

A Study of the Relationship between Motivation, Self-concept and Academic Achievement of Students at a University in Limpopo Province, South Africa

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ABSTRACT The main purpose of the study was to investigate the relationship between motivation, self-concept and academic achievement. In addition, gender differences between self-concept, motivation and academic achievement were investigated. The study utilized a quantitative cross-sectional survey design. A self-constructed questionnaire was used to collect data from a randomly selected sample of second year students representing four schools at the university. The study found that there were significant correlations between self-concept, motivation and academic achievement of students. It was also found that female students are significantly more motivated than their male counterparts. The study concluded that the findings justify the importance of self-concept and motivation to academic achievement, and some recommendations were made regarding the enhancement of motivation and self-concept.

INTRODUCTION

Motivation

Lack of motivation is one of the most critical factors affecting learning, especially in historically disadvantaged institutions of higher learning. Brown et al. (1998) point out that the challenge in higher education has always been to stimulate, engender and enhance the motivation of those students whose enthusiasm for learning is dubious. Pintrich and Schunk (2002) regard motivation as an integral part of learning. Awan et al. (2011: 72) are of the opinion that lack of motivation is “a big hurdle in learning and a pertinent cause in the deterioration of education standards.” Awan et al. (2011) define motivation as internal condition that stimulates, direct and maintains behaviour, and they believe that there is a strong relationship between learning and motivation. Students who are motivated to learn about a topic are keen to engage in activities they believe will help them learn, such as attending carefully to the instruction, taking notes to facilitate subsequent studying, checking their level of understanding and asking for help when they do not understand the material (Pintrich and Schunk 2002). In contrast, students who are unmotivated to learn are not enthusiastic in their learning efforts. They may be inattentive during the lesson and not organise

or revise the learning material. Note-taking may be done haphazardly or not at all. They may not monitor their level of understanding or ask for help when they do not understand what is being taught.

According to Pintrich and Schunk (2002), motivation influences learning and performance and what students do and learn influence their motivation. It is assumed, however, that people differ in their need to achieve in situations that call for excellence (Muola 2010). Gesinde, in Muola (2010), argues that the urge to achieve varies from one individual to the other. He adds that those who have high achievers as their role models in their early life experience would develop a high need for achievement, while those who have low achievers as their role models will hardly develop the need for achievement. According to Tella (2007), the issue of motivating learners is seen as an important aspect of effective learning. Fontana, in Tella (2007), argues that satisfactory school learning is unlikely to take place in the absence of sufficient motivation to learn.

Self-concept

According to Drew and Watkins (1998), self-concept is a psychological construct which refers to a cluster of ideas and attitudes an individual holds about himself/herself. Mwamwenda

(1995) regards self-concept as a person's way of perceiving himself/herself and may be either positive or negative. In this study, academic self-concept is regarded as the main component of the self-concept. Cokley (2000: 149) defines academic self-concept as "attitudes, feelings and perceptions relative to one's intellectual or academic skills". The same author considers academic self-concept to be how a student views his/her academic ability when compared with other students. Students attach a lot of importance to academic ability, so that self-acceptance is based largely on cognitive abilities (Cokley 2000). A student with a negative academic self-concept, for example, might just avoid studying hard because he would regard the subject content as too difficult. McCoach and Siegle (2003) point out that academic self-concept involves a description and an evaluation of one's perceived academic abilities and encompasses beliefs of self-worth associated with one's perceived academic competence. These authors state further that students compare their own performance with that of their classmates (an internal comparison). This implies that students' academic self-concepts are determined by their perceptions of their academic ability in an area as well as their assessment of their academic standing relative to their classmates (McCoach and Siegle 2003). The same authors regard academic self-concept as a significant predictor of academic achievement. In an investigation of academic achievement in African-American college students (Cokley 2000), there was a strong positive correlation between academic self-concept and grade point average (GPA) scores. It was also found that students with higher GPAs had statistically higher academic self-concept scores than students with lower GPAs. In a study by Kobal and Musek (2001), French students turned out to be more successful in school than Slovenians and it is further stated that the findings support the possibility that the higher academic achievement of French students is mostly related to their higher academic self-concept. Chowdhury and Pati, in Awan et al. (2011: 73) assert that "self-concept plays a significant role in the educational process when a child is accepted, approved, respected and liked, and one will have an opportunity to acquire an attitude of self-acceptance and respect for oneself". According to Wang

and Lin, in Awan et al. (2011), self-concept was seen as the general confidence that individuals felt about themselves and the levels of an individual's self-concept predict the extent to which he or she was able to accomplish academic tasks successfully or unsuccessfully. They further argue that much of the earlier interest in the self-concept versus achievement relationship stemmed from the belief that academic self-concept had motivational functions and thus, changes in academic self-concept would lead to changes in subsequent academic achievement.

Academic Achievement

According to Chowdhury and Pati, in Awan et al. (2011), academic achievement is defined by examination marks, teachers' given grades and percentiles in academic subjects. Rickson (1977) views achievement within any context as performance relative to some standard and he further states that academic achievement and other dimensions of learning can be measured by a variety of yardsticks or measuring instruments, the results of which are types of scores, ranks or grades. Van den Aardweg and Van den Aardweg (1988) regard achievement as a product which can be measured by means of achievement tests and is usually associated with mental success. For this study, the respondents' examination results were used as measures of academic achievement.

Objectives

The study sought to investigate the relationship between motivation, academic self-concept and academic achievement of the students at a university in Limpopo Province of South Africa. The main objectives of this study are:

- To find out the relationship between motivation, self-concept and academic achievement.
- To determine gender differences for motivation, self-concept and academic achievement.

Hypotheses

In this study, five null hypotheses were tested for significance level. They are:

- HO1:* There is no significant difference between the average self-concept scores of male and female students.
- HO2:* There is no significant difference between the average motivation scores of male and female students.
- HO3:* There is no significant difference between average achievement scores of male and female students.
- HO4:* There is no significant correlation between achievement and self-concept scores of students.
- HO5:* There is no significant correlation between achievement and motivation scores of students.

Theoretical Framework

Self-determination Theory (SDT) of Motivation

Self-determination theory (SDT) is one of the theories developed for understanding individuals' motivation (Deci and Ryan, in Eymur and Geban 2011). According to Eymur and Geban (2011), SDT suggests that the impetus of motivated behaviour is having the experience of choice (autonomy) and emotion of efficacy in actions (competence), and the value attached to important others in the individual's environment (relatedness). These authors further point out that the most differentiating characteristic of SDT from other motivation theories is that it suggests motivation as a multidimensional concept that not only varies in level, but also kind. Deci and Ryan, in Eymur and Geban (2011), proposed that there are three main types of motivation, namely intrinsic motivation, extrinsic motivation and amotivation. Intrinsic motivation refers to being engaged in an activity for itself and for the pleasure and satisfaction derived from participation (Deci, in Eymur and Geban 2011). Intrinsic motivation is widely regarded as the highest level of motivation as it is completely from within an individual (Grolnick, in Eymur and Geban 2011). Extrinsically motivated learners' behaviours are shaped by external factors such as rewards and punishment (Karsenti and Thibert, in Eymur and Geban 2011). The absence of any self-determination is called amotivation (Eymur and Geban 2011). Cokley, in Eymur and Geban (2011), defines amotivation as the lack of both extrinsic and

intrinsic motivation. This author further indicates that a student who is amotivated cannot, for example, explain why he/she attends school.

The Self-concept and Academic Performance Model

Educational psychology has been concerned with analysing different types of relationships that exist between self-concept and academic performance (Sanchez and Roda 2004). The following are four possible patterns or causal models between self-concept and academic performance, according to Sanchez and Roda (2004: 98-99).

(i) Academic Performance Determines Self-concept

Academic experiences of success or failure significantly affect the student's self-concept and self-image more than vice versa. Given that the influencing variable is academic performance, psycho-pedagogic interventions should be given priority to modifying the students' level of achievement, since this will contribute to changing the level of self-concept (Sanchez and Roda 2004).

(ii) Level of Self-concept Determines the Degree of Academic Achievement

Given that self-concept is what determines levels of academic achievement, and self-concept in turn can be strongly influenced by acceptance levels provided by the student's significant others, we can infer that it would be possible to increase levels of school performance by optimizing levels of self-concept and very specifically levels of perceived competence (Sanchez and Roda 2004).

(iii) Self-concept and Academic Performance Influence Each Other

The third model of casual relationship postulates that self-concept and academic performance influence and determine each other mutually. This means that success in academic tasks can lead to the development of a positive self-concept while, on the other hand, failure can lead to experiencing feelings of rejection, isolation, worthlessness and consequently a negative self-concept.

RESEARCH METHODOLOGY

Research Design

This is a quantitative research in which a cross-sectional survey design was utilized. According to Creswell (2012), this design has the advantage of measuring current attitudes, beliefs, opinions or practices and it also provides information in a short amount of time.

Instrument Used

A self-constructed questionnaire was used in the research. The items in the questionnaire were scaled items in the form of a question or statement followed by a scale of potential responses. The participants had to select the response on the scale that best reflects their beliefs or opinions about the statement. The final questionnaire was composed of thirty- four items.

Population and Sampling

Second year students in four Schools at the university were targeted for investigation. The sample consisted of 193 (83 males and 110 females) students selected randomly from the class lists in each of the four Schools. Simple random sampling was used so that any individual in the list has an equal probability of being selected from the population (Creswell 2012).

Data Collection Procedure

The researcher administered the questionnaires to the four groups of the sample on various occasions during normal class periods. A period of fifty minutes was sufficient as it took approximately forty minutes to answer the questionnaire in each session. Each participant was given a questionnaire to which he/she had to respond. To ensure that the participants had understood the procedures, the questionnaire instructions were read aloud and demonstrations on how to respond to the items were shown on the whiteboard. Enough time was allowed for all the participants to finish.

Reliability of the Instrument

Reliability was established by calculating the alpha reliability coefficient for both the self-con-

cept section and motivation section. The reliability coefficients were 0.25 and 0.57 for self-concept and motivation respectively. According to Pienaar (1994), when an instrument is developed, its reliability should be as close to 1 as possible. The questionnaire was regarded as a reliable measuring instrument.

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used for analysing data. To determine whether males and females differ significantly, a t-test was used to compare the averages. Pearson's Product Moment Correlation was used to determine the correlation between the achievement scores of the students and their scores for self-concept and motivation.

Ethical Considerations

Approval for conducting the research was obtained from the Research and Innovation Directorate at the university. All the participants were informed about the study and its goals. Participation in the research was voluntary, and participants could terminate their participation any time without any penalty.

RESULTS

The following are major findings of data analysis

Hypothesis 1: There is no significant difference between the average self-concept scores of male and female students

The t-value in Table 1 shows that males and females do not differ significantly regarding their average self-concept ($p > 0.05$).

Hypothesis 2: There is no significant difference between the average motivation scores of male and female students.

The t-value in Table 1 shows that there is a significant difference between the average motivation of males and females ($p < 0.05$). Females have higher motivation scores than males. This is also shown in Figure 1.

Hypothesis 3: There is no significant difference between average achievement scores of male and female students.

The t-value shows that there is no significant difference between males and females regarding their average achievement scores ($p > 0.05$). The data are shown in Table 1.

Table 1: The difference between the mean scores of self-concept, motivation and achievement of male and female students

Variable	Gender	N	Mean	SD	T	Df	p
SC	Male	83	3.180	0.382	0.806	191	p > 0.05
	Female	110	3.224	0.362			
MOT	Male	83	3.306	0.307	2.642	191	p < 0.05
	Female	110	3.414	0.259			
ACH	Male	83	56.08	7.092	0.470	191	p > 0.05
	Female	110	56.55	6.483			

Hypothesis 4: There is no significant correlation between achievement and self-concept scores of students.

The results show that there is a significant correlation between achievement and the self-concept of students. The data are shown in Table 2.

Table 2: Correlations between scores of self-concept, motivation and achievement

	ACH	MOT	SC
ACH	1.000	0.215*	0.358*
MOT		1.000	0.555*
SC			1.000

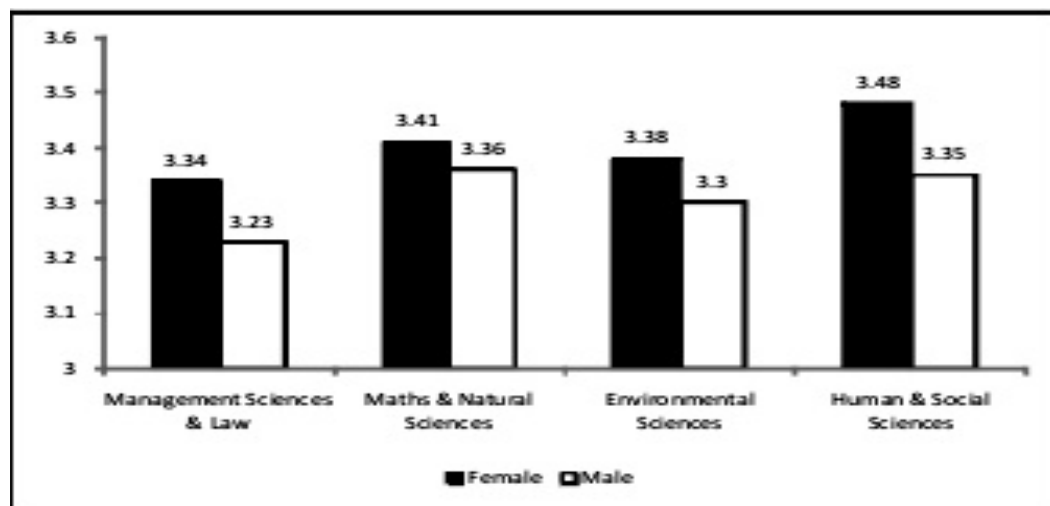
*Significant at 0.01 level

Hypothesis 5: There is no significant correlation between achievement and motivation scores of students.

The results show that there is a significant correlation between achievement and motivation scores of students. The data are shown in Table 2.

DISCUSSION

The result of the second hypothesis, which compares motivation scores of male and female students, was found to be significant. Females have higher motivation scores than males. According to Brophy (1998), boys generally place less value on engaging in academic activities than girls do, so that the quality of their engagement is more variable. Awan et al. (2011) state that girls have been found by several studies to be more motivated and to be higher achievers than boys. Hotulainen and Schofield, in Awan et al. (2011), explain the same results in their study that girls were found to generally outperform boys and that boys consistently showed lower levels of academic competence and lower GPAs than their female counterparts. In another study whose aim was to examine the motivational differences between male and female students, females were found to be more motivated than males in all motivational subscales (Eymur and Geban 2011).

**Fig. 1. Average motivation by gender and school**

The result of the fourth hypothesis shows a significant correlation between achievement and the self-concept of students. A study by Barker et al. in Awan et al. (2011), a positive and statistically significant correlation was found between self-concept and academic achievement. McCoach (2002) indicates that academic self-concept is a significant predictor of academic achievement. The same author further states that as much as one third of the variance in achievement can be accounted for by academic self-concept alone. In a study to investigate the relationship between self-beliefs, academic background and achievement of adolescent Asian-American students in post-secondary education (House 1997), academic self-concept was found to be a significant predictor of Asian-American students' subsequent academic performance. In another study, academic self-concept was found to be directly and significantly related to the deep rather than the surface learning approach (Drew and Watkins 1998).

The result of the fifth hypothesis shows that there is a significant correlation between achievement and motivation scores of the students. Karsenti, in Eynur and Geban (2011), found significant relation between school achievement (GPA) and motivation. Besides, past researches (Eymur and Geban) reported that extrinsic motivation was generally negatively related to achievement whereas intrinsic motivation positively related with achievement. A study by Goldberg and Cornell (1998) revealed statistically significant correlation between intrinsic motivation and academic achievement. Mnyandu (2001) found a significant positive correlation between intrinsic motivation and learners' performance. In a study to examine the pattern of motivation associated with school achievement, intrinsic motivation correlated significantly with grade point average (GPA) (Bergin 1987).

CONCLUSION

The findings of this study justify the importance of self-concept and motivation to academic achievement. It is important to note that self-concept and motivation cannot be treated as separate entities, but as an interdependent collective. It is therefore necessary to give adequate attention to the enhancement of academic self-concept and motivation when offering psycho-

educational interventions in order to improve academic performance of students.

RECOMMENDATIONS

The following are some recommendations based on the findings of the study:

- Lecturers should focus on motivational strategies that will involve students in academic activities for improving their overall performance.
- Students should be provided with sufficient emotional and academic support.
- Students should be exposed to self-esteem and positive self-concept enhancement programmes. Student participation in such programmes may lead to an improvement in learning outcomes.
- Further research is needed to investigate the relationship between self-concept and achievement in specific academic subjects.
- Further research could be done to develop programmes for enhancing self-concept and motivation.

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