotional self-concept was negatively related to achievement for the 15 year olds. This is the age when adolescents experience physical, physiological, emotional and psychological changes in their bodies (Mostert, 1995:12). This impacts on their behaviour as a whole, as well as on their self-concepts. The literature has already indicated that an increase in the intensity of emotions often tends to interfere with learning and lower academic achievement. From the interview results it was learnt that depression has a negative effect on academic achievement. (See section 5.3.3.) The results may be a true reflection of this age group as well.

The social self-concept showed no significant difference in performance considering age. Adolescence is the time when there is a tendency for disengagement socially. Some learners tend to be withdrawn during this period. Association with significant others may be very low, hence little or no effect on their self-concept. Self-concept derives from interaction with significant others and the environment. Adolescents prefer to rely on their own feelings in what they do (Biehler & Snowman, 1997:410). As learners grow older and mature they tend to set their own standards and evaluate themselves against them instead of relying on feedback from parents or educators (Biehler & Snowman, 1997:410). This may explain the lack of a significant relationship for those aged above 16 years. However, the correlation between the social self-concept and the cognitive self-concept was quite high and significant ($r = .555$) (see section 5.2.8). Further studies may be useful for this age group.

Overall, the results of this study show that age has some influence on the self-concept and academic achievement, though evidence is not good. Results agree with the findings of Mboya (1999:388) who reported a significant relationship between age and scholastic achievement suggesting a weak influence because of the low correlation coefficient.

5.4.7 Self-concept and the academic achievement of boarders and day scholars

The study shows a 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. (See section 5.2.7.) This implies that the type of attendance, as a boarder or a day scholar, has some influence on the shaping of the physical, emotional, social and cognitive self-concepts of the adolescent learners. Since average correlation coefficients and mean marks are higher for boarders, it can safely be concluded that boarding schools offer better conditions for shaping the learners' self-concepts, leading to better academic achievement. The results support earlier findings that the school attended shapes the self-concept of learners in specific self-concept domains and not the general self-concept (Dembo, 1994:456). The type of attendance as a boarder or day scholar had a significant impact on the physical, emotional, and cognitive self-concepts and but no impact on the social and general self-concepts. (See section 5.2.7.)

In addition, day scholars' and boarders' physical and social self-concepts correlated highly, positively and significantly with the cognitive self-concept. This was also the case with the physical and social self-concepts. The implications are that by raising the learners' physical and social self-concepts the cognitive self-concept is likely to be raised also, leading to better academic achievement. (See section 5.2.7.)

5.5 SUMMARY

The current study investigated the relationship between learner self-concept and academic achievement in secondary schools in Zimbabwe. Both quantitative and qualitative research designs were used to collect data. The quantitative data was analysed statistically for its significance to test the hypotheses stated. Qualitative data in the form of rich text supplemented statistical data to give more meaning. From the results and discussion presented it has emerged that different self-concepts have both a direct and an indirect relationship with academic achievement. For example, statistical evidence has demonstrated that the general, physical, emotional, social and cognitive self-concepts have a positive and significant relationship with academic achievement. The relationship is reciprocal. This implies that each one of the self-concepts may influence the academic achievement of the learners individually, and *vice versa*. Correlations among the different self-concepts are high, positive and significant. The implications are:

- a) improve the physical self-concept and you also improve the cognitive self-concept, which may lead to a better academic achievement,
- b) improve the social self-concept and you also improve the feelings of intellectual competence leading to better academic achievement;
- c) improve the physical self-concept and you also improve social relations which may, in turn, improve the cognitive self-concept and possibly academic achievement.

The same applies to the emotional self-concept, though the correlation is low. The examples given imply an indirect relationship between the individual self-concepts and academic achievement through the cognitive self-concept. In other words, through their influence on the cognitive self-concept, the individual self-concept domains are likely to raise or lower the academic achievement of the learners. In a similar way, the physical self-concept, which was found to correlate highly with social self-concept, is likely to enhance the cognitive self-concept leading to a better academic achievement. The opposite is also true. (See sections 5.2.3 to 5.2.14.) Qualitative data also confirmed the relationship. (See section 5.3.) Therefore, by improving the non-academic self-concepts, the learners' cognitive self-concepts are likely to be improved significantly, leading to better academic achievement.

The next chapter presents the conclusions, recommendations and limitations of the study.

Chapter 6

Conclusions, recommendations and limitations

6.1 INTRODUCTION

In chapter one an introduction to the research problem was presented together with the rationale for the study. The aim of the study was also highlighted as follows: to investigate the significance of the relationship between learner self-concept and academic achievement in Zimbabwe secondary schools. Focus was on the following secondary aims as well: to conceptually analyse the term 'self-concept' as well as to determine the relationship between general, social, emotional, physical and cognitive self-concepts and academic achievement; to examine gender, age, standard (form/grade) differences with regard to general, social, emotional, physical, and cognitive self-concepts and academic achievement; to examine the relative contributions of the general and specific self-concepts and academic achievement; and to investigate learner self-concept and academic achievement by school location, school type, and type of attendance (boarder/day).

In chapters two and three, related literature was also presented highlighting major findings on the relationship between the self-concept and academic achievement. This covered the general, physical, emotional, social, and the cognitive self-concepts.

Chapter four presented the research methodology used for the current study.

In chapter five the results and discussion of the current study were presented. The chapter began by presenting results from the questionnaire and the interview data. Quantitative data comprised statistical tests to determine the significance of the relationship between the self-concept and academic achievement among the adolescent learners in Zimbabwe secondary schools. Thirteen hypotheses and research questions were tested and answered. This was followed by a

presentation of qualitative data in the form of rich text to provide a deeper understanding of the quantitative data. Both quantitative and qualitative data were discussed to interpret the results against the hypotheses and research questions.

The current chapter seeks to present the conclusions to the entire study. In addition, the chapter will also present recommendations for improving learners' self-concepts and academic achievement, as well as for future research.

The limitations of the study will also be highlighted.

Conclusions on the quantitative data will be presented first. Thereafter follows conclusions from the qualitative data.

6.2 CONCLUSIONS

6.2.1 Conclusions from the quantitative phase

6.2.1.1 Conclusions regarding the relationship between self-concept and academic achievement

As expected, the study has shown that there is a significant and positive relationship between the general and specific self-concepts and the academic achievement of adolescent learners in Zimbabwe secondary schools and that the relationship is reciprocal. Therefore, the way learners feel about themselves generally, physically, emotionally, socially and intellectually may have some influence on their performance in school. Likewise, good performance in school makes the learners feel good generally and in different life situations. Though the relationships are statistically not very high the results appear to be representative of adolescent learners in the Zimbabwe secondary schools who were included in the sample. Thus, given the adolescent learners' general, physical, emotional, social and cognitive self-concepts, one may be able to predict their level of academic achievement. The results support earlier research findings that a positive self-concept was a prerequisite for doing well in school (Hamachek, 1995:420). (See sections 1.1.2, 5.2.2 & 5.4.1.) This being the first multidimensional study on the relationship between self-concept

and academic achievement in Zimbabwe, the findings constitute a major contribution to factors that influence the academic achievement of adolescent learners in Zimbabwe.

Physical self-concept and academic achievement

The quantitative study also revealed that learners who feel good and confident about their general well-being, physical fitness, participation and competence in sports have positive physical self-concepts which appear to raise their academic performance. In other words, learners who are satisfied with their physical competence and appearance or body image in general tend to feel more confident in whatever they do, including schoolwork. Therefore, participation in school sports activities tends to improve the learners' physical self-concepts and academic achievements. Thus there appears to be academic gains from well-organized sports, and participation in school sports involving all the learners. In addition, schools that have physical education programmes for all the learners stand to benefit from better overall pass rates and better results for individual learners. This is in accordance with previous findings. (See sections 2.3, 5.2.2 & 5.3.2.) Significant correlations with the cognitive and social self-concepts seem to suggest that participation and competence in sports are likely to improve cognitive and social skills as well, leading to better achievements. The latter is additional and new knowledge on the role of a positive physical self-concept on academic achievement.

Social self-concept and academic achievement

From the quantitative results it appears that perceived support from and popularity among significant others (parents, educators and peers) are likely to influence actual performance and predict self-worth as well. From the results it appears that instead of basing their opinions about themselves solely on their actual performance in school, the learners also use feedback from parents, educators and peers in trying to figure out how good they are. Success in social relations may therefore influence success in other areas of life, including schoolwork. This confirms previous research results by Myburgh *et al* (1999); Hamachek (1995) and Babad (1995). (See sections 3.3, 5.2.2 & 5.3.4.) Significant correlations between the social self-concept and the cognitive self-concept, suggest that by improving the social skills one also improves academic competence leading to better achievements. Thus, besides influencing achievement directly, the social self-

concept also complements the influence of the cognitive self-concept on achievement. This is additional and new knowledge to what is already known about the relationship between the social self-concept and academic achievement.

Emotional self-concept and academic achievement

The results have revealed that the emotional self-concept has the weakest correlation with academic achievement overall. Strong feelings of anxiety and depression among the learners are likely to lower their academic achievement whereby lowering the emotional self-concept further. There is also a weak but positive and significant correlation between the emotional self-concept and cognitive self-concept confirming a positive and direct influence of specific self-concepts on academic achievement. These results support earlier research findings by Fontana (1997); Dembo (1994); and Wiest *et al*, (1998). (See sections 2.4, 5.2.2 & 5.3.3.) In addition, it indicates the possible relative influence of the emotional self-concept on academic achievement. This is new information revealed by this study.

General and cognitive self-concepts and academic achievement

The general and cognitive self-concepts correlate positively and significantly with the academic achievement of adolescent learners in Zimbabwe. Thus, learners who feel confident about their academic capabilities in general and in specific subjects and often experience success, tend to develop positive cognitive self-concepts. This enables them to perform better academically, thereby raising their self-concepts and performance even higher. In addition, the cognitive self-concept has a consistent, significant and positive relationship with achievement for all the moderator variables investigated in the current study. The study confirms earlier findings as already outlined in the literature (Hamachek, 1995; Marsh, 1992; Wiest *et al*, 1998 and Gordon, 1995). (See sections 3.4, 5.2.2 & 5.3.5.) Furthermore, the non-academic self-concepts, especially the physical and social self-concepts correlate highly, positively and significantly with the cognitive self-concept. This appears to suggest that learners with positive self-concepts all round are likely to perform much better due to the combined influence of the different self-concepts. This underlines the importance of both the academic and non-academic self-concepts for achievement. Negative perceptions and failure may have the opposite effect. The study confirms earlier findings as

already outlined in the literature and also adds new information. (See sections 3.4, 5.2.2 & 5.3.5.) For example, the cognitive self-concepts of learners of different ages, in urban and rural schools, government and non-government schools, boarders and day scholars and of different gender, correlate significantly with academic achievement. In addition, specific self-concepts complement each other in their influence on academic achievement. That the cognitive self-concept had no significant influence on the academic achievement of learners in the sample aged above 16 years is also new and significant information coming out of this study.

The following section provides conclusions with regard to the influence of the moderator variables: gender, form/grade, school type, school location, type of attendance and age and the role they play in self-concept and academic achievement.

6.2.1.2 Self-concept, academic achievement and gender

The study has shown that the gender of the learners may influence academic achievement. Social relations, especially the supportive behaviour of parents, educators and peers and confidence in learning situations influence the academic achievements of both males and females. On the other hand, the physical self-concept may have some influence on the achievements of males only. There appears to be no significant relationship between the physical self-concept and academic achievement of female learners. Because of the high and significant correlations between non-academic self-concepts and the cognitive self-concepts, it can be concluded that the more positive the non-academic self-concepts the better learners are likely to perform in school. The non-academic and cognitive self-concepts appear to complement each other in their influence on academic performance of both genders. Furthermore, results show that males and females are similar in their overall academic achievement, non-academic and general self-concepts but different in their cognitive self-concepts. The cognitive self-concepts of females are significantly better than that of males. In addition, females also have better general and social self-concepts than males who seem to have better physical and emotional self-concepts. This is different from earlier findings that reported males as having better cognitive self-concepts and achievement as well. This is significant and new information emerging from the study. The existence of gender stereotyping of subjects, particularly, languages and mathematics may be responsible for

differences in the cognitive self-concepts. In general, the results show similarities between genders. This may be a reflection of the success of the girl child initiatives in education and other spheres of life in general after independence in Zimbabwe. Results are in accordance with earlier findings but also add new information. This includes evidence that the cognitive self-concepts of females are better than those of male learners. (See sections 3.3.8, 5.2.3, 5.2.9 & 5.4.2.)

6.2.1.3 Self-concept, academic achievement and form/grade

The quantitative study has revealed that the way adolescent junior learners perform in school may have something to do with their academic and non-academic self-concepts compared with the social and cognitive self-concepts for older adolescents. Younger learners are more likely to improve academically if they are exposed to more positive experiences in all aspects of their lives. On the other hand, the older the learner, the more stable and independent of environmental pressures they are likely to be, compared with the younger adolescents. Juniors and seniors seem to differ significantly in their emotional, general and cognitive self-concepts but are similar in social and physical self-concepts and overall academic achievement. Junior learners are likely do better in school in response to positive external influences such as good and effective teaching and positive feedback from significant others. Therefore, the form or grade one is in may be an important factor influencing self-concept development and possibly academic achievement as well. Despite the significant differences in the cognitive self-concepts of junior and senior learners, their academic performance was almost the same overall. This is a significant and new finding of this study. (See sections 5.2.4, 5.2.10 & 5.4.3.) Further research may be required on this variable using standardized measures and grades.

6.2.1.4 Self-concept, academic achievement and school location

Results show that the physical, social and cognitive self-concepts of both urban and rural learners may have a significant influence on their academic achievements. Learners in both urban and rural areas are likely to improve their academic performance significantly, and gain confidence in their intellectual capabilities if they get more involved in sports activities and maintain warm relations with significant others. Significant correlations of the non-academic self-concepts with the cognitive self-concepts seem to indicate that specific self-concepts complement each other to bring about

improvements in academic performance. The inclusion of learners from selective non-government schools in both urban and rural areas in the sample may have distorted the overall mean test scores. However, school location accounted for significant differences in the physical, emotional, cognitive and general self-concepts of adolescent learners in urban and rural schools but accounted for similarities in the social self-concepts and overall academic achievement. Schools located in urban areas appear to be better places for developing positive learner self-concepts. Thus, according to the results of the current study, the location of a school in an urban or rural area influences the learners' self-concept development and is likely to influence performance as well. (See sections 5.2.5, 5.2.11 & 5.4.4.) This is important new information that came to light through this research. Further research may be necessary to investigate the situation regarding learners at selective schools based in the rural and urban environments separately or as a comparative study.

6.2.1.5 Self-concept, academic achievement and school type

From the correlation and other results the following can be concluded:

- (a) the physical self-concept correlates significantly with the academic achievement of learners in all government schools;
- (b) the emotional self-concept relates significantly to the academic achievement of learners in Government A and non-government schools;
- (c) the social self-concept relates significantly to the academic achievement of learners in Government A, C and non-government schools;
- (d) the general and cognitive self-concepts may be pivotal in the success of learners in all school types;
- (e) Government B schools appear to be the best places for developing learner self-concepts, effective learning and academic achievement as proved by the consistently higher mean self-concept scores and highest mean test score for all government schools;
- (f) Government C schools are the least successful in enhancing the learners' self-concepts generally, as far as inspiring them with confidence in their abilities and social relations is concerned;

- (g) non-government schools offer the best opportunities for academic success and the least for self-concept development as indicated by the high mean achievement test scores and low mean self-concept scores respectively;
- (h) learners from different school types differ significantly in their cognitive, general, social, emotional and physical self-concepts; and
- (i) learners from different school types differ significantly with respect to their overall achievements.

Thus, the school type one attends makes a difference in both academic achievement and self-concept development. The results of the current study support earlier findings 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 but negatively related to the school average ability or achievement. Selective non-government schools registered better scores but lower average cognitive self-concepts compared with government schools. This adds further evidence to Craven and Marsh's (1996) 'big fish little pond effect' theory.

Points (a) to (h) constitute significant new information emerging from this study being:

- (a) non-academic self-concepts are significantly correlated with the academic achievement of the learners in different school types except the physical, emotional and social self-concepts of learners in non-government, Government B and C, and B schools respectively;
- (b) there are significant differences in the general and specific self-concepts of learners in different school types in favour of those in government schools, especially Government B schools. (See sections 5.2.6, 5.2.13 & 5.4.5.) The results also justify the practice by some parents who transfer their children from one school to "better" schools, paying high academic fees in some instances in search of improved academic achievement by their children. Further research may be necessary to investigate the detail of cause and effect.

6.2.1.6 Self-concept, academic achievement and type of attendance

Quantitative results have shown that all the specific self-concepts are significantly related to the academic achievement of the learners attending as boarders or day scholars. As expected, performance was significantly different between boarders and day scholars. Boarders performed significantly better than day scholars. Boarders were more confident than day scholars concerning their intellectual abilities generally, as well as regarding specific subjects. The mean cognitive self-concept scores (3.9317 versus 3.8245) confirm this. The higher achievement of boarders is to be expected since boarding schools generally enroll the higher achievers from all over the country. The type of attendance may be responsible for significant differences in the physical, emotional and cognitive self-concepts and the achievement of the learners but similar in their social and general self-concepts. Day scholars appear to be superior in the physical, emotional and general self-concepts compared to boarders. Significant correlations between the social and physical self-concepts with the cognitive self-concepts show that substantial improvements in the learners' social relations and self-image, particularly among the day scholars, may result in greater gains in academic achievement. These are important new findings of this research endeavour. (See sections 5.2.7 & 5.4.7.) Further research can be carried out to investigate individual self-concepts and the academic achievement of boarders and day scholars for cause and effect.

6.2.1.7 Self-concept, academic achievement and age

From the correlation results it would appear that young adolescents are likely to be influenced by the academic and non-academic self-concepts on their performance in school. On the other hand, in the case of the more mature adolescent learners the social and cognitive self-concepts are significantly related to their academic achievement. Significant correlations of the non-academic self-concepts, especially the social and physical with the cognitive self-concepts, show that specific self-concepts may complement each other to bring about better academic achievement. The self-concept appears to have no significant relationship with the achievements of learners aged above 16 years. In addition, there is a decline in general self-concept with age. As learners grow older the influence of the self-concept on academic achievement tends to decline. Young adolescent learners differ significantly in their emotional, cognitive and general self-concepts and overall achievement from the more mature adolescent learners. Young adolescent learners appear to have significantly better self-concepts than the more mature adolescents because young

adolescents may be more receptive to the influence of significant others (parents and educators) than the more mature learners who may feel more independent and rely on peer influence. Consequently, they may achieve better results if their physical and social self-concepts are improved significantly.

The results support earlier research findings. In addition there is also new information the research has added. For example:

- (a) both academic and non-academic self-concepts are significantly related to the academic achievement of young adolescents;
- (b) young adolescents have significantly better self-concepts than older adolescents;
- (c) only the social and cognitive self-concepts are significantly related to the academic achievement of older adolescents. (See sections 2.3, 5.3.2 & 5.4.2.1.) Peer relationships and one's perception of own social ability in comparison to others tend to influence the achievement of older adolescent learners;
- (d) younger and older adolescents differ significantly in emotional, cognitive and general self-concepts while they are similar regarding social and physical self-concepts and overall academic achievement.

6.2.2 Conclusions from the qualitative phase

6.2.2.1 Conclusions regarding the physical self-concept and academic achievement

Results from the interviews have demonstrated that learners believe that participation in sports makes them physically fit, mentally healthy, self-disciplined, confident and capable of managing time well. These make them feel good about themselves, raise their self-concepts generally and in schoolwork in particular. Since self-discipline and good time management skills are regarded as necessary for effective learning, learners who participate in sports are also expected to perform better in schoolwork. Success in school raises learner motivation leading to even higher academic achievement.

In view of these results, one can also conclude that:

- (a) learners in schools that have well organized sports and physical fitness/education programmes for all the learners are likely to be more confident in all spheres of life and perform better academically than those in other schools;
- b) satisfaction with one's physical appearance makes one feel more confident in life and in schoolwork as well, leading to better performance;
- c) schools that have well organised sports and physical fitness/education programmes for all the learners are likely to turn out learners who are more confident, self-disciplined, good at time management, physically and mentally fit and academically competent, leading to better academic results overall.

However, this is only possible if there is a balance between time spent at sports and time spent on schoolwork. These results are in accordance with earlier studies but also add significant and new information. For example, learners who participate in sports are likely to be more self-disciplined and confident and good time managers. Likewise, schools with well-organized sports activities are likely to turn out learners who are good time managers, self-disciplined, more confident and academically competent. (See sections 2.3, 5.3.2 & 5.4.2.1.) Sports programmes and participation in sports and other physical activities are therefore not a waste of time, but include social, physical, emotional and academic benefits due to participation. There are role models who seem to prove this statement. However, this can be a focus for future research in which the self-concepts and academic achievement of active participants in sports can be compared with non-participants.

6.2.2.2 Conclusions regarding the emotional self-concept and academic achievement

Qualitative findings have shown that success stimulates positive emotions leading to higher self-esteem and academic achievement and more positive emotions. On the other hand, failure leads to negative emotions such as depression, which lower the self-esteem and academic achievement. By enabling the learners to experience success more frequently we raise their self-concepts and academic achievement. The opposite is also true. Since adolescence is the period when learners experience numerous physiological, social and emotional changes accompanied by frequent feelings of depression, it is vital that interaction with significant others minimises

depression, anxiety and embarrassment. Depression was reported as being responsible for lowering academic performance due to reduced concentration. Therefore, feedback on schoolwork at home and at school should be as positive as possible in order to stabilise the learners' emotions. (See sections 2.4, 5.3.3 & 5.4.2.2.) Further investigations can be carried out to establish details of cause and effect.

6.2.2.3 Conclusions regarding the social self-concept and academic achievement

Interview data has demonstrated that the way significant others interact with the learners and their behaviour as a whole, influences the learners' self-concepts and academic achievements. The learners' self-concepts are likely to be raised leading to better academic achievement when they feel that parents, educators and peers support, encourage and love them, through positive feedback for their performance or efforts. Collaboration with peers and a friendly atmosphere at home and at school can raise learner self-concepts leading to better academic achievements. Success leads to improved relations with significant others resulting in higher academic achievements. Negative or destructive feedback tends to constrain communication and alienate learners from significant others, thereby lowering their self-concepts and academic achievements. Therefore, learners from homes where parents do not encourage or appreciate their performance or efforts are in danger of underachievement due to lack of support or motivation. Similarly, learners in classes where educators and peers are less friendly, encouraging and disciplined are also likely to underachieve. The opposite is also likely to be true. Literature reviews are in accordance with these findings. (See sections 3.2, 5.3.4 & 5.4.2.3.) This can be a subject of another investigation to establish details of cause and effect of the above-mentioned.

6.2.2.4 Conclusions regarding the general and cognitive self-concepts and academic achievement

Schools that have adequate resources such as textbooks, qualified educators and other equipment inspire the learners with the confidence of a supportive environment for academic success. This raises the learners' general self-concepts giving them confidence and optimism in the learning environment leading to success, if they work hard. The opposite is also likely to be true.

However, overconfidence in well-resourced schools may lead to reduced effort, resulting in failure. In other words, a favourable learning environment is only supportive of efforts by the learners and not a guarantee of success on its own. Past performance plays a crucial role in either raising or lowering the learners' self-concepts. Experiences of success in the past tend to raise the learners' self-concepts leading to better performance, while poor performance lowers learners' self-esteem resulting in further underachievement. The latter is more relevant for the lower achievers than for high achievers. High achievers tend to be motivated by failure as well. In addition, higher occupational aspirations coupled with the status of role model(s) may raise learners' self-concepts leading to higher academic achievements. The opposite is also likely to be true.

The results have revealed that male and female learners are equally competent academically but differ in their interest and performance in science and the humanities subjects due to the gender stereotyping of subjects. Males have more positive self-concepts and tend to achieve higher marks in science subjects, in line with their aspirations for science related professions such as engineering and medicine. On the other hand, females have more positive self-concepts and interest in the humanities subjects such as languages and history, which enable them to qualify for social science related professions such as sociology and psychology. They are likely to put more effort into and perform better in the respective subjects.

Qualitative evidence seems to indicate that contrary to expectations, positive discrimination in the admission of female learners into medicine and engineering on lower points than for males tends to lower female learners' self-concepts. Consequently, the practice does not appear to be helpful enough in raising female learners' self-concepts and academic achievements in science subjects. Instead, qualitative results seem to show that the practice makes females feel inferior and lower their self-esteem in the sciences. Thus, by feeling less competent, learners may show less interest and put in less effort resulting in lower performance in certain subjects, in this case the sciences. The lack of female role models among the physicists and mathematicians seems to confirm the belief among females that science subjects are more difficult for females. Thus, gender remains an influential factor in course selection and performance in specific subjects.

Findings by means of the interviews have also revealed that learners with positive self-concepts tend to persist when faced with a difficult task while those with negative self-concepts give up quickly. Persistence is caused by the belief that a solution can be found and that the learner has the ability to find the solution. On the other hand, those who give up believe that a solution can never be found because they are unable to do so. These results are in accordance with the literature findings and also add new information on the effect of positive discrimination on learner self-concept. (See sections 3.3, 5.3.5 & 5.4.2.4.) Future research can focus on self-concept and achievement in individual subjects.

6.2.3 Conclusions from both the quantitative and qualitative phases

6.2.3.1 Self-concept and academic achievement

The current study has shown that the general and specific self-concepts are significantly and positively related to the academic achievement of the secondary school adolescent learners in Zimbabwe included in the sample. Consequently, the learners' confidence and belief in *self* overall and in specific situations or subjects influences their performance at school. If learners are satisfied with their school as supportive of their academic aspirations, their general self-concept is raised leading to more confidence and possibly better performance. On the other hand, if learners have no confidence in their school they are not likely to be motivated to work hard and they end up performing poorly thereby strengthening their belief that the school is not good enough for learning and promoting better results.

Positive feelings about one's physical fitness, abilities and self-image contribute towards better academic achievement. In addition, learners who participate in sports and other physical activities, apart from enjoying better physical and mental health, are likely to be good time managers, disciplined and more confident in whatever they do in life, including schoolwork. This may lead to better academic achievement and social relations or popularity. Popularity and success in social relations at home and at school improve learners' confidence leading to better academic achievement. Improved academic achievement at school improves relations with parents, educators and peers leading to even higher academic achievements.

Moderate anxiety can motivate learners to work harder and achieve better results. However, strong emotions such as anger, depression and anxiety tend to interfere with learning, concentration and overall academic achievement. Lower academic achievement leads to depression, anxiety, embarrassment and further underachievement, leading to a further decline in emotional self-concept. Significant correlations between specific self-concepts, especially the social, physical and cognitive self-concepts serve to demonstrate that self-concepts complement each other in their influence on academic achievement. The relationship is reciprocal. Earlier research findings concur with the findings of the current study. (See section 6.2.1.1.)

6.2.3.2 Self-concept, academic achievement and gender

From the results of the current study it appears that male and female adolescent learners are similar in their academic performance, their physical, emotional, social and general self-concepts but different in their cognitive self-concepts. Females demonstrate higher cognitive self-concepts than males. Females appear to have more positive attitudes and orientations towards schoolwork and intellectual ability as a whole. Participation and ability in sports is believed to be beneficial to the learners because it improves their time management, self-discipline skills, self-confidence and concentration leading to better performance in school for both males and females. (See sections 6.2.1.2 & 6.2.2.1.) When learners experience success in academic activities they are likely to perform better in future due to improved emotional self-concepts, which always accompany success leading to even better academic achievements. Failure is likely to have the opposite effect especially for the underachievers. (See sections 6.2.1.3 & 6.2.2.2.) Similarly, success in social relations at home and at school, and popularity in general is likely to raise the academic achievements of both males and females. (See sections 6.2.1.4 & 6.2.2.3.) The study has also shown that gender still has a significant and meaningful influence in subject choice and the performance of male and female adolescent learners in Zimbabwe secondary schools in the sample considered. (See sections 6.2.1.5 & 6.2.2.4.)

6.2.3.3 Self-concept and academic achievement and grade/form

The study has shown that junior learners have better emotional, cognitive and general self-concepts than seniors and are expected to perform better at school. Both the academic and non-academic self-concepts may have a significant influence on the academic achievements of junior learners while the social and cognitive self-concepts are likely to have a significant influence on the senior learners=performance. Junior learners=self-concepts are more susceptible to change due to environmental influences while seniors=self-concepts are more stable. Therefore, any programme to develop the learners=self-concepts should begin at an earlier age for a more long-lasting effect. As the adolescents mature more, the influence of the self-concepts on their academic performance seems to decline. Contrary to expectations, the juniors and seniors were similar in their overall performance. Academic and non-academic self-concepts seem to operate in combination to bring about the academic achievement of the learners. From the results it would appear that age might have some influence on the learners' self-concepts as well as on their performance at school. (See section 6.2.1.3.)

6.2.3.4 Self-concept and academic achievement of urban and rural learners

Results of the current study have demonstrated that the way learners in urban and rural schools feel about their physical, social, emotional and cognitive selves may influence their performance in secondary schools in Zimbabwe. Involvement and competence in physical activities such as sports, popularity and good social relations with significant others are likely to improve the academic achievements of rural school learners more significantly than the achievements of urban school learners. Learners in urban schools have significantly better physical, emotional, cognitive and general self-concepts than their rural counterparts. Therefore, urban schools seem to be better places for developing learner self-concepts than rural schools. In view of the above, learners stand to benefit from confidence building by attending urban schools. (See section 6.2.1.4.)

6.2.3.5 Self-concept and academic achievement and school type

The current study has shown that there is a significant and positive relationship between the general and specific self-concepts and the academic achievement of learners from different school types.

Specifically, participation and ability in sports play a significant role in the academic achievement of learners in government schools as well as in the emotional self-concepts in Government A and non-government schools. Social self-concepts appear to have a significant influence on learners in Government A, C and non-government schools. Once again, the academic and non-academic self-concepts appear to act together to influence the academic achievement of learners from different school types. There exist significant differences in the overall achievement, the academic and non-academic self-concepts of learners from different school types. From the results it would appear that Government B schools are the best places for learning and developing the learners' self-concepts since the mean self-concept scores of these schools were consistently highest throughout. Non-government and Government C schools are rather poor at self-concept development. Given the same quality of learners and other learning resources as the non-government schools, learners from Government B schools are likely to achieve better results overall. On the other hand, non-government schools appear to offer the best places for academic success overall and Government C schools the least. Thus, the school one attends makes a difference in terms of self-concept development and overall academic achievement. (See section 6.2.1.5.)

6.2.3.6 Self-concept and academic achievement and type of attendance

The study has demonstrated that the general and specific self-concepts are significantly and positively correlated to the academic achievement of boarders and day scholars in Zimbabwe secondary schools. From the results it would appear that boarding schools offer better opportunities for learning and academic achievement as well as social and cognitive self-concept development. Day scholars, though lower in overall academic achievements than boarders, have better physical, emotional and general self-concepts than boarders. As expected, boarders have significantly better cognitive self-concepts and demonstrated higher mean test scores. Boarders and day scholars differ significantly in their overall achievement, their physical, emotional and cognitive self-concepts, and similar in their social and general self-concepts. Once again there appears to exist a complementary influence of the academic and non-academic self-concepts on the academic achievements of both boarders and day scholars. In particular, involvement and competence in physical activities and social relations appear to have the most significant influence

on the academic achievement of both boarders and day scholars. Thus, attending school as a boarder or day scholar is important in shaping the learners' self-concepts which in turn influences the academic achievements of the learners. (See section 6.2.1.6.)

6.2.3.7 Self-concept and academic achievement and age

According to the results of the current study, the general and specific self-concepts are significantly correlated to the academic achievement of learners of different ages. The younger adolescents have consistently better self-concepts than the more mature adolescents. The young adolescents differ significantly from the older learners in their emotional, physical and cognitive self-concepts and overall academic achievement but are similar in their physical and social self-concepts and overall academic achievement. A general decline in self-concept with age was indicated. (See section 6.2.1.7.)

In general, it has emerged from the current study that specific self-concepts correlate highly and significantly with one another and more significantly with the cognitive self-concept. In particular, the social and physical self-concept, on the one hand, and the social and physical self-concepts with the cognitive self-concept on the other correlate positively, significantly and highly. The relationship is reciprocal. The implications of this finding are that instead of focusing, for instance, on the cognitive self-concept in order to improve academic achievement, it would be more beneficial to focus on the improvement of the learners' personality as a whole. In other words, every effort should be made to enable the learners to feel good physically, socially, emotionally and intellectually for better performance at school. The conclusion agrees with earlier findings by Hamachek (1995:422). (See section 1.1.2.) The cognitive self-concept has been found to correlate positively and consistently with academic achievement overall and for all the moderator variables whilst the others were inconsistent. Emotional self-concept had the least and most inconsistent relationship with academic achievement overall and for moderator variables, implying the least predictive value for academic achievement.

6.3 RECOMMENDATIONS

6.3.1 Recommendations to improve the academic achievement and self-concepts of secondary school learners

It should be kept in mind that the sample was not representative of all secondary schools in Zimbabwe. However, in the light of the above-mentioned conclusions, recommendations will be made to improve the academic achievement and self-concepts of secondary school learners in Zimbabwe, especially of those who participated in the study. The recommendations seek to complement general existing strategies such as improving the supply of educators, resources and administrative capabilities. The information comprises practical considerations for educational practitioners and other stakeholders in education to enable them to deal with the problem of the underachievement of adolescent learners in secondary schools by paying attention to their self-concepts. The recommendations are not listed in any order of importance. The information may also be of some use to other researchers on self-concept and academic achievement.

6.3.1.1 Participation in physical activities

The study has demonstrated that the physical self-concept is positively and significantly associated with academic achievement and the cognitive self-concept. Evidence from interviews has also shown that learners strongly believe that participation and competence in physical activities improved their self-confidence, their physical and mental health, concentration and performance at school. The same applies to a satisfactory body image. In view of these findings, it is recommended that participation in sports or physical education be recommended for every adolescent learner in every school. This implies that a bigger variety of sports need to be introduced in schools. In addition, educators and coaches should be sensitised to the importance of developing the adolescents' self-concept or belief in the self in order to achieve better results.

6.3.1.2 Emotional support

Both the qualitative and quantitative evidence have shown that strong emotions such as depression, anxiety and anger were associated with declines in self-concepts and academic achievement. On the other hand, success brings about happiness and a sense of satisfaction in

whatever the learners do, thereby raising their self-concepts. This results in improved performance at school. Failure, on the other hand, may lead to depression. In view of the results, it is recommended that actions or experiences that cause negative emotions be minimized. Creating a positive learning and home environment where success is experienced more frequently or where effort is appreciated, where learners are made to feel confident and happy in whatever they do should be the goal of every parent and educator. To facilitate this, parent workshops at school should be conducted to facilitate emotional support, encouragement, management of depression and feedback on performance.

6.3.1.3 Social relationships

The study has demonstrated a significant relationship between the social self-concept, academic achievement and the cognitive self-concept. Empirical evidence has also shown that learners work better if they receive support and encouragement from both parents and educators. In addition, where there is collaboration and friendly relations among the learners, academic performance tends to improve. In view of the results, it is recommended that parents and educators maintain warm relationships with their children and learners respectively, at home and at school. At school, the educators should try to promote collaboration among the learners and to minimize unhealthy competition which may alienate some learners, especially the underachievers. Underachievement may sour relations between learners and their parents and educators leading to further a decline in academic achievement. Supportive behaviour will raise learner motivation leading to even higher academic achievement. Workshops with parents and educators in this regard can be recommended.

Educators should appreciate and tolerate individual differences among the learners and parents among their children. Educators should emphasize mastery learning so that individuals can compete against themselves.

6.3.1.4 Administrative support

The study has shown that a school environment perceived as supportive is likely to raise the learners' general self-concept and confidence leading to better academic achievement if they work hard. School authorities and administrators should therefore equip and manage schools in a manner that inspires learners with confidence to reach their academic goals. They should appoint adequately and appropriately qualified educators, provide adequate classroom space, resources, furniture and recreation and/or sports facilities. These provide a learning environment that motivate the learners to work hard and cultivate a sense of belonging and attract the best learners to perform even better.

6.3.1.5 Gender sensitivity

The study has confirmed that gender stereotyping of subjects still exists in the secondary schools in Zimbabwe that were included in the study. It has influenced course selection and the overall performance of female and male learners in science and the humanities subjects. It is therefore recommended that boys and girls be treated equally in all spheres of life, including what is expected from them, subjects offered as well as subject choice and career guidance, in order to eradicate gender stereotypes and raise the self-concepts of female learners. This is particularly needed in the science subjects. This aspect needs to be addressed during pre-service and in-service teacher training.

6.3.1.6 Career guidance

People tend to work harder and better when they have a clear goal to achieve. If learners know what they are going to do on leaving school, they are likely to be motivated to work harder to realise their goal(s). By focusing more sharply on achieving their goals, learners will achieve better results whereby raising their self-concepts. It is therefore recommended that career guidance be made part of the curriculum in secondary schools to enable the learners to make decisions on their future whilst still at school. This may motivate them to be dedicated and enable them to realise better results and career aspirations. Future education plans may need to incorporate this aspect.

6.3.1.7 Self-concept development

The study has demonstrated that the non-academic self-concepts correlate significantly with the cognitive self-concept and academic achievement. It is recommended therefore, that in addressing issues of academic achievement and self-concept that a holistic approach be adopted so that the entire human being is developed. Learners should be encouraged to think positively about themselves and whatever they do. This may lead to substantial gains in self-concepts and academic achievement.

6.3.1.8 Learning experiences

Self-concepts develop from experiences in life and interactions with others in the environment. Educators who give their learners the opportunity to experience success are often likely to improve the learners' cognitive self-concepts and performance. It is recommended that educators plan their work so that every learner may experience success and to provide positive feedback, which will encourage the learners. The work planned should be relevant and challenging enough to stimulate interest and to raise learner self-concepts and academic achievements. This issue needs to be addressed during pre-service teacher training.

6.3.1.9 Training/self-concept awareness campaigns

Literature and the current study have demonstrated the importance of parental involvement and the important role of educators in the child's education, particularly the role of positive influence in raising the self-concept and academic achievement of learners. An awareness programme for parents, educators and learners on their roles will go a long way to improve learner self-concepts and possibly also academic achievements. In order to ensure the successful implementation of the self-concept awareness programme for the benefit of the majority of the learners, it is recommended that parents and educators receive training in the importance of the self-concept for learning and academic achievement. Learners should also be made aware of the importance of believing in themselves for success in whatever they do.

In addition, a module on self-concept can be incorporated in the educators=training curriculum. For educators already in the service, in-service courses can be organised so that they may understand how self-concept operates in the lives of the learners and their role in it, in order to improve learner academic achievements at school.

In implementing the above recommendations, it should be borne in mind that there are challenges that can nullify the efforts to improve the self-concepts and academic achievements. These are presented in the following section.

6.3.2 Challenges to improving academic achievement and self-concepts

6.3.2.1 Gender stereotyping

Everyone must be made to feel that he/she can achieve something. Gender stereotyping, sex discrimination and preferential treatment tend to diminish the self-esteem. This lowers academic achievement and have to be avoided.

6.3.2.2 Poor relationships

When parents and educators adopt negative attitudes towards their children or learners because they perform poorly, relationships become sour, resulting in lower social self-concepts and academic achievement. Similarly, when other learners are hostile towards their classmates and show disruptive behaviour in class communication and participation are constrained leading to underachievement. The same applies when learners dislike their educators.

6.3.2.3 *Persistent poor performance*

Persistent poor performance tends to lower the self-concepts resulting in the deterioration of performance at school. Hence, learners who struggle need additional academic classes and support.

6.3.2.4 *Unrealistic expectations and aspirations*

When educators or parents expect more from the learner than what he/she is capable of, self-esteem is lowered because then he/she thinks he/she can never achieve the expected standard. On the other hand, if one feels that his/her aspirations do not require high educational qualifications, then no effort is put into the work and academic achievement declines. Similarly, if people do not expect much from you, you lose the motivation to try hard and you fail, thereby confirming the low expectations (self-fulfilling prophecy). Therefore, expectations should be in accordance with the individuals' potential and should be positive at all times.

The above measures to improve academic achievement and self-concepts can be made more effective with more information from further research on self-concept and academic achievement.

Recommendations on further research are presented in the following section.

6.3.3 **Recommendations for future research**

In the light of the research methodology used and the study's subsequent findings, recommendations will be made for further research on the subject of self-concept and academic achievement.

Further research should be undertaken in the area of self-concept and academic achievement *in individual subjects* in order to establish the learners' self-concepts in relation to their levels of academic achievement. Results of such studies will enable educators to determine the ways they can assist the learners to perform at their potential in every subject and overall.

The study has shown that *specific self-concepts* are not all significantly related to academic achievement for all the *moderator variables*. Therefore, intervention studies can be carried out in *specific self-concept domains* to obtain more information.

Researchers should also undertake longitudinal and intervention studies in the area of self-concept and academic achievement in order to determine causation. These include tracer studies for learners at different levels from form one to four and beyond. This will enable the generation of more information on the relationship between age, self-concept and academic achievement.

The current study has shown that there is no significant difference in the academic achievement of male and female learners overall. However, their performance seems to be different in the sciences and humanities. Further studies need to be undertaken to compare learner self-concepts and academic achievement by gender in specific subjects such as mathematics, physics, chemistry, biology, English, history and technical subjects to establish cause and effect. The results will enable educators to work on the causes of any differences to improve females' academic achievement in science subjects.

Results of the current study correlate with the findings by Mostert (1995:53) that there is no significant relationship between the physical self-concept of girls and their academic achievement. This has been explained by the apparent reluctance by girls to participate in physical activities such as sports or physical training. It is recommended that further studies involving learners actively involved in sports at school and those not involved be carried out for both males and females. Similarly, some investigation could be carried out with learners in schools where sports or physical training is compulsory for all the learners, in order to identify the relationship between their self-concepts and academic achievements.

Results of the current study have shown that there is no significant difference in the performance of learners in urban and rural areas overall. Further research needs to be carried out to find out the relationship between school location, self-concept and academic achievement in the rural and urban schools, excluding boarding schools in the rural areas. Studies to determine causation can

also be carried out to find out how urban or rural locations influence the physical, emotional, social, cognitive and general self-concepts.

School type has emerged as the most significant variable in its relationship with self-concept and academic achievement. Results have also shown that learners from different school types differ significantly regarding both self-concept and academic achievement. More research needs to be undertaken to determine causation so that advice can be given to educators on how they can improve the learners' self-concepts and academic achievements in the different school types.

Since this was the first exploratory multidimensional study on self-concept and academic achievement in Zimbabwe, replication studies can be carried out focusing on all or one of the self-concept domains or to investigate one of the following moderator variables: gender, form/grade, age, school type and location and type of attendance, to identify the relationship between self-concept and academic achievement.

Finally, the current investigation used school based test scores as measures of academic achievement and the self-concept scales used general measures of the physical, emotional, social and cognitive self-concepts. Future studies can use standardised measures instead of school based test scores. In addition, using grades instead of the actual marks can be tried, using self-concept scales that ask more specific questions on each self-concept domain.

The following section presents the limitations of this study.

6.4 LIMITATIONS

Although the present study provides support for several theoretical propositions about the relationship between the self-concept and academic achievement, and also adds new knowledge to the field, certain limitations should be noted.

First, randomisation was not used for this study as was recommended in literature for representativeness in sampling. Instead, the study used purposive sampling. (See section 5.2.)

However, despite the use of purposive sampling, the level of significance reached for the results is high enough to make the results useful for similar secondary schools in Zimbabwe.

Secondly, the scales used to measure the physical, emotional, social and cognitive self-concepts consisted of global factors without going into the finer details of each. For example, for physical self-concept, no attempt was made to look at the different parts of the body. Consequently, the respondents may have indicated what they felt generally. Even without this detail, it is felt that the results arrived at are a reasonable reflection of what the learners felt about their physical attributes and abilities.

Thirdly, the sample comprised learners from urban and rural areas, government (A, B & C), non-government and boarding and day schools, who were in forms one to four. This is the general character of secondary schools in Zimbabwe. Though the participants came from specific areas only, the results are likely to reflect situations in Zimbabwe as a whole, since many other schools are similar.

Fourthly, for academic achievement, school based test scores were used for the five compulsory subjects: English, mathematics, history, science and Shona/Ndebele. The average score for the five subjects was used as a measure of each learner's academic achievement. Consequently, consistency could not be guaranteed from school to school, form to form and learner to learner.

Fifthly, the study was exploratory in nature, namely, to investigate the significance of the relationship between self-concept and academic achievement among adolescent learners in Zimbabwean secondary schools. The study did not seek to investigate causation. Therefore, in interpreting the results focus should be more on whether or not there was a significant relationship between the learners' self-concepts and academic achievements.

Finally, high travel costs limited the geographical coverage of the country, as well as the sample size.

Despite the limitations outlined above, the outcomes of this study offer a reasonable basis to believe that self-concept does play a significant role in the academic achievement of adolescent learners in Zimbabwe secondary schools. As a multidimensional study of the self-concept, the study offers further opportunities for exploratory and longitudinal studies on the influence of each of the self-concept domains on academic achievement. In addition, the results of the study are likely to stimulate debate in schools and the communities on the role of the self-concept on the academic achievement of learners. The study clearly shows that parents can no longer wait for educators to do everything to motivate the learners to achieve academically. They have a crucial supportive and complementary role to play in the development of the self-concept to promote higher academic achievements.

6.5 SUMMARY

Poor 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 the self-concept is important as a mediating, predictive variable, and correlate of academic achievement, and that the relationship is reciprocal. The current study investigated the relationship between learner self-concept and the academic 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. Pearson's correlation coefficient and two-tailed tests were used to test for the significance of the relationship, while interview data explained it. The main hypothesis: *There is no significant relationship between the general and specific self-concepts and academic achievement of adolescent learners in Zimbabwe secondary schools*, was rejected. The general and specific self-concepts: the physical, emotional, social and cognitive self-concepts are significantly and positively correlated with the academic achievement of adolescent learners. Correlations among the specific self-concepts were also significant and positive, indicating a possible complementary influence on academic achievement. From the results of the current study and the theoretical framework presented, it appears that the self-concept has 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 operates in the learners by

- (a) parents, educators and learners themselves;
- (b) administrators who establish and maintain a learning environment supportive of learning, is important.

While improving the self-concept may be a complex issue because of its multi-dimensional nature it is, nevertheless, essential in improving the level of academic achievement of individuals and schools. Parents and educators should guard against a decline in belief in the *self* to prevent the deterioration in learning motivation and performance overall or in specific subjects. More research is needed in order to increase the understanding of how the self-concept develops and operates in the learners to enable those involved with the learners to gain a deeper understanding of the matter so that their assistance can be more effective.

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