The orientation of achievement: Can goal orientation be used to predict academic achievement in a multicultural environment?

by

Maxine Wendy Pietersen

A mini-dissertation submitted in partial fulfilment of the requirements for the degree

MA Research Psychology

in the Department of Psychology at the

UNIVERSITY OF PRETORIA

FACULTY OF HUMANITIES

SUPERVISOR:
Professor David Maree

August 2016

ACKNOWLEDGEMENTS

This work is in dedication to my late grandmother Susan Kathrina Aletta Matle.

First and above all I would like to give all the praise and all the honour to my Lord and Saviour Jesus Christ. This thesis would not have been possible without You Father. You are the author and the finisher.

My gratitude exceeds me and no words can express how blessed I am with having Daniel and Beverley Matle as my parents. Your love, guidance and support saw me through this dissertation.

Winston thank you for the constant push and encouragement. You saw me at my worst and at my best. You are still here. I love you and thank you for your unconditional love, strength and your unwavering believe in me.

Dilan you were there from the start; Emet you saw me finish. Thank you for inspiring me to be better.

Mecheigh, Justine and Janine, who would I be without you? I thank you for your motivation and support.

Thank you Prof David Maree for your patience, guidance, support and for believing in my ability.

Last but not least thank you to the participants of this study, without whom this research would be incomplete.

ABSTRACT

Research has shown that goal orientation has a direct relationship with academic achievement for students. This relationship varies for South African students from different backgrounds. This mini dissertation investigated the relationship between academic achievement and goal orientation but moreover explored the mediating variables at play in this relationship.

A quantitative correlational research study was employed with a sample size of 545 South African students ranging in age from 18 to 48 with a mean of 20.77 (SD = 2.94). Students completed an online survey, through Qualtrics. T tests yielded results suggesting that there was a significant difference (p = <.05) in the performance avoidance scores for historically advantaged students (M = 7.24, SD = 2.03) and historically disadvantaged students (M= 7.83, SD = 2.15), suggesting that historically disadvantaged students are more performance avoidant compared to historical advantaged students.

Two way between groups ANOVA showed that the historical advantaged students (M = 65.39, SD= 14.30) scored higher academically compared to the historical disadvantaged students (M=54.42, SD=15.17). Structural equation modelling (SEM) produced results showing that Goal achievement (GAQ) related positively, with a large direct, significance effect with Culture (R^2=0.0, β = 0.71**,** C.R.= 4.91, p<.001), proposing that students who are individualistic (or traditional) perform better academically.

KEY WORDS: historical groups, cultural orientation, gender roles, goal orientation, academic achievement, medium of instruction, first university generation, structural equation modelling, two-way ANOVA, T test, mediation, moderator.

TABLE OF CONTENTS

LIST OF TABLES

Table **Description** **Page**

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1 Introduction

With the aim of changing the fortunes of the prior marginalised majority in South Africa, the post-apartheid government, led by the African National Congress (ANC), set up educational infrastructure aimed at remedying such socio-historic problems (Ramoketsi, 2008). This infrastructure provided equal educational opportunities (Ramoketsi, 2008; Jansen, 2009). New schools were built which offered more pupils access to education and free text books were provided to ensure learning for all. Additional financial assistance aimed at elevating deteriorating education in the poorer communities of South Africa became a focal point at trying to bridge the educational gap between the historically marginalised majority group and the advantaged minority group (Jansen & Taylor, 2003).

These structures were put in place to eliminate the racially discriminatory policies adopted by the apartheid regime (Mlambo, 2011). New all-inclusive educational policies were developed with the assumption that high academic achievement and good performance by all pupils would be physically triggered due to the new structures that were developed. However, two decades into post-apartheid South Africa, poor academic achievement and a serious lack of performance is more than evident (Jansen, 2009). The present study wanted to explore and understand what other reasons there could be for poor performance. An investigation into the tools used by the University of Pretoria for assistance in academic performance led to the discovery of goal orientation. This dissertation is therefore a report on the inquiry to understand the relationship between goal orientation and academic achievement as well as the

mediating factors involved. This chapter provides a background to the research and an overview of the following chapters to this dissertation.

1.2 Background

Although there is a steady increase in the matriculation rate and admittance to higher educational institutions within the historically disadvantaged group, however, high academic achievement and good performance are still lacking. The Department of Higher Education (DHE) and Statistics South Africa (Stats SA) reports that at a national level, overall enrolments at higher educational institutions increased from 16% to 18% during the period of 2005 to 2010 (www.dhe.gov.za). Black student enrolments increased from 12% to 14%, Coloured enrolments increased from 12% to 15%, but Indian enrolments decreased from 48% to 46% while white student enrolments remained steady at 57%. Female student enrolments increased from 18% to 21% and male enrolments increased from 14% to 15% (Department of Higher Education, 2012; Statistics South Africa, 2013).

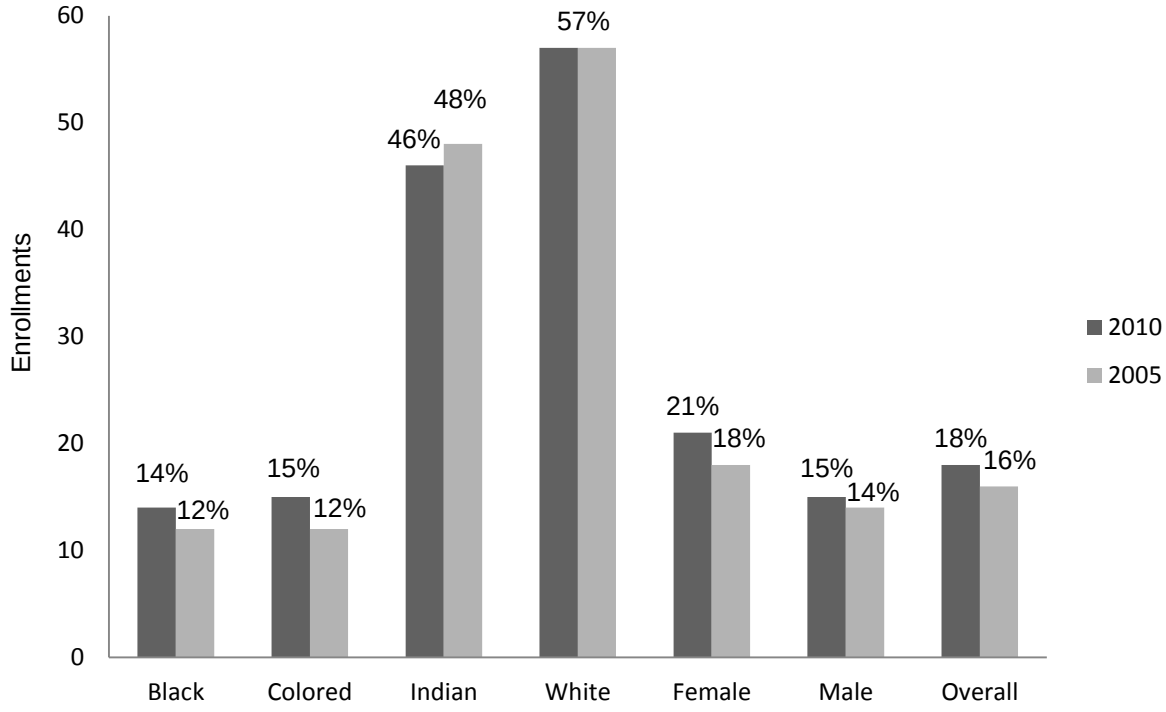

Figure 1.1 Bar graph showing trend in university enrolments from 2005 to 2010

Success has been reported by DHE and Stats SA with reports that the completion rate at tertiary level has slightly increased over the years. An overall increase in graduates is reported from 2005 to 2010 from 16% to 17%, with Black graduates increasing from 15% to 16%, Coloured graduates increasing from 16% to 18%, Indian graduates increasing from 15% to 16% and White graduates increasing from 21% to 22%. Female graduates have increased from 15% to 16% and male graduates have remained steady at 18%. Although more students are graduating from tertiary institutions, there is a persistent decline in students' performance and the quality of graduates despite educational development initiatives and massive financial injection in education (Jansen, 2011).

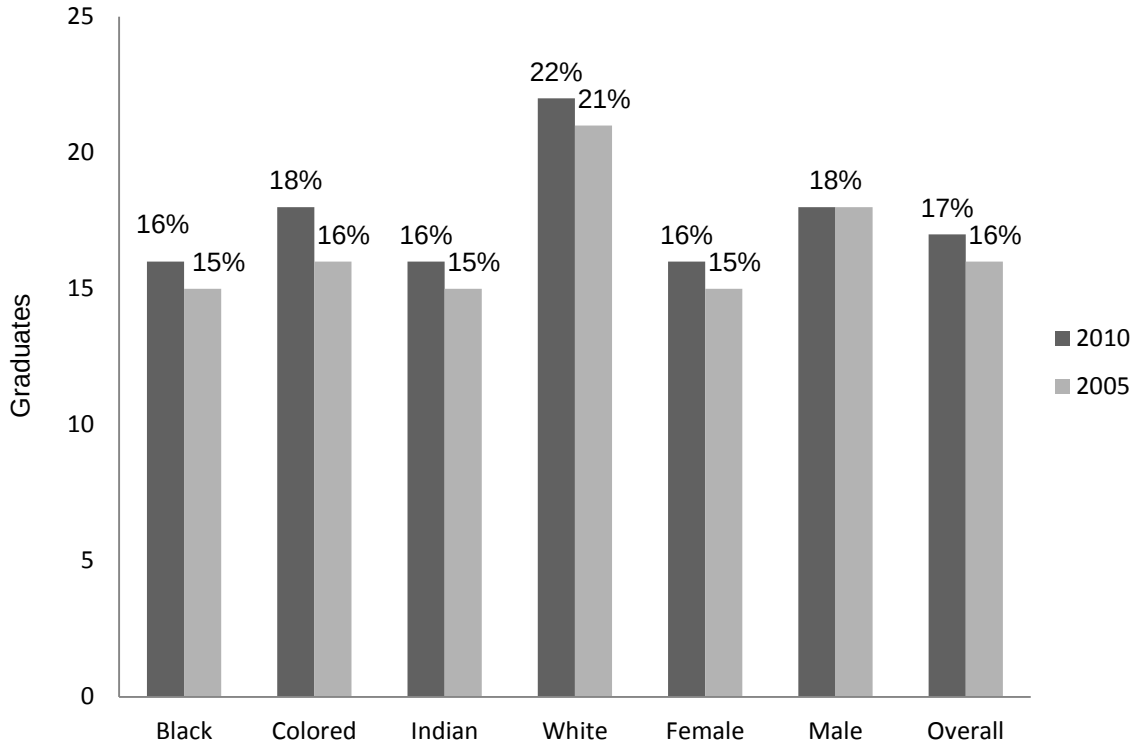

Figure 1.2 Bar graph showing trend in university graduates from 2005 to 2010

The decline in the performance and quality of graduates is affecting the workforce, as there appears to be a decreasing amount of professionals and skilled graduates entering the labour force (Bhorat, 2004). The Labour Force Survey (2002) reported that unemployment rates of graduates increased from 1995 to 2002, from 6.44% to 15.37%. This gap has not improved since 2005 (Van Broekhuizen, 2012). Scholars and education experts have attempted to provide their analysis and remediation of the perceived declining performance of students and quality of students produced. Their efforts focused on equal opportunities, finances and infrastructure (Fisher & Scott, 2011; Jansen, 2011; Ministry of Education, 2001; Mlambo, 2011).

New universities were built with the hopes of giving more people access to higher education. All people have access to study at any South African university of

their choice provided that they meet the entry requirements. These requirements do not discriminate against historical dispositions: they are rather based on academic achievement. In addition, high performing learners are offered bursaries to aid higher education. Yet students are not performing optimally as will be discussed below.

This is evident in students' academic achievement at higher educational institutes. On 16 February 2013, Minister of higher education Dr Blade Nzimande gave a speech in which he addressed current issues in higher education. He suggested that there are still not enough universities and by 2015 more universities will be built around the country. Famine funding, the meagreness of academic support and students' lack of discipline and responsibility remain a challenge in higher education (Department of Higher Education, 2013).

Higher educational institutions promote learning and a way in which these institutions measure learning is through academic achievement. Academic achievement is measured through performance. Performance is based on cognitive, social, and motivational factors. However, the social and motivational factors in learning and performance of students in the South African context have not received a great deal of attention (Jansen, 2011; Mlambo, 2011). These neglected aspects play an important part in the performance of individual students.

Prah (2006) supports the notion that individuals are cultured through socialisation. This means that students' culture plays an integral part in the way in which they learn and the reason for learning. Therefore, individuals from diverse environments acquire knowledge in various ways and their motivation for acquiring knowledge differs. The different ways in which students orientate themselves to reach their goals in an academic context has provided motivation to carry out research.

1.3 Research Statement

The University of Pretoria (UP) developed a program called; Student Academic Readiness Survey (STARS). The purpose of this project (STARS) is to establish the academic readiness of first year students enrolled at UP and their academic success. This project involves two elements. The first part of the project is the STARS instrument; a paper-and-pencil style survey, which assesses students' academic readiness by measuring students' needs. This survey is completed on an optical reading sheet, which automatically captures the survey responses (Hicks, 2011).

The STARS instrument is a 115-item questionnaire measuring motivation, well-being, integration and support, goal orientation, academic skills, anticipated/current academic involvement, and vocational identity needs. The second part of the project is planned around the results yielded for the individual student. On this basis, a program is designed to assist the individual student who is at risk of failing based on the findings of the survey. The program involves mechanisms such as peer mentoring and academic advising (Hicks, 2011).

In 2010, a study investigated how academic readiness and academic achievement relate to each other among first year university students. A total number of 829 first-time enrolled students from the business sciences faculty participated. The sample consisted of 319 males and 510 females with a mean age of 19 years old and a standard deviation of 0.50 years. These students all completed the STARS measure at the beginning of 2010 during the first year orientation week (Lemmens, 2010). The results from the study found that goal orientation, race and gender have a direct relationship with academic achievement. Findings further indicated that goal orientation had a direct relationship with academic achievement

for the previously advantaged group however this was less dominant for the previously disadvantaged group. These findings are further elaborated on in chapter 2. The current study attempts to argue that a relationship between goal orientation and academic achievement exist, but moreover to that there may be factors which mediate this relationship.

1.4 Research Questions

This research attempted to explore the relationship between goal orientation and academic achievement. The study explored variables which might affect the relationship. These variables were gender, first university generation, culture orientation, history and language; these are further discussed and explained in Chapter 2. The researcher also attempted to examine whether goal orientation can predict academic achievement, this was discussed and explained in Chapter 2, examined in Chapter 3 and reported on in Chapter 4.

The following research questions were addressed:

Research question: Is there a relationship between goal orientation and academic success?

Sub question 1: do the variables history, academic language and gender (sex) and parental education influence the relationship between goal orientation and academic achievement?

Sub question 2: are there significant differences between the different groups for the goal orientation subscales?

Sub question 3: do the variables gender role and culture orientation influence the relationship between goal orientation and academic achievement?

Sub question 4: can goal orientation predict academic achievement?

1.5 Justification, Aims and Objectives

Although education in the South African context is receiving a vast amount of attention and support, the challenge remains severe. This is noted in the poor academic results as well as poor performance in the workplace. By understanding goal orientation in relation to academic achievement, we are in a position to put structures (better teaching methods, policies, curricula, time and cost efficient teaching tools) in place which is beneficial for the educational environment in the South African context.

It is important to understand what influences culture, history, academic language and gender roles have on goal orientation so that more context-specific assessment tools can be designed. We need not only test educational ability in institutions but actual knowledge and skills gained. A person's context has a significant effect on how information is processed. Students from different contexts may approach learning in different ways (Nisbett 2003). An individual's background influences goal orientation, which influences academic performance (Urdan, 2004).

By understanding how individuals orientate themselves in terms of goals, we can design better models to teach students and to evaluate students based on what is learned and not just on how information gathered is reproduced. These findings may influence educational policy design, program design as well as South African legislation and laws around psychometrics and education. Understanding students underlying motives might assist in explaining the different patterns of achievement found in higher educational institutions. This study furthermore contributes to the limited South African knowledge base concerning goal orientation and mediating variables.

The specific objectives of the researcher were to

- Determine whether goal orientation predict academic achievement
- Investigate how the following variables: culture, history, academic language and gender roles, each mediate the relationship between goal orientation and academic achievement

1.6 Hypotheses

In order to explore the relationship between goal orientation and academic achievement and the factors which mediate the relationship the following hypotheses were tested:

- How students perceive themselves in terms of their culture (individualistic vs collectivistic) influences goal orientation
- How students perceive themselves in terms of their culture (individualistic vs collectivistic) influences academic achievement
- There are significant differences in goal orientation amongst the two historical groups
- There are significant differences in academic achievement amongst the two historical groups
- The academic language significantly affects a student's goal orientation
- The academic language has a significant impact on students' academic achievement
- Gender roles have a significant influence on students' goal orientation
- Gender roles have a significant influence on students' academic achievement
- Goal orientation can successfully predict academic achievement

1.7 Dissertation

This research study is presented in five chapters. Chapter 2 offers a review of literature concerning goal orientation and academic achievement, including definitions and discussions of variables. A discussion of the research methodology is provided in chapter 3. A description of the basic concepts fundamental to the research process, tools and procedures are discussed in this chapter. Chapter 4 presents the findings of the study. Chapter 5 then provides a discussion of the main findings in the context of literature, limitations of the study, recommendations and conclusion.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The general purpose of the current study was to explore the relationship between goal orientation and academic achievement. This chapter summarizes literature relevant to the topic. Based on literature, the researcher predicts that there is a relationship between goal orientation and academic achievement. It is also expected that this relationship is influenced by other variables such as gender, language, and culture which is explained in this chapter. The aim of this review is to create an understanding of the terms used in this study and to show case perspectives in literature on achievement and goal orientation. In part, this chapter explains and defines concepts such as academic achievement, goal orientation, motivation, culture, history, gender, and language. In addition, this chapter reviews theoretical literature and findings based on goal orientation and academic success.

2.2 Academic Achievement

The prediction of future academic behaviour forms an integral part of education. This is important because it allows higher educational institutions to be able to red flag students at risk of failing. In other words, if a student performed academically successful in the past, this student should perform academically successful in future. This is investigated by finding tools which allow one to measure past and current academic behaviour and to predict future academic behaviour. Brown and Bimrose (1993) noted that the selection process in higher education is influenced by a number of variables and that biological and environmental factors interact constantly with these range of variables. When selecting students to study at higher institutions, care should be taken by using the appropriate measures as selection tools. Selection to obtain a formal qualification in higher educational

institutes is mainly based on academic principles. The most widely used criteria to predict academic skill is achievement, aptitude and ability (Klitgaard, 1986). Academic achievement is module specific; it is denoted by a final mark which can be a combination of assignments, tests and exam marks. These three measures of assessments are the general ways in which achievement is measured, however the type and number of different assessment measures used, is module and study-field specific. Academic achievement also referred to as academic performance or academic success is the outcome of learning. This refers to the degree to which a student has achieved the learning goals (Meece, Anderman & Anderman, 2006).

This research examined the relationship between academic achievement and goal orientation as well as the variables which play a role in this relationship, therefore a thorough explanation of goal orientation is provided below.

2.3 Goal Orientation

Goal orientation first emerged in 1964 when researchers were interested in understanding how individuals learn (Vroom, 1964). Later, Dweck (1986), applied this specifically to the classroom and presented a goal orientation framework which made a distinction between learning goals and performance goals. She suggested that individuals have a certain goal orientation, either performance goal orientated or learning goal orientated, depending on the task at hand. Ames (1992), supported this notion, stating that the context in which learning takes place, e.g. teachers' methods of teaching, different tasks that students should complete; all have an impact on how the student will complete their tasks. Performance goals are focused on a student's interest in their ability level whereas learning goals are focused on a student's interest in how he/she is progressing or mastering the task through his/her own efforts. Performance goals are fixed on demonstrating competence and learning

goals are fixed on developing competence (Baranik et al., 2007). Dweck (1986) referred to learning and performance goals as patterns. It is through these discoveries that Dweck (1986) realised that performance and learning should be split into performance approach and performance avoidance as well as learning approach and learning avoidance. Performance approach goals have to do with accomplishing success. Performance avoidance has to do with evading failure. Learning approach goals has to do with successfully mastering a task whereas learning avoidance has to do with evading competence failure.

Dweck (1986) suggested that it is not so much a student's intellect but the patterns they adopt that defines the student's academic success. In a study conducted in a classroom, it was found that some children exhibited learned helplessness as their confidence in their ability to perform and master the given task was low. This suggests that the type of task required from a student influences a student's goal orientation due to the individual's confidence in their own ability to be able to successfully do the type of task required. In other words, a student will either be approaching or avoiding learning and/or performance based on the confidence in their own ability to do a given task. Their confidence in their own ability is either high or low when considering if they can do the task or not (Ames, 1992). This suggests that students estimate their ability. This ability estimation is based on their perception of task difficulty. These abilities manifest as behaviours where students either seek challenges or avoid challenges. This is due to the fact that confidence in one's own ability is based on prior knowledge of or exposure to tasks (Brown & Bimrose, 1993).

Dweck (1986) found that students who are performance goal orientated are most likely students who experience maladaptive (weak persistence or avoidance) outcomes. This could be due to the fact that some students rely on luck when given

a task, it is about the reward (the students are interested in passing the task) and not so much mastering the task. Individuals who are learning or mastery orientated associate the successful completion of a task with the effort they put in to do the task. This student has higher persistence and low avoidance, meaning that the student is more concerned with gaining the skill rather than just the pass mark or being the best in class. This means that a student views mastering a task as how hard he/she worked and the effort that was put in to achieving success rather than viewing this as their aptitude or personal capabilities in completing a task well (Middleton & Midgley, 1997).

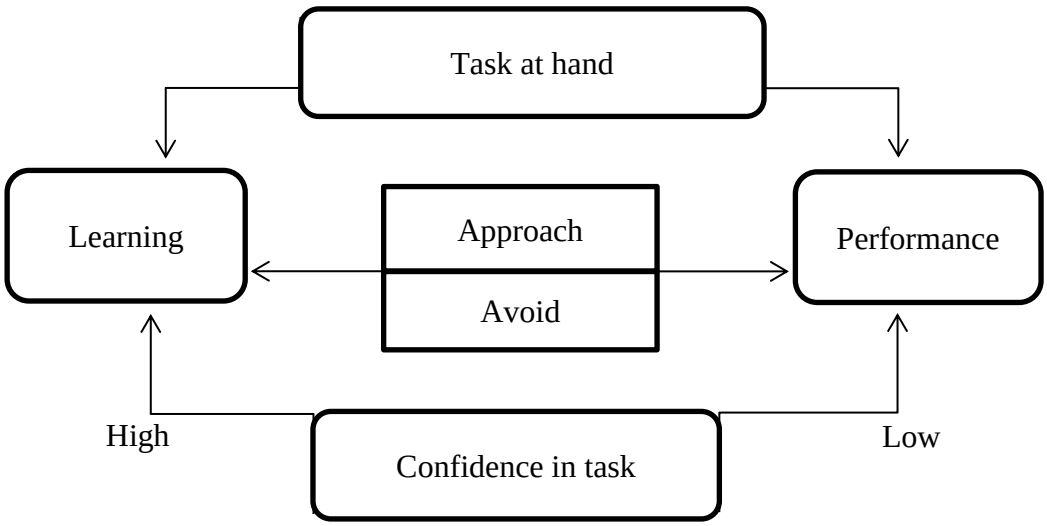

Figure 2.1: Dweck's (1986) achievement goal and achievement behaviour model
Note: This diagram illustrates the impact a task has on a student's goal orientation as well as the behaviour (approach or avoid) that goes with the orientation.

Figure 2.1 is an illustration of how the factors influence each other. Research shows that students who are learning orientated are more likely to be the ones who take on academic risk and challenges (Ames, 1992). Grant and Dweck (2003) suggest that being learning orientated is better in an academic environment. In fact, they suggest that comprehensively knowing a subject equips students with better

tools to apply skill rather than quickly storing information in order to perform a current task swiftly. Over the years, interest grew in describing and developing goal orientation models.

Different yet similar ideas emerged; below literature shows that researchers used different ways to arrive at the same conclusion. Button (1996) proposed a two factor measurement, namely, learning and performance. This model basically views learning as one variable and performance as another (Button, 1996). Vande Walle (1997) proposed a three factor measurement namely, learning orientation, performance approach orientation and performance avoidance orientation. In this model the learning construct is seen as one variable but performance is split into an approach and an avoidance orientation (Vande Walle, 1997).

Other researchers argue a four factor model which divides the learning goal orientation into learning approach and learning avoidance orientation and the performance goal orientation into performance approach and performance avoidance (Elliot & McGregors, 2001).

The concept of goal orientation came about to explain the changeability in situational goal preferences that people tacitly set for themselves to achieve an outcome (Heyman & Dweck, 1992). Goal orientation can be defined as the position a student takes, the approach a student takes when gathering information or when taking on a task and the questions a student asks when pursuing a task (Dweck, 1986; Elliot & Thrash, 2010). This is likely to result in different reactions such as determination to reach a goal, how a student deals with failure, how much effort a student puts into completing tasks as well as the individual's initial expectations on how well he/she will do on a task; the latter implies performance (Dweck & Legget, 1988).

Lemmens, Du Plessis and Maree (2011) suggests that goal orientation has psychological components which assist in achieving goals, namely, pathway, goal setting efficacy, resilience, optimism, agency, absence of despair and external locus of control (constructs will be explained in Chapter 3). These psychological components are embedded in the learning approach/avoid and performance approach/avoid dimensions. This psychological constructs can be viewed as a student's motivation to learn in an educational context. To understand this, the following section focuses on the influence that motivation has on a student being either learning or performance orientated.

2.3.1 Motivation.

Here, motivation refers to academic motivation. Academic motivation can be explained through how students function academically and the way in which achievement is realised in academics. In other words, how much effort do students put into completing tasks, which routes they take when pursuing a given task and how persistent and committed they are to complete a given task (Linnenbrink & Pintrich, 2002).

Dweck (1986) is of the opinion that students in the academic context have a goal disposition. She suggests that motivation can be understood as a goal orientated activity, in other words motivation impacts on students' academic achievement. Dweck (1986) draws a clear distinction between adaptive motivation and maladaptive motivation. Adaptive motivation is those aspects that allow students to seek out challenges and master and maintain successfulness in tasks. Maladaptive motivation are those aspects that make students avoid or show weak persistence when a challenging task is at hand. Both adaptive and maladaptive

aspects refer to inherent motivational factors, in other words the student's personal intrinsic motivation (Heyman & Dweck, 1992).

As mentioned previously, Dweck (1986) suggests that past experiences influence a person's belief in their own ability; it appears that one's perception of one's own ability influences motivation (Heyman & Dweck, 1992). Figure 2.2 shows the different motivations and their influence on academic achievement.

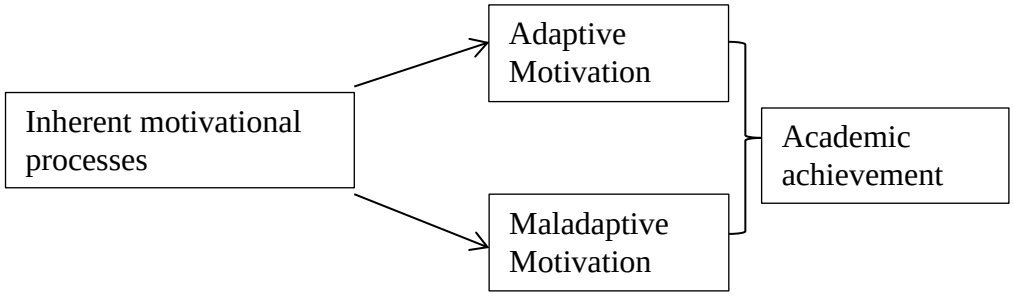

Figure 2.2: Motivational processes that influences students' academic performance
Note: This diagram illustrates the impact that the goal orientated activity: motivation has on a student's academic achievement.

Baranik, Baron and Finney (2007) suggested that individuals are motivated by a number of factors and for one to understand motivation; one must look at goal orientation. There appears to be a bi-directional relationship between goal orientation and motivation. Figure 2.3 represents how goal orientation impacts motivation and motivation impacts goal orientation. The figure suggests that motivation is broken down into seven factors: pathway, goal setting efficacy, resilience, optimism, agency, absence of despair and external locus of control (Baranik et al., 2007). It seems as if goal orientation and motivation impact each other because one's inherent motivation determines one's goal orientation and vice versa.

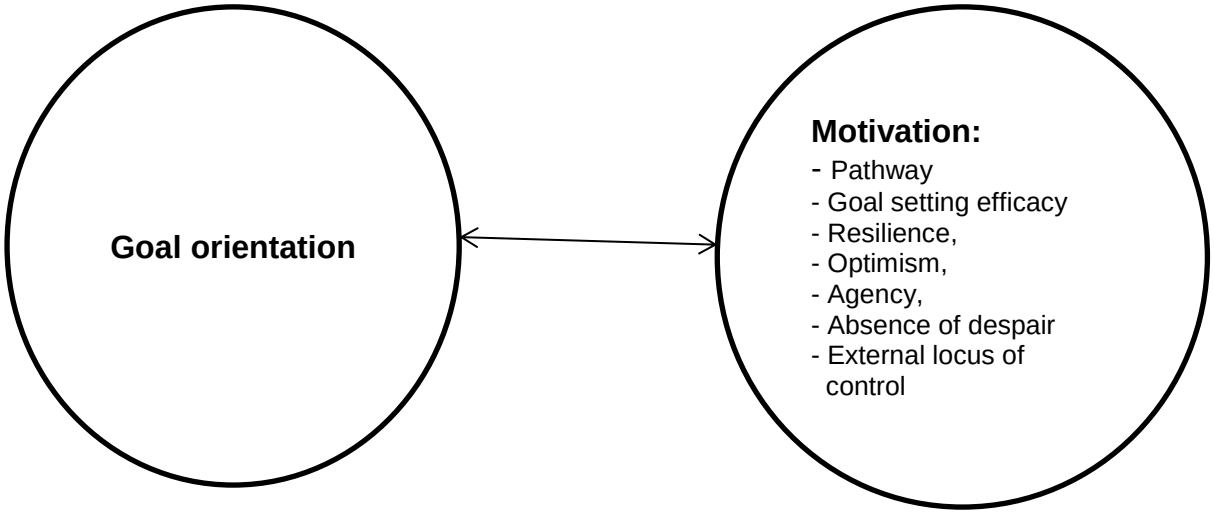

Figure2.3: The relationship between goal orientation and motivation

Note: The arrow illustrates the bidirectional relationship between goal orientation and motivation.

The task at hand determines how motivated a student will be to do the task well (based on inherent motivation, which leads the student to orientating themselves towards a certain goal (learning or performing) in order to complete this task (Winne & Muis, 2011). Academic motivation can therefore be defined as a student's interest, approach to and persistence regarding a specific given task. This given task measures the students' level of academic achievement (Steinmayr, Meißner, Weidinger & Wirthwein, 2014). A discussion on the findings on goal orientation and academic achievement follows.

2.4 Studies on Academic Achievement and Goal Orientation

This section highlights global studies that were conducted in various settings; it stretches from pupils and students to employees. These findings attempt to point out the developments as well as gaps found within goal orientation and academic achievement.

A study by Coutinho (2007) researched 179 undergraduates at a Midwestern university, which consisted of 87 females and 92 males. The ages ranged from 18

years to 40 years (mean = 20.84; standard deviation = 2.38). The research investigated whether there is a relationship between goal orientation and academic achievement. Students completed a survey which entailed a goal orientation scale, a metacognition measure, and demographic questions including a question on the students' average results of all their grades achieved throughout their degree. Regression analyses were used to measure significant correlations and to determine the extent to which students' results could be predicted from mastery goals, performance goals, and metacognition. The results showed that there is no relationship between goal orientation and academic results.

However, as mentioned earlier, Maree et al. (2011) found that goal orientation has a direct impact on academic achievement. The variables which predict academic success for black students in the study were high school marks, credits registered, and parental education. The variables that predict academic success for white students were high school marks, goal orientation, credits registered, learning-efficacy, gender, and parental education. In these findings, it seemed as if black students conformed more to a performance orientation and other students performed more to a learning orientation, however the black group was under represented in this study.

Although limited research on goal orientation is found in the South African environment, an earlier South African study by Marjoribanks and Mboya (2004) collected data from 625, 18-year-old black IsiXhosa speaking students studying towards a music degree, in which they found that goal orientation plays a part in music interest. The survey was conducted in English. This study also applied the Vande Walle (1997) goal orientation questionnaire. Vande Walle's (1997) goal orientation instrument consists of 13 items which were divided into items for the

three domains namely, learning goal orientation, and performance avoidance and performance approach goal orientation. Responses were provided on a 7-point Likert scale (7 strongly agree – 1 strongly disagree).

Findings suggested that (a) family social status and parents' aspirations, gender, family and school learning environments, and goal orientations combined had a medium correlation with students' interest in music, (b) relationships among learning environments, goal orientations, and students' interest in music varied for students with different family social status and parents' aspiration, and (c) the learning environment and goal-orientation variables partially accounted for the relationships between family social status and parents' aspiration, gender, and students' interest in music. It is interesting to note that the students were all IsiXhosa speaking but the survey was conducted in English. The current study will also investigate the influence of medium of instruction on the outcome of academic success. Another interesting fact is that there were correlations found in terms of goal orientation and music interest and this varied across different families. This brings the researcher to investigate culture and parents as mediating variables, which will be discussed in detail later.

An immense amount of literature in the area of parents' influence on academic achievement is qualitative and non-empirical. Like with all studies there appears to be inconsistencies in the outcome, however it is still imperative to note two studies which reveal a small to moderate and meaningful relationship between parental involvement and academic achievement. In the one study, Fan and Chen (2001) found through regression analysis that parental aspirations for children's education achievement has the strongest relationship, compared to parental home supervision which had the weakest relationship, with students' academic

achievement. This however only highlights that parents' involvement influences academic success, however in the current project, the researcher is interested in understanding if parental education could play a role in this involvement.

This is clearer in the study conducted in Nigeria. Alokan,Osakinle and Onijingin (2013) investigated the difference between the academic performances of students from parents with a high educational background and students from parents with a low educational background. Participants in their study consisted of all public, secondary school pupils in Ondo State. The sample comprised of 240 students from 6 randomly selected schools. An academic performance questionnaire was used to collect data. The test-retest method was employed to determine the reliability and a reliability coefficient of 0.72 was obtained. Data collected were analysed through t-test analysis. The results showed a significant difference between academic performance of students from parents with high educational background and students from parents with low educational background. It can be concluded from the results that parental educational background may have a positive influence on academic performance. This is in line with the researcher's investigation into the parental level of education and its influence on academic success, however the research will also investigate the impact of parental level of education on goal orientation.

Another South African study conducted by Ramnarian (2013) found that black students tend to be more performance goal orientated. Her research employed a mixed methods design comprising of an achievement goal questionnaire developed by Vedder-Weiss and Fortus (2010) and completed by 300 pupils from 6 schools. The questionnaire consisted of 89 items answered on a 5-point Likert scale (1 not true at all - 5 very true) involving 17 drive constructs. This was followed by face to

face interviews with 12 students that served to clarify the inclinations revealed from the survey. Correlation analysis was used to describe the strength and direction of the relationship between the constructs. In addition to finding that disadvantaged black students leaned more towards performance goals rather than learning goals, it was also revealed that students perceive the teacher, school and their parent to emphasize such a goal orientation.

The above results are in line with Dweck's (1986) suggestion that these pupils are strongly motivated by achieving good marks in assessment tasks and getting recognition for performing better than their peers. It further supports one of the objectives of this study, which is to investigate culture's influence on goal orientation.

Researchers Amani and Was (2006) conducted a study on 301 high school pupils in Iran. The sample consisted of 142 girls and 159 boys with an average age of 15 years. All the students completed a goal orientation questionnaire as well as an academic identity measure. The survey was translated from English to Persian. The academic achievement was based on the average of ten exam scores. The study found that there is a relationship between goal orientation and academic achievement. Their study highlighted that boys have higher learning-avoidance goal orientation and girls achieved higher academically. This suggests that girls are more learning approach orientated and that boys are more performance approach orientated. Important to note in this study is that the questionnaire was translated to the pupils' mother tongues and gender appears to play a role in goal orientation. This provides more opportunity to investigate the variables language and gender influence on academic performance and goal orientation.

Weerakkody and Ediriweera (2008) used data which was accumulated over a period of five years, from the 2002/2003 academic year to the 2006/2007 academic

year; from the university's human resources department. The research found that female students achieve higher exam marks than male students. The sample consisted of 382 students. The Independent sample T test was conducted whereby academic achievement was compared between the two gender categories. The unit of analyses was at the individual level with exploratory data analyses used as a means of investigation. Exploratory data analysis indicated that in all the course units considered, female students tend to perform better at university examinations than their male counterparts. As with the previous study this adds to literature evidence for the objective of the current study, which is to investigate gender, however so far it is not clear from previous findings what accounts for these gender differences. The researcher attempted to clarify this in the current study.

Noguera (2003) examined the influence of cultural and environmental factors on academic achievement amongst African American males in America. He identified inadequate nutrition, improper housing structures, and growing up poor and in a single parent household as contributing factors toward academic achievement. He further suggested that certain cultural influences lower aspirations of black males. Furthermore, instant fame is viewed as a promising route to upward mobility compared to academic pursuit. This indirectly implies that performance goal orientation could have played a role here as instant fame is mentioned as a better choice than pursuing academics. However, what is clear from the study is that culture influences academic success. The four studies discussed below specifically speaks about culture, which relates to the researcher's exploration of culture.

Additionally, to the study above, Fordham (1996) found that African Americans perceive academic achievement as adopting a white way of being. In short, this says that academic achievement is part of the white culture. He proposes

that African American students in his study felt that academia was designed by white people for white people and that this way of being was forced on black people as the proper way to be in the world. As a result of this thinking, African American students rebelled against the idea of academic achievement. Furthermore, Verkuyten, Thijs and Canatan (2001) compared Turkish students to other students in the Netherlands. The students completed questionnaires that observed the importance of culture for achievement motivation and academic performance. The Turkish students had stronger family-oriented achievement motivation compared to the other groups. Family motivation was positively related to learning-goal orientation; individual motivation was an independent predictor of performance. For the other students in the Netherlands, family motivation was not related to learning-goal orientation and academic performance.

Similar findings in a study done by Urdan (2004) produced results indicating that poor academic performance of students is related to cultural characteristics and differences. Some of the views that Westernised education holds in terms of success and self-actualisation is not appropriate to the cultural values of some of the Dutch groups. These values are learned through socialisation with their family and their environment. In addition to this, data collected over a period of two years from a cultural diverse sample of 675 high school students revealed cultural differences in performance goal achievement, in Northern California. The results indicated that individuals from an individualistic culture scored lower on performance goals and individuals from a collectivistic culture scored higher on performance goals (Urdan, 2004). This implies that culture (individualistic or collectivistic) affects motivation.

Research was conducted in two Australian cities at eight high schools by Abd-El-Fattah and Patrick (2011) with a sample of 503 pupils aged 14 to 16 years old.

The pupils completed a questionnaire which measured individualistic-orientated achievement motivation, collectivistic-orientated achievement motivation, achievement goals, and academic interest. This study highlighted that individualistic-orientated achievement motivation and collectivistic-orientated achievement motivation yields a positive correlation. Results showed that the pupils endorsed individualistic–orientated achievement motivation more than collectivistic-orientated achievement motivation.

Furthermore, a positive correlation exists between individualism and the learning-approach goals and on the other hand a positive correlation exists between collectivism and learning-approach, performance-approach, and performance-avoidance goals. This study also points out that performance-approach and performance-avoidance goals influenced the relationship between collectivism and academic achievement and that the learning-approach goals influenced the relationship between individualism and collectivism and academic interest (Abd-El-Fattah & Patrick, 2011).

Although some research indicates that there is no relationship between goal orientation and academic success, majority of the findings above showcase that a relationship does exist between the two and that there are other variables interacting with goal orientation and academic success. The majority of the findings above indicate research that has been carried out in many countries around the world on the factors affecting the academic performance of students in universities. Some of these factors have been identified clearly however others appear to be underlying. The bulk of the literature is situated within the context of race, academic results, language and gender.

There is also a small portion of research indicating that parental level of education and mother tongue influences academic achievement. However, the findings also support as well as highlight the notion that the constructs in the goal achievement questionnaire might be influenced by variables such as culture, history, academic language and gender roles. These variables are elaborated in next section.

2.4.1 Mediating variables in the relationship between goal orientation and academic achievement.

Anthropology gives the impression that culture is made up of three elements, namely, what a group of people think, what a group of people do and what a group of people produce; this is passed on to future generations. These are the elements which unite humans but also divide humans into different groups (Bodley, 2011). According to Merriam Webster Inc (2004), culture can be understood as collective patterns of behaviour, cognitive constructs, mutual interests and understanding of concepts.

In other words, culture is learned through socialising. These collective patterns are what distinguish groups of people from each other (Banks, Banks, & McGee, 1989). Culture is a set of unique features which separate groups of people from each other; these features include race, religion, language and emotion which are embedded in the different traditions of social groups, their history, belief and value systems (UNESCO, 2005). Triandis, Bontempo, and Villareal (1988) suggest that an individual's motivation to succeed is culturally loaded.

Researchers have established the cultural factors which affect the academic achievement of students directly (Tishman, Jay & Perkins, 1993; Wagner, 1995).

Figure 2.4 portrays the cultural factors which affect academic achievement, which include; history, language and gender.

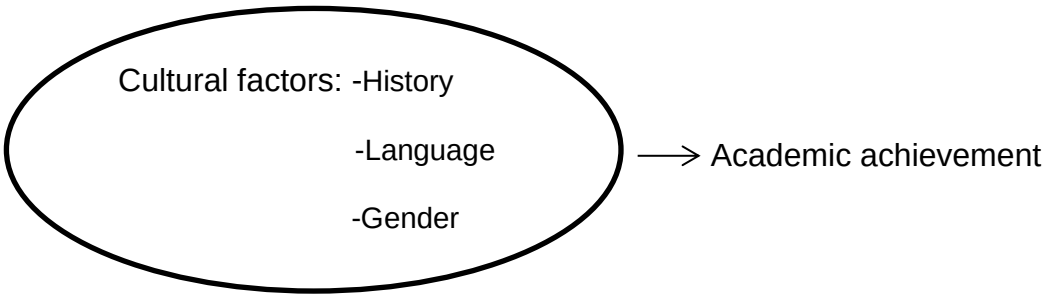

***Figure 2.4*:** Academic achievement is influenced by cultural factors

Note: The arrow in the illustration above represents the effect that the cultural factor; history, language and gender have on academic achievement

This investigation distinguishes between culture, history, language and gender. This research does not view history, language and gender as cultural factors because culture here refers to collectivistic or individualistic culture. For the purpose of clarity on culture, history, language and gender, each are defined and elaborated in the next sections.

2.4.1.1 Culture.

Culture can be defined as either collectivistic or individualistic. A collectivistic culture can be summarised as a person looking after the interest of the group which they belong to. This is done to such an extent that the interest of the self could be disregarded if it does not flow with the group's interest (Bodley, 2011). An individualistic culture in short is the situation where a person's personal interest holds greater value than the group's interest. This type of person looks after themselves first and ignores the group's interest if it conflicts with their own (Bodley, 2011).

Researchers found that it is not enough to define these two groups as just individualistic or collectivistic. Individualism and collectivism can further be divided into two domains, horizontal and vertical domains. Horizontal collectivism can be explained as a person viewing themselves as seeing the self as part of a group and perceiving all the members of that group as equal. Horizontal individualism can be understood as the person viewing themselves as fully autonomous, and believing that equality between individuals is the ideal. Vertical collectivism can be explained as when a person views themselves as a part of a social group where a hierarchy and inequality exists within that social group, the person is accepting of this structure. Vertical individualism can be understood as a person viewing themselves as fully autonomous, however the person is aware of inequality existing among individuals within the social group, the person is accepting of this inequality (Singelis, Triandis, Bhawuk, & Gelfand, 1995).

Research suggests that a students' orientation towards culture, whether individualistic or collectivistic, has a direct impact on students' goal orientation (Wagner, Meyer, Humphrey & Hollenbeck, 2005). Research further highlights that a student's orientation towards culture, in this case individualistic or collectivistic influences a students' academic achievement (Yi, 2004).

Therefore, it is suspected that students' cultural orientation has a significant impact on goal orientation and academic achievement. **Hypothesis 1** purports: that how students perceive themselves in terms of their culture (individualistic vs collectivistic) influences goal orientation and **hypothesis 2** is: that how students perceive themselves in terms of their culture (individualistic vs collectivistic) influences academic achievement. The following section discusses history.

2.4.1.2 History. Bodley (2011) argues that history is the chronological interpretation of events. In this study history refers to two groups of students being studied, the historically advantaged group of students and the historically disadvantaged group of students. Post-apartheid refers to the two groups as historically advantaged (white) and historically disadvantaged (non-white) groups. The two groups consist of four race groups. The historically advantaged group consist of the White race and the historically disadvantaged group consist of the Black, Indian and Coloured race. These four racial groups were decided under the apartheid government and to date are still used in South Africa (Posel, 2001; Klots, 1999).

The Bantu Education Act of 1953 (No.42) dominated the South African education system for almost forty years. The apartheid system was deeply rooted in all the educational institutions. Apartheid imposed the segregation of races across all education systems. Schools as well as higher educational institutions were obligated to racially segregate. This enforcement on pupils and students affected the learning outcomes. White students were deemed more intelligent than non-white students and therefore the white curriculum was of a distinctly higher standard compared to the curriculum of the non-whites. At the beginning of 1991, non-white students were allowed to attend formerly all-white schools (Fiske & Ladd, 2004).

Now, two decades later after Bantu education has been abolished students are still underperforming in the academic arena. Literature suggests that this is evidence of the implications that Bantu education has had on South Africa as a nation (Finlayson & Madiba, 2002).

Based on the findings above it is suspected that there are differences amongst the two groups in terms of goal orientation and academic achievement. Thefore **Hypotheses 3** states that: there are significant differences in goal

orientation amongst the two historical groups and **hypotheses 4** purports: there are significant differences in academic achievement amongst the two historical groups. The following section will discuss language, specifically focusing on academic language.

2.4.1.3 Language. Language is an intangible determinant that can easily be overlooked. Language is our medium of communication; this can also be a barrier to transport one's thoughts across (Madiba, 2012). South Africa has 11 official languages, these are: English, Afrikaans, Zulu, Xhosa, Swati, Tswana, Southern Sotho, Tsonga, Northern Sotho, Ndebele and Venda (National Language Policy Framework, 2006). Ministry of Education (2003) compiled a report focused on language in South Africa as a medium of teaching in higher education. This report was compiled in accordance with the current legislation, which permits each institution of higher education to establish its own language policy, guided by the Constitution and the Language Policy for Higher Education. The language policy addresses languages of instruction in the institutional policies and practices of higher educational institutions. In the South African higher education setting, the English and Afrikaans languages are used as the official languages of instruction. Although this is the case, for the purpose of this study the focus will mainly slant towards the English academic language.

Academic language can be defined as the language which is used in an academic setting, to instruct students, to help them gain and produce information. Madiba (2010) draws attention to the important role which language plays in academic achievement. He argues that the medium of instruction has a significant positive or negative effect on a student's academic success.

According to the mother tongue census data of 2011, isiZulu has the highest number of speakers (22.7%) followed by isiXhosa with 16%, Afrikaans with 13.5% and Northern Sotho with 9.1%, Tswana with 8% and Sotho with 7.6%. Tsonga, Swati, Venda and Ndebele with less than 5% each, have the smallest concentration of speakers. These figures are national figures which do not focus on provinces or higher educational institutes. The census highlights that English is a second language for majority of the population although spoken as a home language by 9.6% (Statistics South Africa, 2012).

A major dilemma that the country faces is that although there are 11 official languages, English and Afrikaans are the only two languages which have a developed academic curriculum, and in which one can write examinations. Data received from a 2011 census pointed out that only about 23% of South Africans speak Afrikaans or English as their mother tongue (Statistics South Africa, 2012).

The Progress in International Reading Literacy Study (PIRLS) surveys of 2006 and 2011, as well as the Trends in International Mathematics and Science Study (TIMSS) surveys of 1995, 1999, 2003 and 2011 have repeatedly confirmed that South Africa's academic achievement is amongst the lowest of all participating countries. Although it is clear that academic achievement is below standards, the impact that academic language has on this outcome is not clear.

Researchers in the South African educational environment speculate that academic language is an influencing variable in academic achievement. This conclusion is derived from findings suggesting that language disadvantages have a strong relationship to historical disadvantage, socio-economic status, geography, the quality of school management and the quality of teachers (Brock-Utne, 2007).

This leads the researcher to inspect students' academic language proficiency in the hopes of examining whether academic language has a significant influence on goal orientation and academic achievement. **Hypothesis 5** therefore states that: academic language significantly affects a student's goal orientation and **hypothesis 6** postulates that: academic language has a significant impact on students' academic achievement. A discussion on gender roles follows.

2.4.1.4 Gender roles.

Hutchins (2009) argues that gender roles and gender stereotypes are two words that are used interchangeably, but it is important to note differences between them. While gender roles are the behaviours and characteristics that are considered appropriate, gender stereotypes are the over-generalized beliefs about these behaviours and characteristics (Singleton, 1987). Essentially, the stereotypes become the roles and society enforces these roles because they become what is considered right. So, the belief that men are aggressive and women are docile is a gender stereotype and a gender role. Gender roles start to form at a very early age. Children are shown by their parents, the people around them, and the media what is right and wrong.

The gender schema theory, which was developed by Bem (1981), states that children observe their society and culture to determine the roles of men and women. Once they have this knowledge they internalize it and it becomes a core belief. Eventually, children will use their own self-concepts to determine what they believe is acceptable for a gender, but the original schema that was formed still plays a role.

Gender (sex) is classified into two categories, namely male and female; these categories are biologically assigned to individuals. Studies conducted on the differences between a person's gender and their goal orientations have inconclusive

results (Meece & Holt, 1993; Thorkildsen & Nicholls; 1998; Pajares & Valiante, 2001). This suggests that there are various factors which influence gender studies. Therefore, the researcher has decided to investigate gender roles rather than gender.

Gender roles can be explained as the actions, opinions, judgements and emotions which are deemed as satisfactory and suitable for each gender based on society and culture. In the past, the female's role was that of a homemaker and the male's role was that of a provider. The female was expected to look after the children, cook and clean the house, whereas the male was expected to have a job and provide financially for his family. These traditional roles have evolved. For example, females are juggling jobs and families and some males keep the home in order and raise the kids (Hutchins, 2009).

Gender roles can be defined as those behaviours and characteristics which are considered appropriate for each gender. Gender roles are imprinted through social influences throughout a person's life. Hyde and Durik (2005) reviewed studies based on gender roles and goal orientation. They found that males were more approach oriented and females were more avoidance oriented. As mentioned already, research found that females were more learning oriented and males more performance orientated (Anderman & Young, 1994; Middleton & Midgley, 1997; Patrick, Ryan & Pintrich, 1999). In supposition, gender plays a pivotal part in goal orientation as well as academic achievement as highlighted in the discussion earlier.

However, the gender roles are just as important, therefore the researcher is interested in examining students' position in terms of gender roles. **Hypothesis 7** states that: gender roles have a significant influence on students' goal orientation

and **hypothesis 8** states that: gender roles have a significant influence on students' academic achievement.

In summary the mediating variables in the relationship between goal orientation and academic achievement are presumed from the literature findings as well as theory. It is from this that **hypothesis 9** states that: goal orientation can successfully predict academic achievement. This leads to the conjectured theoretical model depicted in figure 2.5. Central to this is to keep in mind that the model was constructed prior to analysis and based solely on literature.

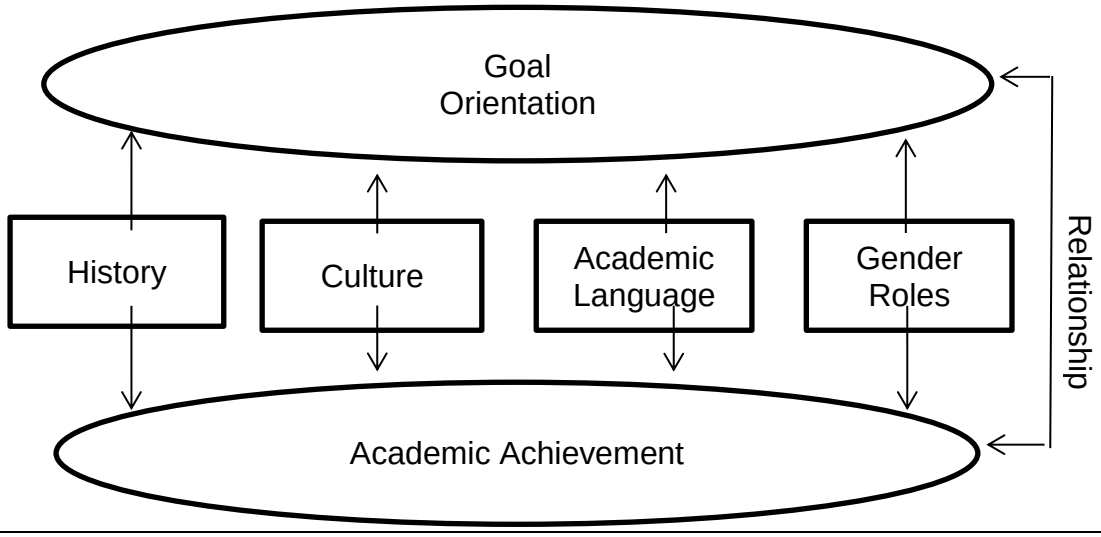

Figure 2.5: Four variables influencing goal orientation and academic achievement
Note: The diagram illustrates a relationship between goal orientation and academic achievement and that history, culture, academic language and gender roles act as mediating factors in this relationship.

2.5 Chapter Summary

This chapter provided an overview of literature regarding the theory and findings on the topic of achievement and goal orientation. The chapter emphasised traits related to achievement and goal orientation. The objective was to build an argument leading to the research question which is: to explore the relationship between goal orientation and academic achievement and to answer the questions: whether there are factors which mediate this relationship and also whether goal

orientation can successfully predict academic success? The terms used in this study were explained and defined throughout this chapter.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

A discussion of the research methodology is provided in this chapter. A description of the basic concepts fundamental to the research process as well as the tools and procedures used follows. The chapter starts by delivering the theoretical framework which strengthens and directs the research strategy. The research question and aim as well as the research design, sampling and data collection method is depicted. Lastly the chapter discusses the analytical techniques that were carried out in this study and the ethical considerations**.**

3.2 Theoretical Framework

The research process starts with a conceptual set of ideas. It is these ideas that determine the questions to be answered and the empirical procedures to be used to answer the questions. This study was based on a post-positivistic theoretical framework. The post positivistic framework was developed after the positivistic approach. Post positivism challenges the assumptions of positivism regarding absolute truth. Creswell (2013) argues that the privilege to knowledge in a post-positivist approach is based on five assumptions. These assumptions are summarised below:

1) Proof gathered from research is flawed because knowledge is hypothetical. There is no absolute truth; researchers do not attempt to prove hypotheses but rather debate a failure to reject; 2) Research involves making assumptions and reviewing or rejecting the assumptions made by accepting stronger warranted assumptions; 3) Knowledge is gained through observations or other instruments such as surveys which researchers use to gather scientific information. Knowledge is formed through data, evidence and rational thought; 4) Research attempts to find

true statements which are true in its context. Quantitative researchers seek to find relationships between variables by asking questions or forming hypotheses; 5) Objectivity is crucial and methods used should be examined for bias. This is possible through standardisation of validity and reliability. This requires the examination of methods and investigations of bias as is found through establishing standards of validity and reliability.

This theoretical framework underpinned the research question and guided the research methodology in this study. It is also from this post positivistic theoretical framework that the method of analysis and interpretation branched from.

3.3 Research Question and Aim

From the literature in chapter 2, research evidenced a relationship between goal orientation and academic achievement. It was also established that there are other interacting variables which influence the relationship between goal orientation and academic achievement. These are: history, gender, culture orientation, academic language and gender roles.

It was previously discussed that the STARS program's assessment tool found that goal orientation appeared to be dominant amongst the historically advantaged minority group in predicting academic achievement. However, the study found that goal orientation was not an important predictive factor for most of the historically disadvantaged group, the study also reported that the historically disadvantaged group was underrepresented. The following research question was addressed in the literature review chapter: **Research question:** is there a relationship between goal orientation and academic success?; **Sub question 1:** do the variables history, academic language and gender (sex) and parental education influence the relationship between goal orientation and academic achievement?; **Sub question 2:**

are there significant differences between the different groups for the goal orientation subscales?; **Sub question 3:** do the variables gender role and culture orientation influence the relationship between goal orientation and academic achievement?; **Sub question 4:** can goal orientation predict academic achievement?

3.4 Research Methodology

3.4.1 Correlational research design.

This used study was a correlational research design. Correlational research identifies relationships (Babbie & Mouton, 2011). In this study the researcher wanted to inspect and define the relationship between goal achievement and academic achievement through exploration of mediating factors. Moreover, the researcher wanted to establish if the relationship between these variables can be used for the purpose of prediction. This study explored if goal orientation can successfully predict academic success.

Correlational studies provide descriptions which establish the existence of relationships between variables. This information forms the basis from which predictions can be made. The element which allows one to use information about one variable to understand and predict another variable is called a predictor variable. In this case goal orientation was the predictor variable. The variable which is being explained and predicted is the criterion variable. The criterion variable in this case was academic achievement (Field, 2001)). Reliability and validity can be established by using a correlational research design. Structural equation modelling is an example of a correlational design which will be discussed later. Reliability explores the constancy or steadiness of a measurement whereas validity explores the degree to which the measurement essentially measures what it claims to be measuring (Babbie & Mouton, 2011).

The researcher was also interested in the power of this relationship and the statistical significance of the relationship. The significance of the power of the relationship is important because it symbolizes an actual relationship which exists in the population (Forzano & Gravetter, 2012). Although the correlational research strategy has advantages as mentioned above, the researcher is aware of the disadvantages. Firstly, correlational research studies do not assess causality. This means that although one can assume a relationship between variables one cannot assume a cause and effect relationship. Secondly, there is a possibility that other variables might be interfering with the relationship between goal orientation and academic achievement (Field, 2001).

While the researcher identified history, culture, academic language and gender roles as mediating factors there might be other unaccounted interfering variables, dependent on what was happening in the country at the time of assessment etc. Correlational research design is a very useful technique to describe relationships between variables, however it does not explain the relationship nor does it determine underlying causes.

3.4.2 Participants and procedure.

3.4.2.1 Sampling. Pallant (2010) suggests a minimum sample size of 300 participants for a sound research study. However other studies (MacCallum, Widaman, Zhang, & Hong, 1999) found that 300 is a fair sample size but 500 is a good sample size; studies suggest researchers should obtain a sample of 500 or more observations whenever possible. This is based on survey confidence. In other words, for researchers to be confident that their sample findings are representative of the actual population, it is crucial that a large number of participants be surveyed.

This is determined by a 95% confidence level (5% chance of difference between sample and population) (Niles, 2006).

The sampling technique that was employed for this study is called, proportionate stratified random sampling, this is a probability sampling technique. This technique suggests populations consist of layers. This method guards against obtaining an unrepresentative sample which under or over represents certain groups in relation to the overall target population (Forzano & Gravetter, 2012,).

The target population in question consists of the South African students at the University of Pretoria as well as subgroups such the South African historically disadvantaged students and the historical advantaged students, gender and ethnicity. These subgroups contain equal sized random samples to the actual population in respect to above mentioned strata. A simple mathematical equation would look like this: n ÷ p × subgroup. Where n means the size of the entire sample, p means the population and subgroups mean the two South African historical groups, gender and ethnicity. The Department of Higher Education, reported a total number of 54468 students enrolled through attendance mode at the University of Pretoria by 2013, with 32075 (59%) being female and 22393 (41%) being male. In respect to the four different race groups this is the breakdown of the racial distribution; 26869 (49%) Black students, 1069 (2%) Coloured students, 2441 (4%) Indian students and 24089 (44%) White students (Department of Higher Education, 2013).

The entire population was divided into the subgroups. Normally random selection needs to take place in order to provide a proportionate sample. However in this study the sample automatically produced a proportionate size(1%).

3.4.2.2 Participant recruitment process. Permission was obtained from the university survey committee to place an invitation of participation on the university student portal. Students were invited to participate in the study through the university student portal, named Click Up. Students were asked to voluntarily take part in the study. Criteria for students to have taken part in the study were that students must be South African and students must have written at least one exam at the University of Pretoria. This invitation disclosed the nature and purpose of the study, how to go about participating as well as information on why it would be beneficial to students to participate. The survey was accessed through Click Up via a link to an electronic web survey, Qualtrics.

3.4.3 Data collection.

An electronic web-survey was used to collect participant information. Qualtrics is an online tool that allows the researcher to design a questionnaire online as well as collect data. This private research company was founded in 2002 by Scott Smith, Ryan Smith, Jared Smith and Stuart Orgill, with the aim of helping researchers reach a large sample size (www.qualtrics.com).

Participants voluntarily accessed Qualtrics where student numbers and their email addresses served as consent to participate in the study. The survey was completed on the onus of the participants. This method of data analysis is referred to as computer based assessment (CBA), or computer based testing (CBT). Responses were electronically recorded, captured and later analysed using Statistical Package for the Social Sciences (SPSS) (Miller, Vandome, & McBrewster, 2010). According to Miller et al., 2010, he advantages of CBT over traditional paper-and-pencil survey methods are listed below.

1) Efficient administration

2) Effectiveness in scoring

3) Limited errors when capturing data

4) Capacity to attain extra information such as their response times

It is important to be aware of the disadvantages of CBT, as outlined by Foxcroft and Roodt, 2006, which include:

1) Increased dropout rates

2) Limited participation rates

3) No face to face assistance which may lead to skewed interpretation of concepts in the questionnaire

3.4.3.1 Measurement Instruments. In the interest of this study, demographic information, student marks and three self-assessment questionnaires were used. The researcher was interested in measuring culture, gender roles and goal orientation. A description of each is provided below.

3.4.3.1 (a) Demographic information. Demographic information was obtained from participants which gathered information on the participants' age gender, ethnicity, mother tongue, home language and parental education.

3.4.3.1 (b) Culture orientation questionnaire. The Cultural orientation questionnaire consists of 16 items (Triandis & Gelfland, 1998); these items are designed to measure the dimensions of collectivism and individualism. The aim of the questionnaire is to measure ones' cultural orientation. It measures four domains which are: horizontal collectivism, horizontal individualism, vertical collectivism and vertical individualism. The statements for each domain are listed below for the different domains:

TABLE 3.1 The 4 culture orientation domains and statements

Horizontal individualism	**Vertical individualism**	**Horizontal Collectivism**	**Vertical collectivism**
1.I'd rather depend on myself than others	1.It is important for me to do my job better than the others	1.If a co-worker gets a prize, I would feel proud	1.Parents and children must stay together as much as possible
2.I rely on myself most of the time, I rarely rely on others	2.Winning is everything	2.The well-being of my co-workers is important to me	2.It is my duty to take care of my family, even when I have to sacrifice what I want
3.I often do my own thing	3.Competition is the law of nature	3.To me, pleasure is spending time with others	3.Family members should stick together, no matter what sacrifices are required
4.My personal identity, independent of others, is very important to me	4.When another person does better than I do, I get tense and aroused	3.I feel good when I cooperate with others	4.It is important to me that I respect the decision made by my groups

Table 3.1 depicts the following: Horizontal collectivism (HC) measures whether individuals strive for working together. An example of a statement measuring HC is: “If a fellow student performs better than me, I would feel proud”. Horizontal individualism (HI) measures whether individuals rely on themselves to achieve success without wanting special status with the achievement. An example of a statement measuring HI is: “I make things happen for myself”. Vertical individualism (VI) can be explained as a person striving to be different from the rest and wanting special status. An example of a statement measuring VI is: “I must be better than others.” Vertical collectivism (VC) can be understood as people who seek interdependence and competition with other groups. An example of a statement measuring VC is: “Friends should stick together no matter what the cost”.

The questionnaire consists of four statements for each of the four domains. All of the items are answered on a 9-point scale, ranging from 1= never, 5 = neutral and

9 = always. With a Cronbach alpha coefficient reported of: .81 for (HI), .82 for (VI), .80 for (HC) and .73 for (VC) (Triandis & Gelfand, 1998).

After searching the literature for articles which used this instrument it became apparent that this instrument is under-utilized especially in the South African environment. However, it has been used in some studies abroad which assessed measurement invariance. Chiou (2001) found configural invariance (same pattern of factor loadings across groups) in a study conducted with Taiwanese and Argentinian students. A Singapore sample revealed configural and metric equivalence (same construct is being measured across groups) in a study conducted by Soh and Leong (2007). Another study by Guo, Schwartz and Mccabe (2008) also reported configural and metric invariance across different age groups, gender and ethnicity in a study conducted in the USA with white and Hispanic participants.

3.4.3.1 (c) Gender role attitude questionnaire. The gender role attitude scale is also referred to as the Attitudes toward Women Scale (AWS). This questionnaire consisted of 55 statements; later the items were refined to 25 statements and subsequently to 15 statements (Spence & Hahn, 1997). This research made use of the 15 statements. The 15-item scale possesses high test-retest reliability. The reason for the development of a brief version of the AWS was so that the scale could be completed in a short amount of time (Spence, Helmreicht & Stapp, 1973; Daugherty & Dambrot, 1986).

This is a self-assessment questionnaire which allows for participants to answer statements on a 4-point scale. An example of statements put to participants in the questionnaire is: “It is worst when a female uses foul language than a male”. The scale ranges from A to D. A= agree strongly, B= agree moderately, C= disagree moderately, and D= disagree strongly. Exploratory factor analysis revealed that the

15 item questionnaire has a single factor that is consistent across genders. The 55-item and 15-item version correlate highly with each other (r = 0.91) (Spence & Hahn, 1997). A Cronbach alpha coefficient of .89 was reported for the 15 item version (Spence & Hahn, 1997).

Beere's (1990) handbook of gender-role measures mentioned more than 300 studies where the attitude towards women scale was utilised (Spence & Hahn, 1997). The researcher found a few studies that relate to this study, these studies focused on age, culture and education and the influence gender roles might have.

Wingrove and Slevin (1982) researched attitude differences across three generations toward the role of the female; this study revealed that the younger generation (students) was more open-minded than the two older generations. A comparable study was conducted by Spence and Hahn (1997); they researched changes in gender-role attitudes for students at the same university tested in 1972, 1976, 1980, and 1992. It was found that both the male and female students tested in 1992 held a more open minded view than students tested in 1972; however, in all the groups, women were significantly less traditional in their attitudes than men (Spence & Hahn, 1997).

However, Khalid and Frieze (2004) found no relationship between age and gender roles in a study conducted with Pakistani and Vietnamese men. They concluded that might have impacted on the study as well as the views of the role of a woman that has changed over time. These studies however showcase that age tends to be associated with traditional attitudes about women (Glick & Fiske, 2001).

Although the current study recruited a younger population, the researcher expected culture to have a relationship with gender roles and not so much age, however age was still investigated for a relationship with gender roles. Glick and

Fiske (2001) purports the notion that culture is strongly associated with gender roles. In a study conducted by Damji and Lee (1995) results indicated that a sample of Canadian Ismaili Muslim men showed a more traditional outlook towards gender roles.

Hunter and Sellers (1998) conducted research which found that African Americans are more open minded than white Americans of either gender. Interestingly the study found that African American men are not likely to support egalitarian gender roles but they do acknowledge gender inequality, whereas whites of both gender are more supportive of egalitarian gender roles and are less likely to acknowledge gender inequality.

The study concluded that African American men are more open minded about working women than white men because of the African American women's position in the family i.e. the bread winner. Hunter & Sellers (1998) also found that an individual's level of education has a relationship with gender roles. In a study conducted, they found that women who had a high level of education were also more aware of gender inequality. In the current study the researcher explored the relationship between age, culture and education and gender roles.

3.4.3.1 (d) Goal Achievement Questionnaire. In this study the goal achievement questionnaire (GAQ) (Maree, Maree, & Collins, 2008) was used. The GAQ consists of ninety-two items of which eighty items measure seven different factors: pathway, goal setting efficacy, resilience, optimism, and agency, absence of state despair and external locus of control which were measured using a four-point scale which ranges from 1-definitely false, 2-mostly false, 3-mostly true to 4-definitely true.

Pathway can be described as a person's belief that one could attempt various routes when solving a problem to reach a goal. Six items measured pathway, an example of an item measuring pathway in the GAQ is the statement; "I attempt different routes to solve a problem."

Goal setting efficacy is the intrinsic self-motivation that a person possesses to be able to set goals. Seven items measured goal setting efficacy. An example of an item measuring goal setting efficacy in the GAQ is the statement: "Setting goals for my life is important to me".

Resilience is viewed as a person's perception of their ability to recover back to optimal performance regardless of setbacks while attempting to achieve a goal. Eight items measured resilience; an example of an item measuring resilience in the GAQ is the statement: "I bounce back in the midst of adversity".

Optimism can be explained as a person with a positive outlook on reaching a goal, regardless of challenges that might be faced. Five items measured optimism. An example of an item measuring optimism in the GAQ is the statement: "I see the glass as half full rather than half empty".

Agency can be understood as a person taking accountability for their involvement in the outcomes of goals set for him/her. Eight items measured agency,

an example of an item measuring agency in the GAQ is the statement: “I am accountable for my life”.

Absence of state despair can be described as a person being hopeful and not blaming oneself for a bad goal outcome. Eight items measured absence of despair; an example of an item measuring absence of state despair in the GAQ is the statement: “I am experiencing a sense of hopelessness”.

External locus of control is the weight a person gives to outside factors affecting him/her in achieving a set goal. Eight items measured external locus of control, an example of an item measuring external locus of control in the GAQ is the statement: “Achieving goals are dependent on my circumstances”. These seven factors all form part of goal orientation which was measured as described below:

Twelve items measure four dimensions of Goal achievement: master approach, master avoid, performance approach and performance avoid. The twelve items were answered on a 9-point scale, ranging from 1= never, 5 = neutral and 9 = always. The items measuring the different dimensions are shown below (see table 3.2):

TABLE 3.2 The 4 domains of goal achievement and items

Performance-Approach Items	**Performance-Avoidance Items**	**Mastery-Approach Items**	**Mastery-Avoidance Items**
1.My goal this semester is to get better grades than most of the other students	1.I just want to avoid doing poorly compared to other students this semester	1.Completely mastering the material in my courses is important to me this semester	1.I’m afraid that I may not understand the content of my classes as thoroughly as I’d like
2.It is important for me to do well compared to other students this semester	2.The fear of performing poorly this semester is what motivates me	2.I want to learn as much as possible this semester	2.I worry that I may not learn all that I possibly could this semester
3.I want to do better than other students this semester	3.My goal this semester is to avoid performing poorly compared to other students	3.The most important thing for me this semester is to understand the content in my courses as thoroughly as possible	3.I am definitely concerned that I may not learn all that I can this semester

According to Maree et al. (2008) the GAQ has good internal consistency on factors: pathway, goal setting efficacy and resilience. With a Cronbach alpha coefficient reported of .82 for pathway, .83 for goal setting efficacy and .82 for resilience. However, factors: agency, absence of state despair and external locus of control have lower internal consistency. With a Cronbach alpha coefficient reported of .71 for agency, .78 for absence of state despair and .74 for external locus of control. Pallant (2010) suggests that values above .7 are acceptable.

Maree et al. (2008) reported a low internal consistency for optimism, with a Cronbach alpha coefficient of .63, however an item separation value of 7.02 yielded, which is adequate. The Item separation index explains how well the GAQ can separate the five items from one another in the optimism factor. Maree et al. (2008) employed the Rasch model in their study, allowing for separation of person and item characteristics. Pallant (2010) argues that this is not uncommon in scales with a small number of items, small referring to less than ten. In this case the factor optimism has only five items, the mean inter item correlation will be performed to report on the reliability of optimism. The reliability of the 12 items for goal orientation was assessed in Chapter 4.

3.4.3.1 (e) Academic records. Academic records were obtained from the universities bureau for institutional research planning (BIRAP). Students were aware that their academic records were required and provided consent in order to obtain their academic records. The reason for obtaining students' academic records was to measure their academic achievement. In this study academic achievement was measured through the utilisation of an average mark for each student per semester.

Students' marks consisted of a combination of tests, assignments and exams which are added up per module and averaged (out of 100) for the semester.

3.4.4. Procedure.

As previously mentioned participation was voluntary and confidential, also no participants were exposed to any psychological risk or harm. Participants received an information sheet informing them of the purpose and aims of the study via click up. Participants who agreed to take part in the study gave consent by completing their student number and email addresses in the required field. Participants who did not provide this information were unable to continue to actual questionnaire. Participants were prompted to follow the instructions provided on the screen.

3.4.5. Statistical procedures

Participants' responses were electronically captured via Qualtrics, this was downloaded and made into usable data for SPSS. Descriptive statistics and inferential statistics are discussed below.

3.4.5.1. Descriptive statistics. Descriptive statistics and correlations were obtained using SPSS. The following divisions provide a summary of the descriptive statistics and correlational information obtained from the respondents' biographical information (age gender, ethnicity, mother tongue, home language and parental education), Gender role scale, Cultural Orientation scale and Goal Achievement scale.

3.4.5.1(a) Data Screening. The data set was checked for unexpected responses, missing data, and outliers, prior to being loaded in AMOS SPSS. Descriptive statistics of the data were inspected; skewness and kurtosis of the items were examined for unexpected values. Each of the skewness and kurtosis coefficients fell within the acceptable range for the sample size 200+.

3.4.5.1 (b) Frequency distribution and reliability. Frequency distributions for age, gender, ethnicity, language, faculty and year of study as well as parental education were also calculated. Central tendency (where the centre of the frequency distribution lies), dispersion in distribution (the spread of the scores) and test for normality (the probability of distribution through the Kolmogorov Smirnoff test) were performed. It is important to note that samples larger than 30 are often regarded to be normally distributed. Reliability was assessed through the Cronbach alpha test for reliability.

3.4.5.1 (c) Homogeneity of variance. Homogeneity of variance was checked by employing the Levene's test. Homogeneity of variance means that variance of the outcome variables should be the same in each group. The variance represents the average amount that the data varies from the mean. The assumption surrounding tests for homogeneity of variance is that large sample sizes are equal to small differences in group variance. In other words, the requirement for homogeneity of variance can be relaxed for large samples.

3.4.6 Group differences.

The researcher wanted to compare the difference in performance for the various strata in the sample and the strength of the correlation coefficients for groups. Sample means and standard deviations were calculated for each of the variables. Relationships between variables, that is, **sub question 1**: influence of the variables history, academic language and gender and first university generation on the relationship between goal orientation and academic achievement were examined using bivariate correlations and two-way ANOVA. Bivariate correlations for student marks, gender roles, culture orientation and goal achievement was also performed in order to explore and analyse relationships and mediating roles among variables.

Independent T-test were performed to compare the mean scores of different groups to answer **sub question 2:** are there significant differences between the different groups for the goal orientation subscales? These results are reported in the next chapter (chapter 4).

3.4.7. Inferential statistics.

A statistical technique called structural equation modelling (SEM) was used. SEM is defined as a multivariate analysis technique that is essentially a conglomerate of analyses. SEM consists of three types of analyses namely factor analysis, regression analysis and path analysis (Kaplan, 2000; Schumacker & Lomax, 2004; Ullman & Bentler, 2003). There is a misconstrued idea that SEM is a causal model however, it is a confirmatory technique but can also be used as an exploratory technique (Schreiber, Nora, Stage, Barlow & King, 2006).

The use of SEM allows for the analysis of relationships and the interrelations among latent variables (hypothetical constructs presumed to reflect non observable variables) and observable variables (actual data), in this case, gender roles, culture orientation and goal orientation, **sub question 3**: do the variables gender role and culture orientation influence the relationship between goal orientation and academic achievement? This technique enabled the researcher to test hypothesised models, these hypotheses are supported or rejected by data based on outcome. An alternative model was tested or the initial model was adjusted to support data (Blunch, 2008, Todman & Dugard, 2007).

When one uses SEM the model must make theoretical sense, the model must be parsimonious, and the model must be acceptably close to the data (model fit) (Frazier, Tix & Barron, 2004). Weston and Gore (2006) explores six steps in SEM:

1) Specify the model

2) Evaluate the model identification

3) Select measures, collect the data, prepare the data and screen the data

4) Estimation of the model

5) Evaluation and modification/respecification of the model and

6) Reporting results.

Steps 1-5 were completed in order to test hypotheses. This was done using SPSS AMOS, which is a statistical software that provides a number of statistical tests, these results are reported in Chapter 4.

3.5 Ethical Considerations

> Ethics is a set of moral principles which is suggested by an individual or group, is subsequently widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students. (De Vos, Strydom, Fouché & Delport, 2005, p. 57).

In the current study, the principle of voluntary participation was adhered to as no participants were coerced or intimidated into taking part in the study. Participants were afforded the opportunity to provide their consent to the study following a description of the purpose and nature of the study. Consent was given by filling in their student numbers and email addresses. Only students who did this could proceed to do the questionnaires.

This study was in line with the principles set out by the University of Pretoria which state that the researcher has the right to conduct research; however this right comes with the responsibility of not unfairly discriminating against participants (University of Pretoria, nd). The researcher should avoid intimidation, sexual harassment and/ or victimizing participants. The participant has the right to

information and should not be involved in any research process under false pretences. All parties should completely and duly understand the entire process. No person should be forced to participate and only voluntary participation is acceptable. All participants should give informed consent and all information provided by participants should be dealt with confidentiality, privately and anonymously (University of Pretoria, nd). Ethical permission is provided in appendix A.

3.6. Chapter summary

This chapter provided an overview of the theoretical framework underpinning the study as well as the research design. The research design, sampling and data collection method was discussed. Lastly the chapter discussed the analytical techniques that were carried out in this study and the ethical considerations.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the findings of statistical analyses conducted on data collected from participants. In this section participant sample is described, followed by variable distributions, reliability and correlations. Reports on group differences are also reported in this chapter. Thereafter the results of SEM are presented and the chapter is concluded.

4.2 Participants Sample and Procedures

TABLE 4.1 Basic descriptive statistics of sample

Variables	N	Min	Max	Mean	SD	Skewness	S.E	Kurtosis	S.E
Student Marks	544	1.00	96.50	59.29	14.56	-.88	.105	1.69	.21
Current Age	545	18	48	20.77	2.29	6.16	.105	63.93	.21

Note: N= Valid cases; SD = standard deviation, SE = standard error of the mean

This sample consisted of 545 South African students ranging in age from 18 to 48 with a mean of 20.77 (SD = 2.94). Students average academic marks ranged from average scores of 1% to 96.5%, with a mean of 60% (SD = 14.56). Scores of Skewness of -.88 and Kurtosis of 1.69 indicate a deviation from normal distribution (see Table 4.1 above).

TABLE 4.2 Basic descriptive statistics of faculties included in study

Faculty	Frequency	Percentage
Humanities	205	37.6
Natural & Agricultural Science	163	29.9
Law	2	.4
Theology	5	.9
Eco & Manage Science	14	2.6
Education	84	15.4
Health Sciences	52	9.5
EBIT	20	3.7

Note: N= 545

Students were from the Humanities 38% (205), Natural and Agricultural Sciences 30% (163), Education 15% (84), Health Sciences 10% (52), EBIT 4% (20), Economic and Management sciences 3% (14), Theology 1% (5) and the Law faculty 0.4% (2) (see Table 4.2).

TABLE 4.3 Descriptive statistics on demographic factors

Demographic factors		Frequency	Percent
Gender categories	Female	368	67.5
	Male	177	32.5
Ethnicity	White	250	45.9
	Black	254	46.6
	Coloured	12	2.2
	Indian	24	4.4
	Undisclosed	4	.7
Historical groups	Historical Advantaged	250	45.9
	Historical Disadvantaged	290	53.2
	Unknown	4	.7

In Table 4.3, the sample consisted of 67.5% women (368) and 32.5% men (177). The researcher gathered data from two historical groups, the two groups were attained through the racial distribution, where; Black students 46.6% (250); White students 45.9% (254); Indian students 4.4% (24) and Coloured students 2.2% (12)

were grouped by White students being the historical advantaged group 45.9% (250) and all non-White students being the historically disadvantaged group 53.2% (290), with .7% (4) students undisclosed.

TABLE 4.4 Descriptive statistics for the home language component in this study

Home Language	Frequency	Percentage
English	173	31.2
Afrikaans	137	24.2
Sepedi	55	9.9
Setswana	45	8.1
IsiZulu	35	6.4
Sesotho	31	5.7
IsiXhosa	15	2.8
Tshivenda	14	2.6
SiSwati	11	2
Xitsonga	11	2
IsiNdebele	8	1.5
German	6	1.1
French	4	0.7
Portuguese	1	0.2
Other	9	2

Home language was split between: English (173) 31.2%; Afrikaans (137) 24.7%; Sepedi (55) 9.9%; Setswana (45) 8.1%; IsiZulu (35) 6.3%; Sesotho (31) 5.6%; IsiXhosa (15) 2.7%; Tshivenda (14) 2.5; Xitsonga (11) 2.0%; SiSwati (11) 2.0%; IsiNdebele (8) 1.4; German (6)1.1%; French (4) 0.7%; Portuguese (1) 0.2%; and Other 2% (9) (see Table 4.4).

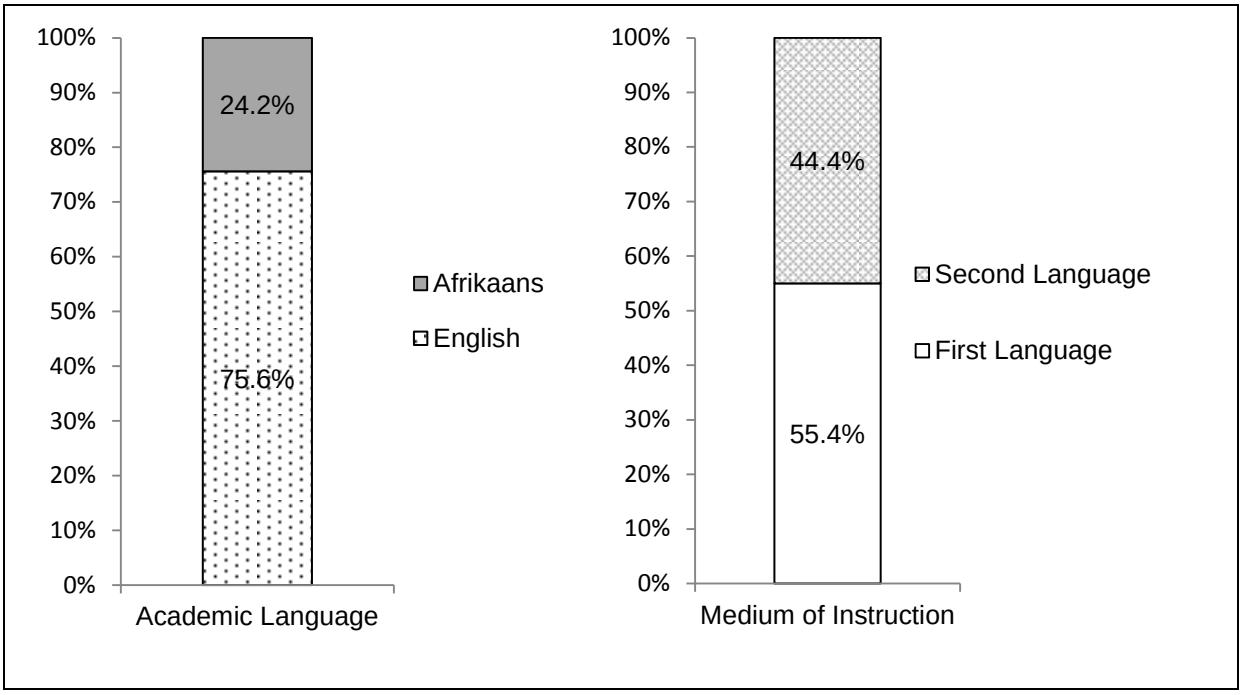

Figure 4.1. Illustration of the academic language component in this study

Figure 4.1 illustrates academic language and medium of instruction values expressed in percentages. Academic language was split between Afrikaans 24.2% (132) and English 75.6% (412) with 0.2% (1) missing. Instruction language in this regard was established by viewing participants home language and academic language, if this corresponded the number 1 for first language 55.4% (302) was assigned or the number 2 was assigned as an indication that medium of instruction was participants second language 44.4% (242).

TABLE 4.5 Descriptive statistics for higher educational factors

Higher educational factors		Frequency	Percentage
First university generation	Yes	189	34.7
	No	353	64.8
Parents Highest qualification	Grade 12	103	18.9
	Technicon Diploma	86	15.8
	B-degree	116	21.3
	Honours degree	83	15.2
	Master's degree	62	11.4
	D or PhD degree	26	4.8
	Other	41	7.5

The majority of participants (64.6 %, 358 participants) were not the first generation to be accepted into a higher educational institution whereas 35% (19) participants were the first generation to be accepted into a higher educational institution and 4% (2) were undisclosed. In terms of level of qualification completed by the parents of students, the following results were evident: B-degree (118) 21.3%; Grade 12 (105) 19.0%; Technicon Diploma (91) 16.4%; Honours degree (84) 15.2%; Masters degree (62) 11.2%; D or PhD degree (26) 4.7% and other (42) 7.6; with (26) 4.7% students who did not disclose (see table 4.5).

4.3 Statistical Analysis

Descriptive and inferential statistics were employed to analyse the collected data using SPSS and SPSS AMOS software.

4.3.1 Descriptive statistics.

The following section provide a summary of the descriptive statistics and the distribution of scores obtained from the respondents' average marks (academic performance), Gender role scale, Cultural Orientation scale and Goal Achievement scale. Table 4.6 presents results for the Goal Achievement Questionnaire (GAQ), Cultural Orientation Questionnaire (COQ) and the Attitudes towards Women Scale referred to as the Gender Roles Questionnaire (GQ).

TABLE 4.6 Basic descriptive statistics for the three questionnaires

Questionnaires	N	Minimum	Maximum	Mean	SD	Skewness	S.E	Kurtosis	S.E
Goal orientation	373	176.00	296.00	232.35	18.82	-.38	.13	.18	.25
Culture orientation	509	64.00	138.00	107.83	11.94	-.41	.11	.58	.22
Gender roles	472	21.00	60.00	47.79	6.37	-.82	.11	.79	.22

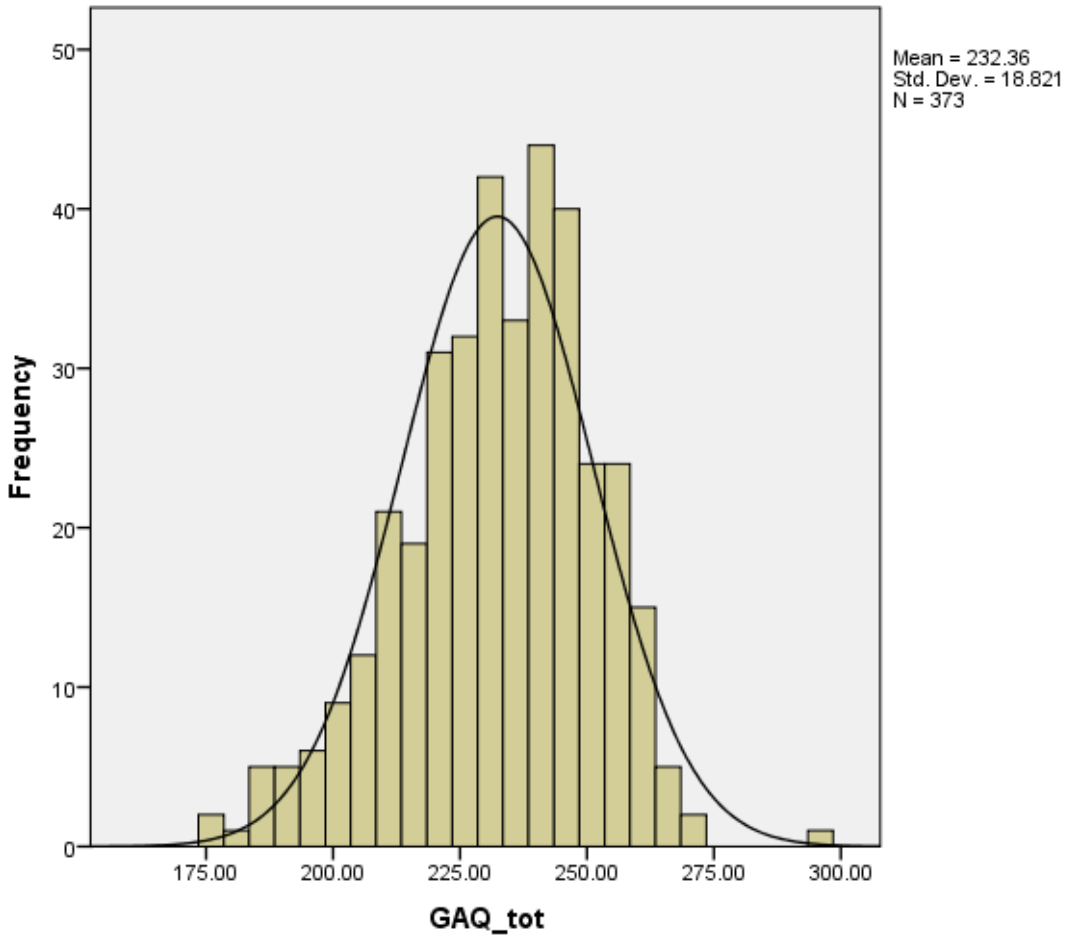

Figure 4.2 Histogram showing score distribution for the goal achievement questionnaire

For the Goal Achievement questionnaire (all subscales were added) information from 373 respondents is produced ranging in scores from a minimum of 176 to a maximum of 296 with a mean of 232 and a SD of 18.82.

A skewness of -.380 indicates a clustering of scores at the right hand side of a graph however in large samples (200+) skewness does not have a significant impact on the analysis. A kurtosis of .183 indicates a relatively flat distribution, this is calculated on numbers below 0 which is an indication of too many cases in the extremes, however kurtosis is sensitive to large samples 200+ (see figure 4.2).

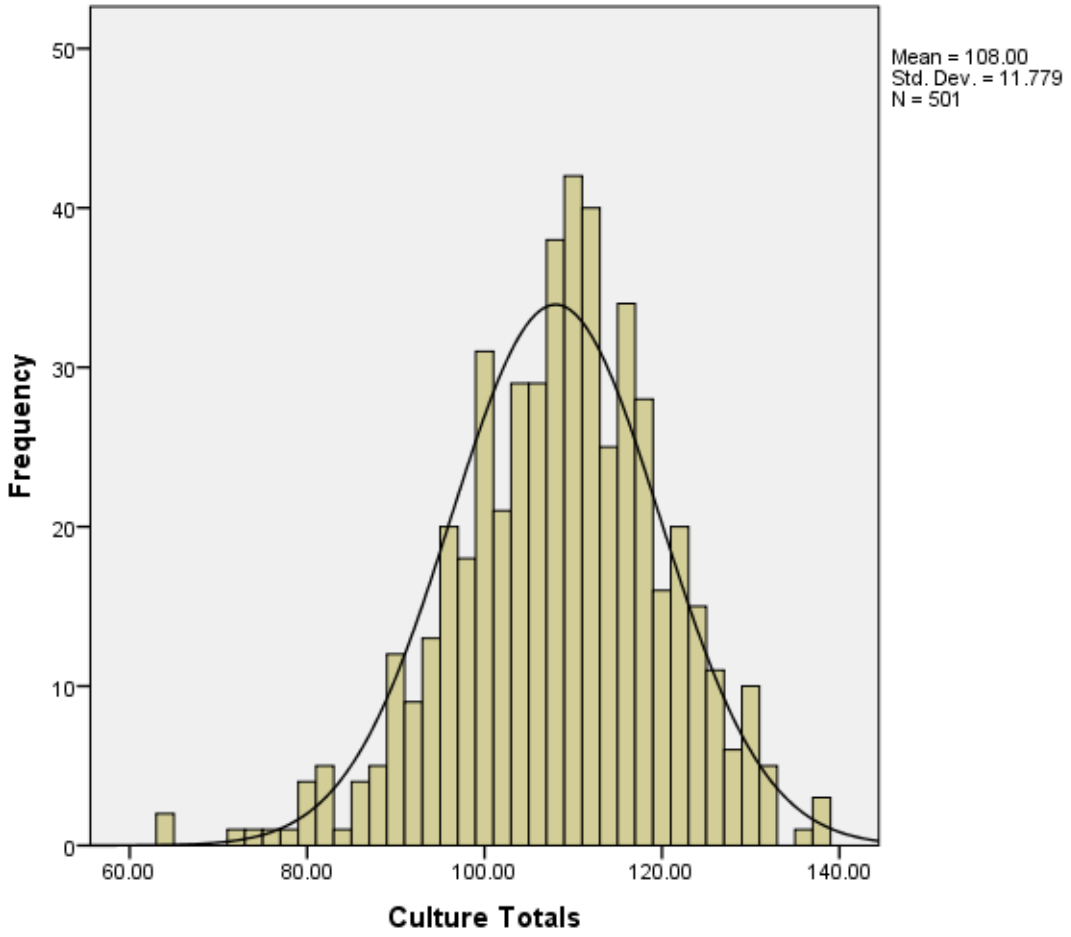

Figure 4.3 Histogram showing score distribution for the culture orientation scale

For the Cultural orientation questionnaire information from 509 respondents is produced ranging in scores from a minimum of 64 to a maximum of 138 with a mean of 107.83 and a SD of 11.94, with a skewness of -.410 and a kurtosis of .216. As mentioned previously this is an indication that scores cluster to the right and that scores are flat, however these values are sensitive to large sample sizes +200 (see figure 4.3).

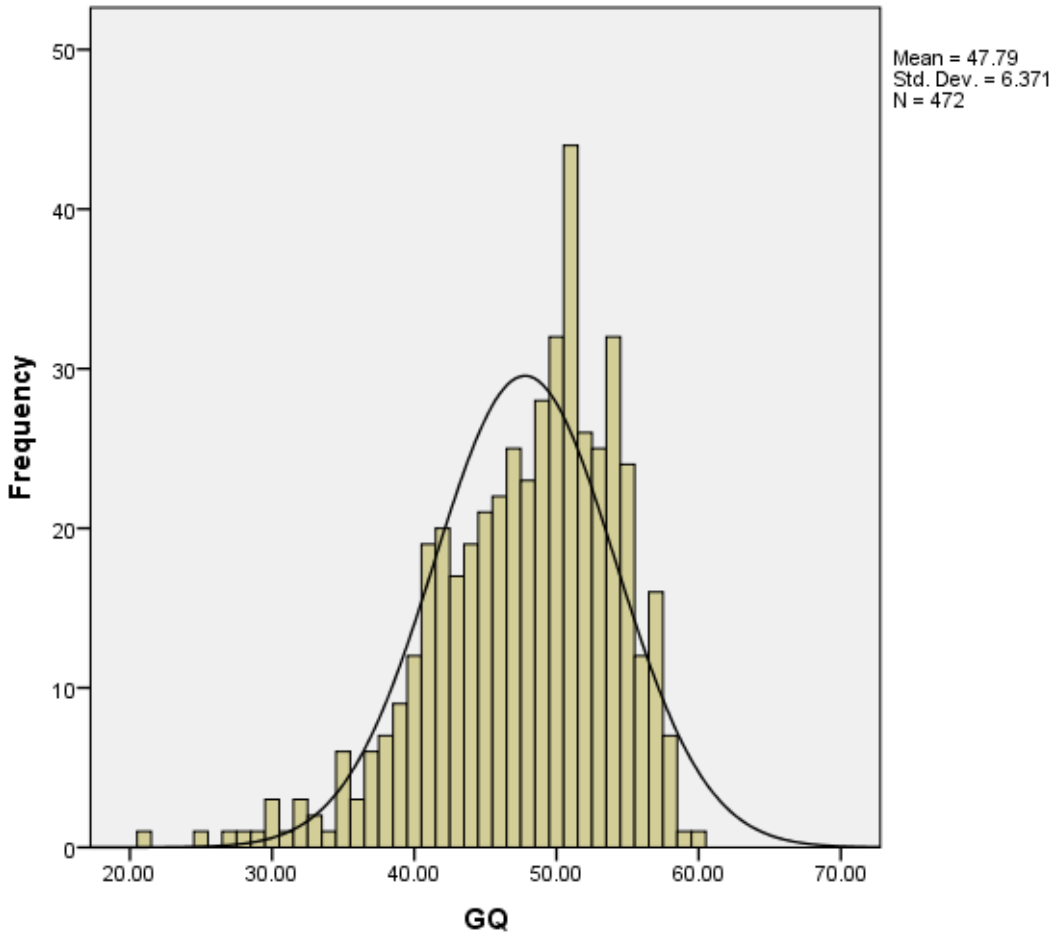

Figure 4.4 Histogram of the gender roles questionnaire distribution

For the Gender roles questionnaire 472 participants received scores ranging from a minimum of 21 and a maximum of 60 with a mean of 47.79 and a SD of 6.37. With a skewness of -.823 and a kurtosis of .224. These values also appear to be clustered to the right with flat scores but due to the sample size +200 this should be viewed with caution (see figure 4.4).

4.3.1.1 The goal achievement questionnaire. The GAQ consists of 92 items 80 of which measure seven different factors: pathway, goal setting efficacy, resilience, optimism, agency, absence of state despair and external locus of control. An additional 12 items measured four dimensions namely: mastery approach, mastery avoid, performance approach and performance avoidance.

TABLE 4.7 Descriptive statistics for the seven subscales in the Goal achievement questionnaire

	N	Minimum	Maximum	Mean	SD
Pathway	423	9.00	24.00	18.84	2.98
Goal setting efficacy	418	7.00	28.00	22.28	3.33
Resilience	418	11.00	32.00	27.02	3.68
Optimism	420	5.00	20.00	14.99	2.65
Agency	419	12.00	32.00	28.16	2.78
Absence of state despair	418	8.00	32.00	16.95	4.72
External Locus of control	419	8.00	32.00	14.84	3.64

Note: Valid N (Listwise) = 360

Table 4.7 shows results for the seven subscales in the Goal orientation questionnaire which will be discussed individually. For the Pathway variable, information is provided from 423 respondents with a minimum of 9 and a maximum of 24 (mean = 18.84; SD = 2.98). For the Goal-setting efficacy variable, information is provided from 418 respondents and a minimum of 7 and a maximum of 28 (mean = 22.28; SD = 3.33). For the Resilience variable, information is provided from 418 respondents, with a minimum of 11 and a maximum of 32 (mean=27.02; SD = 3.68). For the Optimism variable, information is provided from 420 respondents and a minimum of 5 and a maximum of 20 (mean= 14.99 and SD = 2.65). For the Agency variable, information is provided from 419 respondents with a minimum of 12 and a maximum of 32 (mean = 28.16; SD = 2.78). For the Absence of state despair variable, information is provided from 418 respondents with a minimum of 8 and a maximum of 32 (mean = 16.95; SD = 4.72). For the External locus of control

variable, information is provided from 419 respondents with a minimum of 8 and a maximum 32 (mean = 14.84; SD = 3.64).

TABLE 4.8 Descriptive statistics for the four factors in the goal orientation questionnaire

	N	Minimum	Maximum	Mean	S D
Mastery approach	504	4	27	23.88	3.40
Mastery avoid	502	3	27	22.05	4.80
Performance approach	501	3	27	21.41	4.82
Performance avoid	506	3	27	21.58	5.56

Note: Valid N (listwise) = 492

Table 4.8 above shows the following: For the Mastery Approach variable, information is provided from 504 respondents with a minimum of 4 and a maximum of 27 (mean= 23.88; SD = 3.40). For the Mastery Avoidance variable, information is provided from 502 respondents with a minimum of 3 and a maximum of 27 (mean= 22.05; SD = 4.80). For the Performance Approach variable, information is provided from 501 respondents with a minimum of 3 and a maximum of 27 (mean= 21.41; SD = 4.82). For the Performance Avoidance variable, information is provided from 506 respondents with a minimum of 3 and a maximum of 27 (mean= 21.58; SD = 5.56).

4.3.1.2 The cultural orientation questionnaire. The Cultural orientation scale is made up of 4 dimensions, horizontal individualism (CO1), vertical individualism (CO2), horizontal collectivism (CO3) and vertical collectivism (CO4).

TABLE 4.9: Descriptive statistics for the 4 dimensions in the Culture orientation scale

Factors	N	Minimum	Maximum	Mean	S. D	Skewness		Kurtosis	
Horizontal Individualism	509	4.00	36.00	29.6424	4.40984	-1.430	.108	3.783	.216
Vertical Individualism	507	4.00	36.00	23.4181	6.08915	-.229	.108	-.222	.217
Horizontal Collectivism	505	12.00	36.00	27.9505	4.81272	-.634	.109	.313	.217
Vertical Individualism	505	10.00	36.00	27.0198	5.11762	-.624	.109	.147	.217

Note: Valid N (Listwise) = 501

Horizontal individualism (CO1) information is provided from 509 respondents with a minimum score of 4 and a maximum of 36 (mean = 29.64; SD = 4.40). Vertical individualism (CO2) information is provided from 507 respondents with scores ranging from 4 to 36 (mean = 23.41; a SD = 6.08). For the horizontal collectivism (CO3) variable, information is provided from 505 students ranging in scores from 12 to 36 (mean = 27.95; SD = 4.8). Lastly, for the vertical collectivism (CO4) variable, information is provided from 505 respondents ranging in scores from 10 to 36 (mean = 27.01; SD = 5.11) (see Table 4.9).

4.3.1.3 The gender roles questionnaire. The attitude towards women scale is referred to as the Gender roles questionnaire. The scores of the scales range from 15 - 60 and are interpreted as follows: 15 - 37 = Very Traditional; 38 - 41 = Somewhat Traditional; 42 - 46 = Average; 47 - 50 = Somewhat Egalitarian; 51 - 60 = Very Egalitarian. Traditional essentially means “old fashioned" and egalitarian means advocate for gender equality. In other words, high scores mean egalitarian and low scores mean traditional Table 4.10 below summarizes respondents’ orientation, with majority of students being very egalitarian 35% (191), trailed by 21.1% (115) of students being somewhat egalitarian and 18.9% (103) being average followed by 9.2% (50) students being somewhat traditional and 5.5% (30) students being very traditional. The missing data for this questionnaire accounts for 10.3% (56) of students who did not complete this section of the study.

TABLE 4.10: Descriptive statistics summarizing participants gender role orientation

Gender Role Orientation	Frequency	Percentage
Very Egalitarian	191	35
Somewhat Egalitarian	115	21
Average	103	19
Somewhat Traditional	50	9.2
Very Traditional	30	6
Missing data	56	10
Total	545	100

4.3.1.4 Average marks. The academic performance of students is referred to as average marks. Table 4.11 presents average marks for 545 participants with a minimum of 1 and a maximum of 96.50 with (mean = 59.29; SD = 14.56).

TABLE 4.11 Descriptive statistics of participants' average marks

	N	Minimum	Maximum	Mean	S.D
Average Marks	545	1.00	96.50	59.29	14.56

The students' average marks were grouped into categories for analysis purposes as follows: (distinction (75 – 100), first class (70 – 74), second class (65 – 69), third class (60 – 64), pass (50- 59) and fail (0-49). With 11% (61) of students achieving a distinction, 8% (48) of students achieving a first class, 17% (92) students achieving a second class, 17% (91) students achieving a third class, 26% (143) students achieving a pass and 20% (109) students failing in terms of academic performance, with 1% (1) of missing data (see Table 4.12). This could be viewed as 79% of students having passed and 20% of students failing.

TABLE 4.12 Basic distribution of average marks categories

Average Mark Categories	Frequency	Percentage
Distinction	61	11
First Class	48	8
Second Class	92	17
Third Class	91	17
Pass	143	26
Fail	109	20
Missing data	1	1
Total	545	100.0

4.3.2 Data screening.

The data set was checked for unexpected responses, missing data, and outliers, prior to being loaded in AMOS SPSS. Descriptive statistics of the data were inspected; skewness and kurtosis of the items were examined for unexpected values. Each of the skewness and kurtosis coefficients fell within the acceptable range for the sample size 200+.

4.3.2.1 Test for normality.

TABLE 4.13: Test for normality through the Kolmogorov – Smirnov statistic

Scale	Statistic	df	Sig.
Goal Achievement	.054	361	.013
Gender roles	.103	361	.000
Culture orientation	.053	361	.016

The scales were tested for normality, through inspecting results for the Kolmogorov–Smirnov statistic. The significant value for the Goal achievement questionnaire (GAQ) is .013, which is a significant result, thus indicating that the distribution is not normal. The Gender Role questionnaire (GQ) is .000, which also suggests a violation of the assumption of normality. The Culture orientation

questionnaire (COQ) is .016 which violates normality as well (see Table 4.13). None of the three questionnaires are normally distributed. Pallant (2010) suggests that this is common in larger samples (200+).

4.3.2.2 Reliability. Reliability is assessed again to ensure that the questionnaires are consistently measuring the same constructs. Questionnaires were tested for reliability using the Cronbach alpha coefficient.

TABLE 4.14: Test for reliability through the Cronbach alpha coefficient

Scale	Cronbach's Alpha	N of Items
Culture orientation	.690	16
Goal achievement	.865	92
Gender roles	.760	15

Internal consistency was inspected with a Cronbach alpha coefficient of. 69 rounded of to .7 for the Culture orientation scale; .86 for the Goal Achievement scale and .76 for the Gender roles scale. Values of .7 and above are found to be acceptable, however values above.8 are preferred as these values have very good internal consistency reliability (see Table 4.14). In conclusion, all three scales have acceptable internal consistency reliability.

4.3.2.3 Homogeneity of variance. The Levene's test (F) was used to test for homogeneity of variance amongst the two historical groups (historically advantaged and historically disadvantaged). Variance represents the average amount that the data vary from the mean. This statistical procedure was conducted to test whether the variance of the goal orientation questionnaire, culture questionnaire, gender roles questionnaire and the students average marks was the same in each group.

TABLE 4.15 Test of homogeneity of Variance through the Levene's statistic(F)

Items	Statistics	F	df1	df2	Sig.
Goal orientation	Based on Mean	2.09	2	35	.13
	Based on Median	1.93	2	35	.15
	Based on Median and with adjusted df	1.93	2	35	.15
	Based on trimmed mean	2.07	2	35	.13
Gender scale	Based on Mean	1.84	2	354	.16
	Based on Median	1.48	2	354	.23
	Based on Median and with adjusted df	1.48	2	335.49	.23
	Based on trimmed mean	1.68	2	354	.19
Student marks	Based on Mean	1.84	2	354	.16
	Based on Median	1.20	2	354	.30
	Based on Median and with adjusted df	1.20	2	322.68	.30
	Based on trimmed mean	1.36	2	354	.26
Culture scale	Based on Mean	.67	2	354	.51
	Based on Median	.51	2	354	.60
	Based on Median and with adjusted df	.51	2	337.55	.60
	Based on trimmed mean	.60	2	354	.548

For the scores on the Goal orientation scores, the variances were equal for the historical advantaged and historical disadvantage students, F (2, 35) = 2.09, ns. For the Gender roles scores, the variances were equal in the two groups, F (2, 35) = 1.84, ns. For the percentage on the average marks, the variances were equal for the two groups, F (2, 35) = 1.84, ns, the two groups also shared equal variance on the culture scale, F (2, 35) = .67, ns. Scores are all non-significant which assume that the variance of each factor in each group it is equal (see Table 4.15).

4.3.3 Bivariate correlation.

Bivariate Correlation analysis was conducted to describe the strength and direction of the linear relationship between the variables. The level of measurement

and the nature of the data required a Pearson product moment correlation coefficient (r).

TABLE 4.16: Description of relationship between student marks, gender roles, culture orientation and goal achievement.

Items	Statistics	Students marks	Gender scale	Culture scale	Goal scale
Students marks	Pearson Correlation	1	**.123**	-.061	.019
	Sig. (2-tailed)		**.008**	.176	.714
	N		472	501	373
Gender scale	Pearson Correlation	.	1	-.077	-.101
	Sig. (2-tailed)	.		.096	.054
	N			466	361
Culture scale	Pearson Correlation			1	**.557**
	Sig. (2-tailed)		.		**.000**
	N				369
Goal scale	Pearson Correlation			.	1
	Sig. (2-tailed)			.	
	N				

Note: Sig. at the traditional p ≤ 0.05. p>0.05(insignificant) and p ≤ 0.05(significant)

4.3.3.1 The relationship between academic performance and the gender role questionnaire. There was a significant (p ≤.05) slight positive correlation between academic performance (student marks) and gender roles (SD = 0.02). This suggests that higher academic performance is associated with a more egalitarian gender role. Significance was strongly influenced by sample size (see Table4.16).

4.3.3.2 The relationship between academic performance and the culture orientation questionnaire. Results indicated an insignificant (p > .05) correlation, between academic performance and culture orientation. This suggests that there is no relationship between academic performance and culture(see table 4.16).

4.3.3.3 The relationship between academic performance and goal orientation. The results yielded an insignificant correlation, suggesting that no relationship exists between academic performance and goal orientation (see table 4.16).

4.3.3.4 The relationship between Gender roles and Culture orientation. The results yielded an insignificant correlation, suggesting that there is no relationship between gender roles and culture orientation (see table4.16).

4.3.3.5 The relationship between Gender roles and Goal achievement. The results yielded an insignificant correlation, suggesting that there is no relationship between gender roles and goal achievement (see table4.16). ***4.3.3.6 The relationship between Culture orientation and goal orientation.*** The Pearson correlation coefficient r =.557 indicates a large positive correlation, suggesting a strong relationship between culture orientation and goal achievement. 0.31 Variance indicates 31% shared variance in respondents' scores; this is a respectable amount of variance. This suggests that the more culturally orientated (individualistic/collectivistic) the more goal orientated (learning/performance). This means that the more individualistic a student the more learning orientated and the more collectivistic the more performance oriented a student will be. With a significance level of p (two tailed) <.05. Significance is strongly influenced by sample size (see table 4.16).

4.3.4 T test.

Independent sample t tests were conducted to explore possible significant differences in the mean goal orientation sub tests (pathway, goal setting efficacy, resilience, optimism, agency, absence of state despair and external locus of control, mastery approach, mastery avoidance, performance approach and performance

avoidance) for gender (sex), historical groups, first university generation and medium of instruction.

4.3.4.1 Gender (sex). An independent t test was conducted to compare the goal orientation subscales scores for females and males. There were significant differences ($p < .05$) in pathway scores for females ($M= 18.65$, $SD = 2.96$) and males ($M= 19.29$, $SD = 2.99$), suggesting that males have a higher sense of pathway. There were no significant differences ($p>.05$) in goal setting efficacy scores amongst male and females. There were no significant differences ($p>.05$) in resilience scores amongst male and females. There were no significant differences ($p>.05$) in optimism scores amongst male and females There was also were significant differences ($p < .05$) in the agency scores for females ($M= 28.36$, $SD = 2.62$) and males ($M= 27.71$, $SD= 3.06$), suggesting that females have a higher sense of agency. There were no significant differences ($p>.05$) in state of despair scores amongst male and females. There were no significant differences ($p>.05$) in external locus of control scores amongst male and females. There were no significant differences ($p>.05$) in goal setting efficacy mastery approach scores amongst male and females. There were no significant differences ($p>.05$) in mastery avoidance scores amongst male and females. There were no significant differences ($p>.05$) in performance approach scores amongst male and females. There were no significant differences ($p>.05$) in performance avoidance scores amongst male and females (see Table 4.17).

TABLE 4.17: Description of the mean scores for gender (sex).

Goal orientation sub - scales	Sex	N	Mean	SD	Levene's test of equivalence	Sig. t – test (2-tailed)
Pathway	Female	297	18.65	2.96	.92	.04
	Male	126	19.29	2.99		

Goal Setting	Female	295	22.37	3.28	.40	.41
Efficacy	Male	123	22.07	3.44		
Resilience	Female	292	27.02	3.70	.88	1
	Male	126	27.02	3.64		
Optimism	Female	295	14.95	2.54	.04	.67
	Male	125	15.07	2.91		
Agency	Female	292	28.36	2.62	.20	.03
	Male	127	27.71	3.06		
Absence of State	Female	291	16.87	4.76	.70	.61
Despair	Male	127	17.13	4.65		
External Locus of	Female	294	14.98	3.64	.70	.20
Control	Male	125	14.49	3.61		
Mastery Approach	Female	347	8.47	1.45	.71	.26
	Male	157	8.31	1.49		
Mastery Avoidance	Female	344	7.71	1.89	.80	1
	Male	158	7.70	1.88		
Performance	Female	343	7.48	1.77	.05	.32
Approach	Male	158	7.30	2.06		
Performance	Female	345	7.64	1.96	.00	.10
Avoidance	Male	161	7.29	2.50		

Note: p≤ .05

4.3.4.2 Historical groups. An independent sample t test was done to compare the goal orientation subscales scores for historical advantaged (HA) students and historical disadvantaged (HD) students. There were no significant differences (p=>.05) in the pathway scores amongst HA and HD students. There were no significant differences (p=>.05) in the goal setting efficacy amongst HA and HD students. There were significant differences (p = <.05) in the resilience scores for HA (M=26.43, SD = 3.66) and HD (M= 27.66, SD = 3.60), suggesting that HD students are more resilient than HA students. There was a significant difference (p = <.05) in the optimism scores for HA (M = 14.08, SD= 2.42) and HD (M= 15.97, SD= 2.52), suggesting that HD students are more optimistic compared to HA students. There were no significant differences (p=>.05) in the agency amongst HA and HD students. There were no significant differences (p=>.05) in the absence of state

despair amongst HA and HD students. There were no significant differences (p=>.05) in the external locus of control amongst HA and HD students. There were no significant differences (p=>.05) in the mastery approach amongst HA and HD students. There was a significant difference (p = <.05) in the mastery avoidance scores for HA (M = 7.35, SD = 1.86) and HD (M= 8.05, SD = 1.84), suggesting that HD students are more mastery avoidant compared to HA students. There were no significant differences (p=>.05) in the performance approach amongst HA and HD students. There was a significant difference (p = <.05) in the performance avoidance scores for HA (M = 7.24, SD = 2.03) and HD (M= 7.83, SD = 2.15), suggesting that HD students are more performance avoidant compared to HA students (see Table 4.18).

TABLE 4.18: Description of the mean scores for historical groups.

Goal orientation sub - scales	Historical Groups	N	Mean	SD	Levene's test of equivalence	Sig. t-test (2-tailed)
Pathway	Historical Advantaged	211	18.76	2.98	.98	.61
	Historical Disadvantaged	208	18.91	3		
Goal Setting Efficacy	Historical Advantaged	211	22.33	3	.17	.75
	Historical Disadvantaged	203	22.22	3.66		
Resilience	Historical Advantaged	210	26.43	3.66	.70	.001
	Historical Disadvantaged	204	27.66	3.60		
Optimism	Historical Advantaged	211	14.08	2.42	.15	.00
	Historical Disadvantaged	205	15.97	2.52		
Agency	Historical Advantaged	210	28.32	2.37	.08	.34
	Historical Disadvantaged	205	28.07	3.08		
Absence of State	Historical Advantaged	211	17.03	4.74	.87	70
Despair	Historical Disadvantaged	203	16.84	4.71		
External Locus of	Historical Advantaged	208	14.84	3.43	.32	1
Control	Historical Disadvantaged	207	14.86	3.84		
Mastery Approach	Historical Advantaged	237	8.35	1.43	.72	.27
	Historical Disadvantaged	263	8.49	1.50		
Mastery Avoidance	Historical Advantaged	236	7.35	1.86	.81	.00
	Historical Disadvantaged	262	8.05	1.84		
Performance Approach	Historical Advantaged	235	7.30	1.79	.21	.15
	Historical Disadvantaged	262	7.54	1.89		
Performance	Historical Advantaged	237	7.24	2.03	.13	.002
Avoidance	Historical Disadvantaged	265	7.83	2.15		

Note: p≤ .05

4.3.4.3 First university generation. An independent sample t test was done to compare the goal orientation subscales scores for first university generation students (yes) and students who were not the first university generation (no). There were no significant differences (p = >.05) in pathway scores amongst first and not first university generation students. There were no significant differences (p = >.05) in goal setting efficacy scores amongst first and not first university generation students There was a significant difference (p <.05) in the resilience scores for first university generation students (M=27.71, SD = 3.36) and students who were not the first university generation (M= 26.67, SD = 3.78). The distribution of the scores

suggests resilience was significantly higher in students that were the first generation of university students within their family as compared to students who were not the first university generation There was a significant difference in the optimism scores for yes (M = 15.72, SD= 2.68) and no (M= 14.63, SD= 2.57), suggesting first university generation are more optimistic than those who were not first university generation. There were no significant differences (p = >.05) in agency scores amongst first and not first university generation students. There were no significant differences (p = >.05) in absence of despair scores amongst first and not first university generation students. There were no significant differences (p = >.05) in external locus of control scores amongst first and not first university generation students There was a significant difference in the mastery approach scores for yes (M = 8.67, SD = 1.43) and no (M= 8.29, SD = 1.45), suggesting that first university generation students are more mastery approach than those who were not first university generation students. There were no significant differences (p = >.05) in mastery avoidance scores amongst first and not first university generation students. There were no significant differences (p = >.05) in performance approach scores amongst first and not first university generation students. There were no significant differences (p = >.05) in performance avoidance scores amongst first and not first university generation students (see table 4.19).

TABLE 4.19: Description of the mean scores for first university generation.

Goal orientation sub - scales	First university generation	N	Mean	SD	Levene's test of Equivalence	Sig. t-test (2 tailed)
Pathway	yes	140	19.18	3.01	.75	.09
	no	282	18.65	2.94		
Goal Setting Efficacy	yes	136	22.60	3.28	.56	.16
	no	281	22.11	3.34		
Resilience	yes	135	27.71	3.36	.57	.01
	no	282	26.67	3.78		
Optimism	yes	137	15.72	2.68	.30	.00
	no	281	14.63	2.57		
Agency	yes	137	28.23	2.99	.97	.72
	no	281	28.13	2.67		
Absence of State	yes	135	17.24	4.79	.82	.40
Despair	no	282	16.83	4.69		
External Locus of	yes	137	14.58	3.82	.58	29
Control	no	281	14.98	3.54		
Mastery Approach	yes	177	8.67	1.43	.49	.01
	no	325	8.29	1.47		
Mastery Avoidance	yes	179	7.90	1.98	.05	.09
	no	321	7.60	1.83		
Performance Approach	yes	177	7.62	1.81	.64	.08
	no	322	7.31	1.88		
Performance	yes	178	7.68	2.20	.60	.20
Avoidance	no	326	7.43	2.11		

Note: p≤ .05

4.3.4.4 Medium of instruction. An independent sample t test was done to compare the goal orientation subscales scores for first language as medium of instruction and second language as medium of instruction. There were no significant (p = >.05) differences in the pathway scores for the first and second language as medium of instruction students. There were no significant differences (p = > .05) in the goal setting efficacy scores for the first and second language as medium of instruction students. There were significant differences in the resilience scores for first language (M=26.55, SD = 3.57) and second language (M= 27.75, SD = 3.73).These scores indicate that the students whose medium of instruction is their

second language are more resilient compared to students instructed in their first language There was significant differences in the optimism scores for first language (M14.23, SD2.43) and second language (M= 16.17, SD = 2.55), suggesting students instructed in their second language are more optimistic than students instructed in their first language. There were no significant differences (p = >.05) in the agency scores for the first and second language as medium of instruction students. There were no significant differences (p = >.05) in the absence of despair scores for the first and second language as medium of instruction students. There were no significant differences (p = > .05) in the external locus of control scores for the first and second language as medium of instruction students. There were significant differences in the mastery approach scores for the first language (M = 8.27, SD = 1.50) and second language (M = 8.61, SD= 1.39) suggesting students instructed in their second language are more mastery approach than students instructed in their first language. There were significant differences in the mastery avoidance scores for the first language (7.63, SD = 1.88) and second language (M= 8.16, SD= 1.80), indicating that students instructed in their second language are more mastery avoidant than students instructed in their first language. There were significant differences in the performance approach scores for first language (M= 7.27, SD= 1.83) and second language (M= 7.61, SD=1.89) suggesting students instructed in their second language are more performance approach than students instructed in their first language. There was were significant differences in the performance avoidance scores for first language (M=7.17, SD=2.12) and second language (M= 8, SD= 2.10), indicating that students instructed in their second language are more performance avoidant than students instructed in their first language (see table 4.20).

TABLE 4.20: Description of the mean scores for medium of instruction.

Goal orientation sub - scales	Medium of Instruction	N	Mean	SD	Levene's test of equivalence	Sig. (2 tailed)
Pathway	First language	255	18.83	2.91	.52	.94
	Second language	168	18.85	3.08		
Goal Setting Efficacy	First language	256	22.19	3.10	.30	.48
	Second language	162	22.43	3.66		
Resilience	First language	253	26.55	3.57	.62	.001
	Second language	165	27.75	3.74		
Optimism	First language	256	14.23	2.43	.20	.00
	Second language	164	16.17	2.55		
Agency	First language	255	28.10	2.71	.57	.54
	Second language	164	28.27	2.88		
Absence of State	First language	254	17.03	4.74	.88	.67
Despair	Second language	164	16.82	4.70		
External Locus of	First language	252	14.87	3.42	.14	.82
Control	Second language	167	14.78	3.96		
Mastery Approach	First language	285	8.27	1.50	.12	.01
	Second language	219	8.62	1.39		
Mastery Avoidance	First language	284	7.37	1.88	.79	.00
	Second language	218	8.16	1.80		
Performance	First language	282	7.27	1.83	.33	.04
Approach	Second language	219	7.61	1.89		
Performance	First language	284	7.17	2.12	.68	.00
Avoidance	Second language	222	7.99	2.10		

Note: p≤.05

4.3.5 Group differences.

The researcher wanted to investigate how various strata moderate the relationship between goal orientation and academic achievement. **Sub question 1**: do the variables historical groups, medium of instruction, first university generation and gender influence the relationship between goal orientation and academic achievement? This was analysed through independent two-way ANOVA.

4.3.5.1 Gender categories.

TABLE 4.21: Levene's test of variance

F	df1	df2	Sig.
1.19	7	500	.30

Note: p ≤ .001

A two way between groups analysis of variance was conducted to explore the impact of gender and goal orientation on academic success. Participants were divided into four groups according to their goal orientation scores for the 4 goal orientation dimensions (group1: mastery approach, group 2: mastery avoidance, group 3: performance approach and group 4: performance avoidance. The researcher used the two-way ANOVA test to test (a) sex differences in academic success, (b) difference in goal orientation for academic achievement and (c) the interaction between sex and goal orientation and the effect (is there a difference in the effect of goal orientation on academic success for females and males?). Levene's test of homogeneity was done to see if there were any significant differences between group variances. The test was non-significant, F (7,500) = 1.19, p=.30, which suggests that the variance of academic success is equal across the groups (see table 4.21). The assumption of homogeneity of variance was therefore met.

TABLE 4.22: Presentation of gender categories influence on the relationship between Goal achievement orientation and academic performance

Source	**Sig.**
Goal orientation	.864
Sex	.000
Goal orientation * Sex	.001

Note: p≤ .001

The results in table 4.22 provide information on the impact of sex and goal orientation on academic achievement. There was a non-significant effect of goal

orientation and academic achievement (p = .86). This indicates that being in any of the four goal orientation groups (mastery approach, mastery avoidance, performance approach, and performance avoidance) does not have an effect on academic performance. There was a significant effect of sex on academic achievement (p= .00). This indicates that there was a significant difference between female and male participants' academic achievement. Lastly, there was a significant interaction between goal orientation and sex (p ≤ .001) on academic success. This suggests that there a significant difference in the effect of goal orientation on academic success for females and males respectively. It is not however clear at this point which type of goal orientation produces this interactional effect.

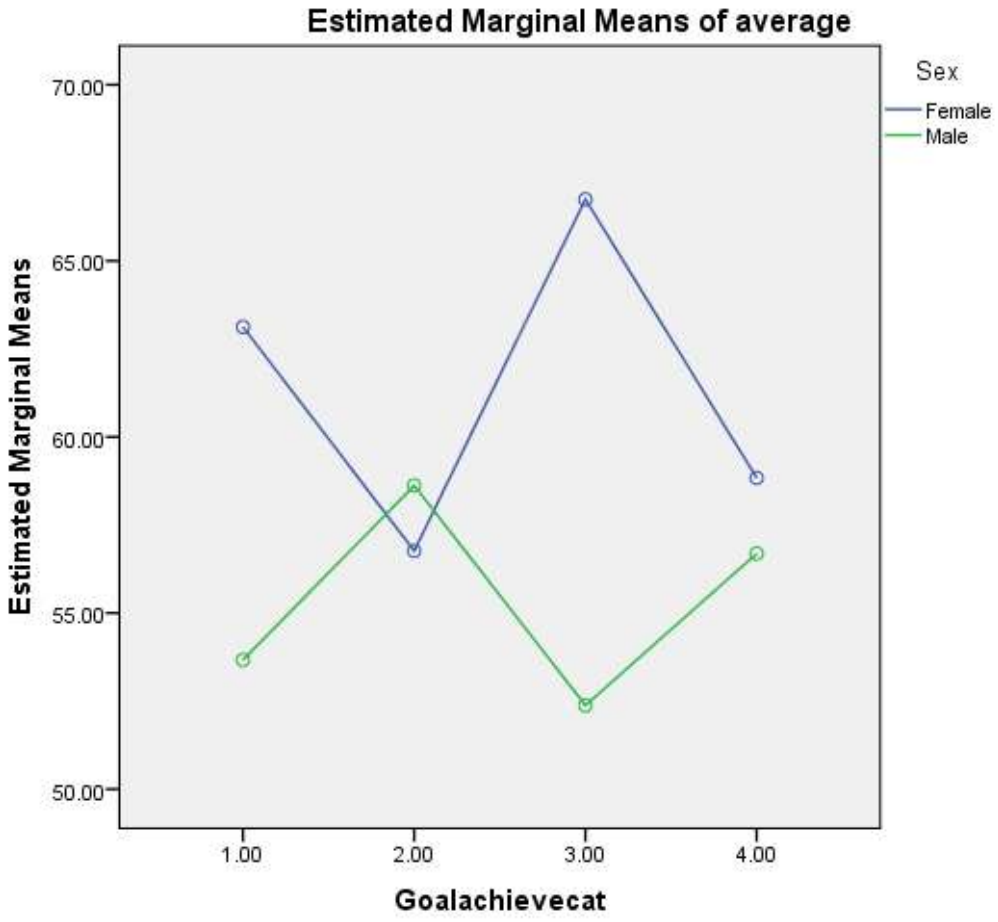

Figure 4.5 Estimated marginal means of academic achievement

Mastery approach scores were significantly higher for females (M = 63.12, SD= 13.94) compared to males (M=53.67, SD=17.19) in academic achievement. Mastery avoidance scores were lower for both groups but significantly lower for females (M= 56.76, SD= 13.59) compared to males (M= 58.76, SD= 13.59) in academic achievement. Interesting to note is that performance approach scores were significantly higher for females (M=66.74, SD= 12.25) compared to males (M=52.38, SD= 17.17) in academic achievement. Performance avoidance scores were significantly higher for the females (M= 58.83, SD=12.55) compared to males (M=56.68, SD= 14.26), however from the plot it shows that males appear to be more mastery avoidant compared to females (figure 4.5).

4.3.5.2 Historical groups

TABLE4.23 Levene's test of variance

F	df1	df2	Sig.
.91	10	497	.53

Note: p≤ .001

The researcher used the two-way ANOVA test to test (a) historical group differences in academic success, (b) difference in goal orientation for academic achievement and (c) the interaction between historical groups and goal orientation and the effect on academic success (is there a difference in the effect of goal orientation on academic success for historical advantaged students and historical disadvantaged students?). Levene's test of homogeneity was non-significant, F (10,497) = .91, p=.53, which suggests that the variance of academic success is equal across the groups (see table 4.23). The assumption of homogeneity of variance was met.

TABLE 4.24 Presentation of historical groups influence on the relationship between Goal achievement orientation and academic performance

Source	Sig.
Goal orientation	.76
Historical groups	.000
Goal orientation * Historical groups	.24

The results in Table 4.24 provide information on the impact of historical groups and goal orientation on academic achievement. There was a non-significant effect of goal orientation and academic achievement (p = .76). There was a significant effect of historical groups on academic achievement (p= .00). This indicates that there was a difference in historical advantaged students and historical disadvantaged students when achieving academic success. There was a non-significant interaction between goal orientation and historical groups (p = .24) on academic success. This suggests that there was no significant difference in the effect of goal orientation on academic success for the historically advantaged and historically disadvantaged groups respectively.

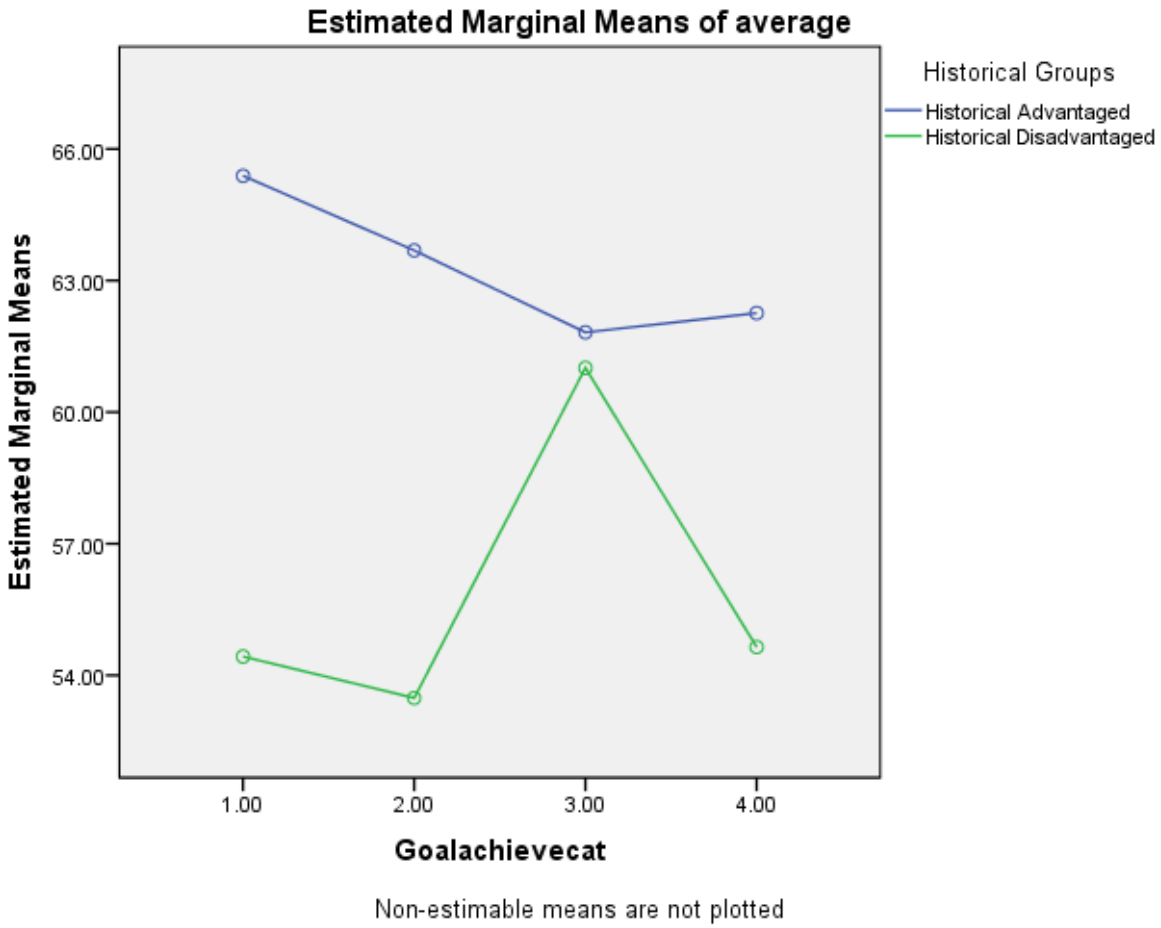

Figure 4.6 Estimated marginal means of academic achievement

The historical advantaged group scored higher academically compared to the historical disadvantaged group. Two interesting points to note on the plots above (figure 4.6) are: mastery approach goals were significantly higher for the historical advantaged group (M = 65.39, SD= 14.30) compared to the historical disadvantaged group (M=54.42, SD=15.17) when achieving academic success. Performance approach scores (M= 61.01, SD= 14.23) were significantly higher for the disadvantaged group compared to their mastery approach scores (M=54.42, SD=15.17).

4.3.5.3 First University generation.

TABLE 4.25 Levene's test of variance

F	df1	df2	Sig.
.903	7	498	.504

Note: p≤.001

The researcher used the two-way ANOVA test to test (a) first university generation (yes or no) in academic success, (b) difference in goal orientation for academic achievement and (c) the interaction between first university generation (yes or no) and goal orientation and the effect (is there a difference in the effect of goal orientation on academic success for first university generation students compared to students who were not first university generation). Levene's test of homogeneity was non-significant: F (7,498) = .903, p= .50; which suggests that the variance of academic success is equal across the groups (see Table 4.25). The assumption of homogeneity of variance was therefore met.

TABLE 4.26 Presentation of first university generation influence on the relationship between Goal achievement orientation and academic performance

Source	Sig.
Goal orientation	.413
First university generation (yes/no)	.057
Goal orientation * First university generation (yes/no)	.598

The results in table 4.26 provide information on the impact of first university generation and goal orientation on academic achievement. There was a non-significant effect of goal orientation on academic achievement (p = .41). There was a non-significant effect of university generation on academic achievement (p= .06). There was a non-significant interaction between goal orientation and first university generation (p ≤ .59) on academic success.

4.3.5.4 Medium of instruction

TABLE 4.27 Levene's test for variance

F	df1	df2	Sig.
1.26	7	500	.27

Note: p≤.001

The researcher used the two-way ANOVA test to test (a) medium of instruction differences in academic success, (b) difference in goal orientation for academic achievement and (c) the interaction between medium of instruction and goal orientation and the effect (is there a difference in the effect of goal orientation on academic success for first language as medium of instruction and second language as medium of instruction?). Levene's test of homogeneity was non-significant, F (7,500) = 1.26, (p=.27), which suggests that the variance of academic

success is equal across the groups (see table 4.27). The assumption of homogeneity of variance was therefore met.

TABLE 4.28 Presentation of medium of instruction as an influence between goal achievement orientation and student academic achievement.

Source	Sig.
Goal orientation	.198
Medium of instruction	.000
Goal orientation * Medium of instruction	.004

The results in Table 4.28 provide information on the impact of medium of instruction and goal orientation on academic achievement. There was a non-significant interaction effect of goal orientation on academic achievement (p = .198). There was a significant effect of medium of instruction on academic success, (p= .00). This indicates that there was a difference in the group who had a first language as a medium of instruction compared to the group who had a second language as a medium of instruction when it comes to achieving academic success. There was a significant interaction between goal orientation and medium of instruction, (p = .004) on academic success. This indicates that there was a significant difference in the effect of goal orientation on academic success for students who had a first language as a medium of instruction compared to those who had a second language as a medium of instruction.

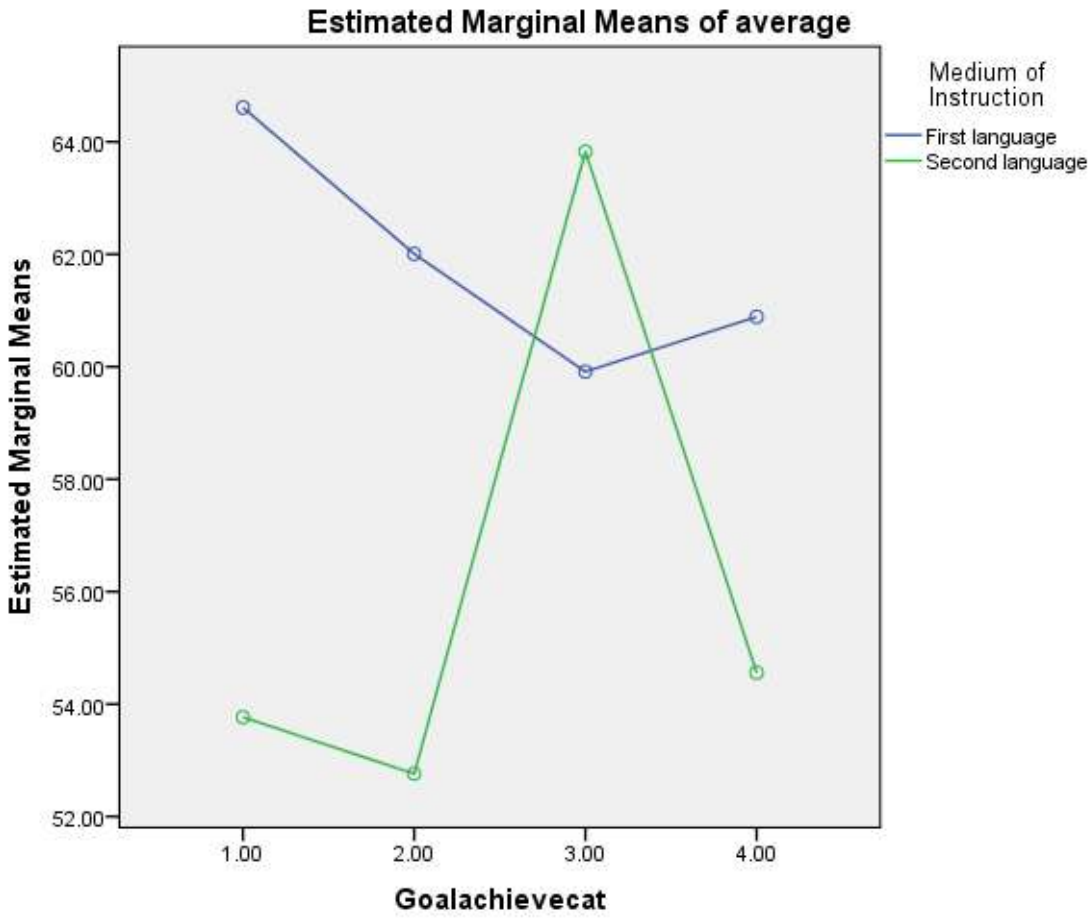

Figure4.7 Estimated marginal means of academic achievement

Mastery approach scores were significantly higher for first language groups (M = 64.60, SD= 14.72) compared to second language groups (M=53.77, SD=14.72) in academic achievement. Mastery avoidance scores were lower for both groups but significantly lower for the second language group (M= 52.76, SD= 13.26) compared to the first language group (M= 62.01, SD= 11.06) when achieving academic success. Interesting to note is that performance approach scores were significantly higher for the second language group (M=63.83, SD= 11.62) compared to the first language group (M=59.91, SD= 17.96) when achieving academic success. Performance avoidance scores were significantly higher for the first language group (M= 62.81, SD=14.19) compared to the second language group (M=54.73, SD= 14.06) (see figure 4.7).

4.4 Structural Equation Modelling

The results of structural equation modelling are reported in this section. All the constructs were inserted into structural equation modelling (SEM). The constructs consisted of goal achievement, culture orientation, gender roles and academic achievement. SEM tests hypothesis and relationships between observed and latent variables through path coefficients and also tests linear relationships between variables to show which variables employ effects on others (moderators) as well as whether the relationships are direct or indirect or bidirectional (Barkus, Yavorsky & Foster, 2006). A direct effect means that the influence of one variable on another is not mediated by any other variable in the model where as an indirect effect, is the effect of one variable on another that is mediated, by at least one other variable in the model. Bidirectional means that the one variable does not affect the other but both affect each other (Everitt & Dunn, 2001).

The parameter estimates, standard errors and structural models are reported and presented for each model. Byrne (2013) suggests that the goal of structural equation modelling is to evaluate the extent to which a hypothesised model fits sample data. When evaluating models parameter estimates and model fit is important. When evaluating parameter estimates one must look at correlations and the direction and size and whether these are reasonable or unreasonable (feasibility). Correlations larger than 1.00 is an unreasonable estimate. Another aspect is the standard error of measurement (SE) which reveals accuracy of estimation, small values = accurate estimation, however excessively large/small values = poor fit, 0 = cannot establish. The SEM is highly dependent on units of measurement and magnitude of parameter estimates; therefore it is not the most reliable unit of analysis (Byrne, 2013). The statistical significance of parameter

estimates (critical ratio (C.R.)) looks at whether estimates are significantly different from 0, this is based on a probability level of .05, test statistic must be >±1.95.

SEM was utilized to determine model fit as well as constructing and evaluating mediator models. When establishing model fit one hopes to accept the null hypothesis. The following must be investigated: Goodness of fit index (GFI) where values close to 1 indicate a good fit, comparative fit index (CFI) and Normative fit index (NFI) is similar where values > .95 indicate good fit and the root mean square error of approximation (RMSEA) where values< .05 indicate a good fit and values 0.8 - .10 indicate a mediocre fit and >.10 indicate a poor fit. Each model was evaluated based on parameter estimates and the model fit process.

4.4.1 Model 1

4.4.1(a) Model 1 parameter estimates. The hypothesized theoretical model was entered into AMOS SPSS and tested. The number of variables for model 1 was 38 variables, of which 17 were observed variables (manifest variables), 21 were unobserved variables (latent variables), 19 were exogenous variables (independent variables) and 19 endogenous variables (dependent mediating variables). Only the variables GAQ, gender, culture and academic performance are discussed in this section.

Table 4.29 below represents the relationship between the variables. Relationships between variables are to be presented in any of three ways: 1) correlations, 2) direct effect and 3) indirect effect. The values in the table below are the squared multiple regression (R^2) which indicates the coefficient of determination, in other words how close is the fit to the regression line, Path coefficient (β**)**, which indicates standard regression weights or loading estimates, critical ratio (C.R.) which

indicates significance at 0.05; if the value exceeds 1.96 and at 0.01 if the value exceeds 2.56 (Hoyle, 1995). Significance as (p), which indicates exceedance probability.

TABLE 4.29 Parameter estimates Model1

Relationship between variables		R^2	β	**C.R.**	**p**
GAQ	→ Gender	0.0	0.0	-0.08	0.95
Gender	→ Academic performance	0.0	0.13	2.97	0.00**
Culture	←GAQ	0.52	0.72	4.96	***
GAQ	→ Academic performance	0.0	0.37	2.96	0.00**
Academic performance	← Culture	0.0	-0.38	-2.31	0.02**

Note: *** indicates p< .001, ** indicates p< .05. The arrows indicate the direction of the relationship. Gender is an observed, endogenous variable. GOA and Culture are both unobserved, endogenous variables. Academic performance is an unobserved, exogenous variable.

Goal achievement (GAQ) had no effect at all on Gender (R^2=0.0, **β =**0.0**, z**= -0, 08, p= 0.95).Gender related positively, with a small direct, significant effect with academic performance (R^2=0.0, **β =**0.13**, z**= 2.97, p= 0.00). GAQ related positive, with a large, significant effect with culture (R^2=0.52, **β =**0.72**, z**= 4.96,***p< 0.001). GAQ related positively, with a medium direct, significant effect with academic performance. (R^2=0.0, **β =**0.37**,** z= 2.96,p= 0.00). Culture related negatively, with a medium direct, significant effect with academic performance (R^2=0.0, **β =**-0.38**,** z= -2.31,p= 0.02), see table 4.29.

4.4.1(b) Model Fit. A selection of different fit measures was used to indicate the fit of the model. Chi square =1454.26 with degrees of freedom = 116 and p close = .00 compares the proportion of cases from a sample with a hypothesis, basically how well is the goodness of fit. Large values indicate poor fit; in other words, the smaller the value the better the fit. In this case the goodness of fit is very poor, indicating non-significance as p<.05 indicates no fit. The Comparative fit index (CFI)

= .57 and the Normed fit index (NFI) =.55 both indicated a very small fit with 0=poor fit and close to 1= good fit. Another common fit index is the root mean square error of approximation (RMSEA) = .14. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.30).

TABLE 4.30: Fit indices: Model 1

	χ^2	DF	pclose	CFI	NFI	RMSEA
Model 1	1454.26	116	.00	.57	.55	.14

Note: p value not suitable for model evaluation because dependent on sample size model always fits small samples and never large samples hence pclose better option. P close suggests that If the p is less than .05, it is concluded that the model's fit is worse than close fitting

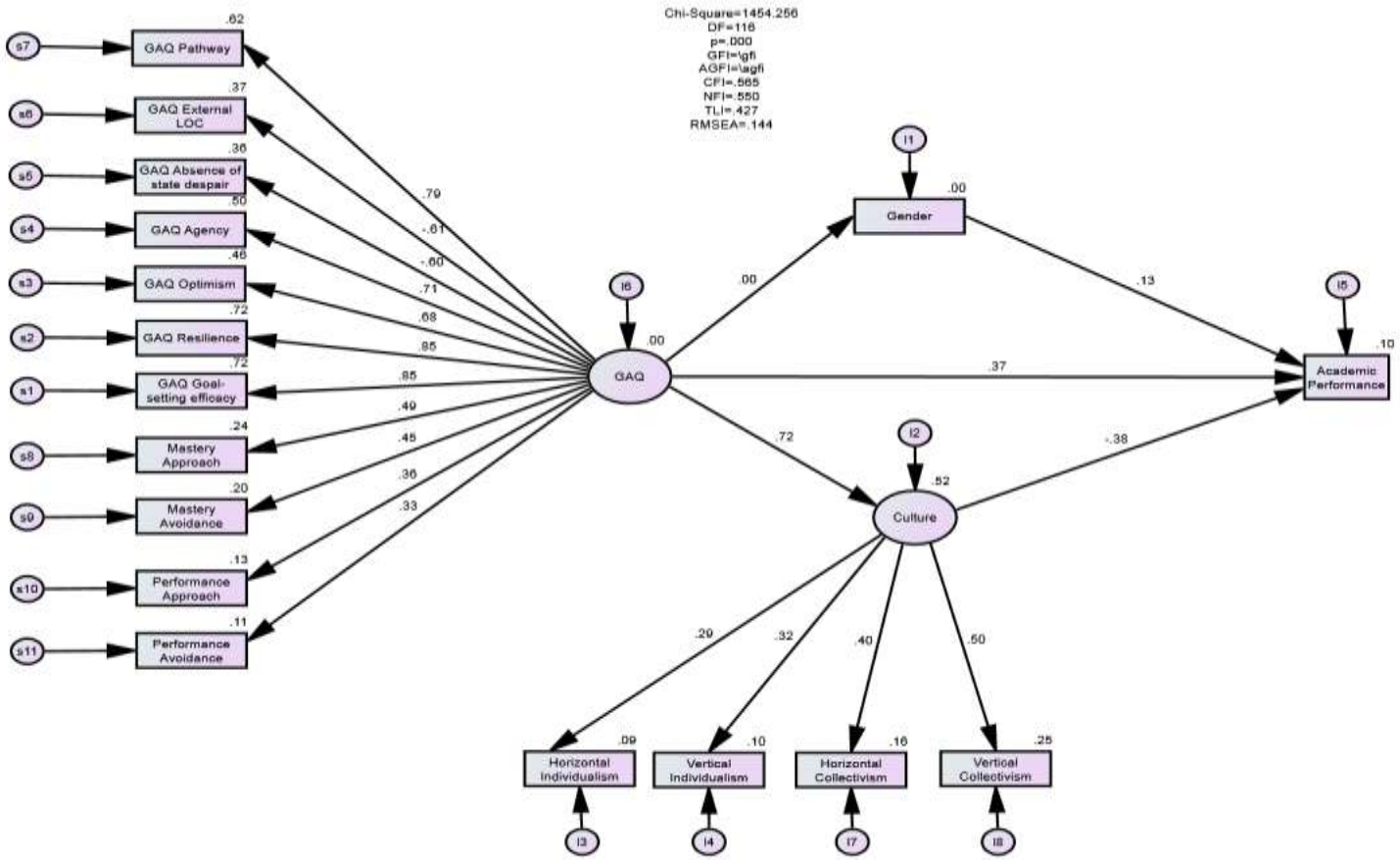

***Figure 4.8*:** Structural equation model 1

4.4.2 Model 2

A second hypothesized theoretical model was entered into AMOS SPSS and tested. In this Model the variable gender was omitted to see if gender affects the strength of the relationship; in other words, is gender a significant moderator.

4.4.2(a) Model 2 parameter estimates. The number of variables for model 2 was 36 variables, of which 16 were observed variables (manifest variables), 20 were unobserved variables (latent variables), 18 were exogenous variables (independent variables) and 18 endogenous variables (dependent mediating variables). Only the variables GAQ, culture and academic performance are discussed in this section.

Table 4.31 represents the relationship between the variables. Goal achievement (GAQ) related positively, with a large direct, significance effect with Culture (R^2=0.0, **β =**0.71**, C.R.**= 4.91, ***p<.001).GAQ related positively, with a medium direct, significant effect with academic performance (R^2=0.0, **β =**0.41**,** C.R.= 3.24, p= 0.00). Culture related negatively, with a medium direct, significant effect with academic performance (R^2=0.51, **β =**-0.44**, C.R.**= -2.56, p= 0.01).

TABLE 4.31 Parameter estimates Model 2

Relationship between variables		**R^2**	**β**	**C.R.**	**p**
GAQ	→ Culture	0.0	0.71	4.91	***
GAQ	→ Academic performance	0.0	0.41	3.24	0.00**
Culture	→ Academic Performance	0.51	-0.44	-2.56	0.01**

Note: *** indicates p< .001, ** indicates p< .05. The arrows indicate the direction of the relationship. GOA and Culture are both unobserved, endogenous variables. Academic performance is an unobserved, exogenous variable.

4.4.2(b) Model Fit. The minimum was achieved with chi - square = 1380.72, degrees of freedom (DF) = 106 and probability of an exact fit (pclose) = .00 indicating non-significance as p<.05 indicates no fit, Comparative fit index (CFI) = .58 and the Normed fit index (NFI) =.56 both indicated a very small fit with 0=poor fit and

close to 1= good fit. With the root mean square error of approximation (RMSEA) = .15. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.32).

TABLE 4.32: Fit indices: Model 2

	χ2	**DF**	**pclose**	**CFI**	**NFI**	**RMSEA**
Model 2	1380.72	102	.00	.58	.56	.13

Note: P close suggests that If the p is less than .05, it is concluded that the model's fit is worse than close fitting

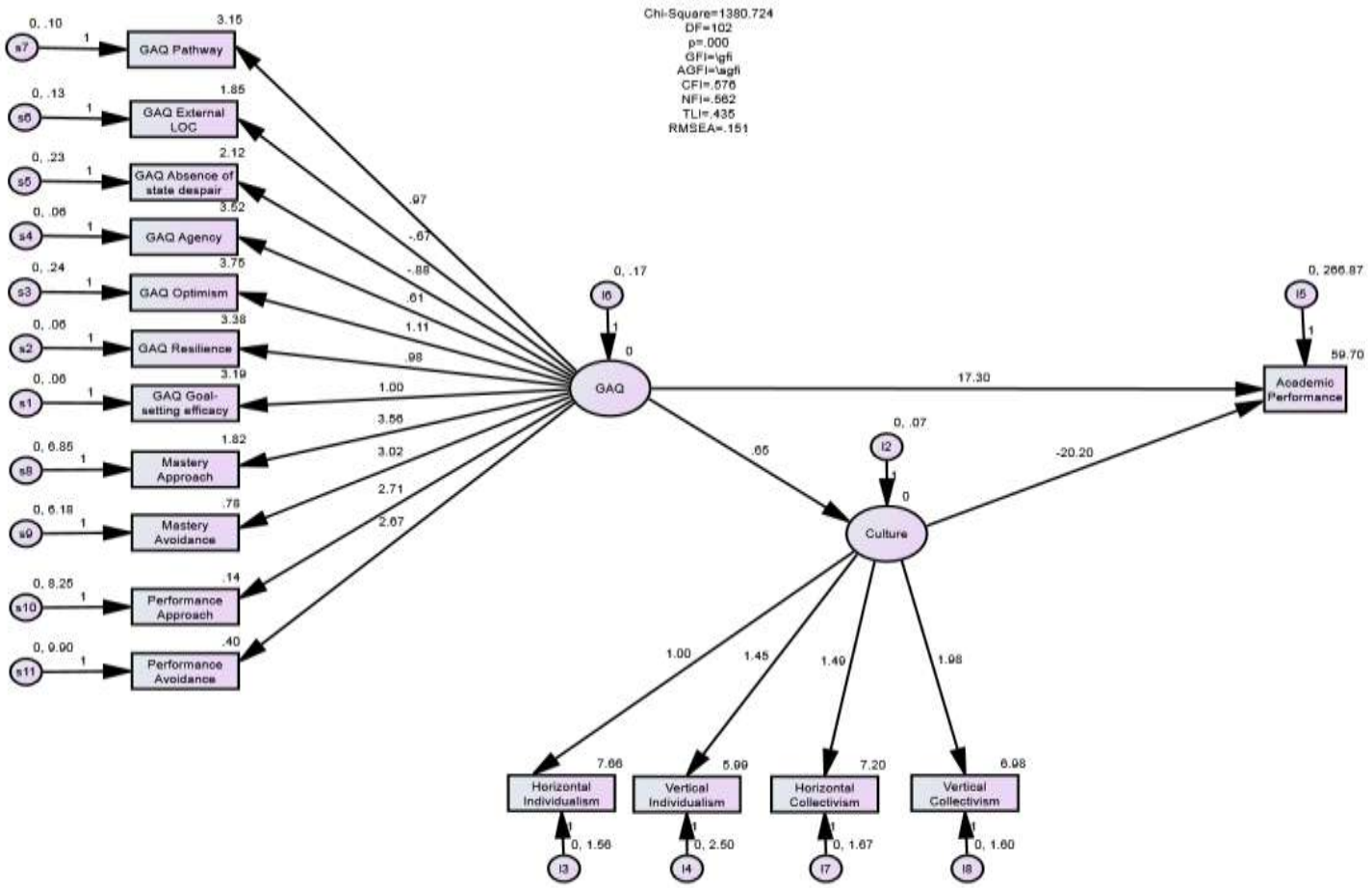

Figure 4.9 Structural equation model 2

4.4.3 Model 3. A third hypothesized theoretical model was entered into AMOS SPSS and tested. In this Model the variables gender and culture were both omitted to understand whether this affects the strength of the relationship between GAQ and academic performance.

4.4.3(a) Model 3 parameter estimates. The number of variables for model 3 was 26 variables, of which 12 were observed variables (manifest variables), 14 were unobserved variables (latent variables), 13 were exogenous variables (independent variables) and 13 endogenous variables (dependent mediating variables). Only the variables GAQ and academic performance are discussed in this section.

The table 4.33 represents the relationship between the variables. Goal achievement (GAQ) related positively, with a small direct, significance effect with academic performance (R^2=0.0, **β =**0.09**, z**= 1.97, p =.005).

TABLE 4.33 Parameter estimates Model 3

Relationship between variables		R^2	β	z	p
GAQ	→ Academic performance	0.0	0.09	1.97	0.05

Note: *** indicates p< .001, ** indicates p< .05. The arrow indicates the direction of the relationship. GOA is an unobserved, endogenous variable. Academic performance is an unobserved, exogenous variable.

4.4.3(b) Model fit. The minimum was achieved with chi - square = 950.58, degrees of freedom (DF) = 54 and probability of an exact fit (pclose) = .00 indicating non-significance as p<.05 indicates no fit, Comparative fit index (CFI) = .64 and the Normed fit index (NFI) =.63 both indicated a small fit with 0=poor fit and close to 1= good fit. With the root mean square error of approximation (RMSEA) = .17. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.34).

TABLE 4.34: Fit indices: Model 3

	$\chi 2$	DF	pclose	CFI	NFI	RMSEA
Model 3	950.58	54	.00	.64	.63	.17

Note: P close suggests that If the p is less than .05, it is concluded that the model's fit is worse than close fitting

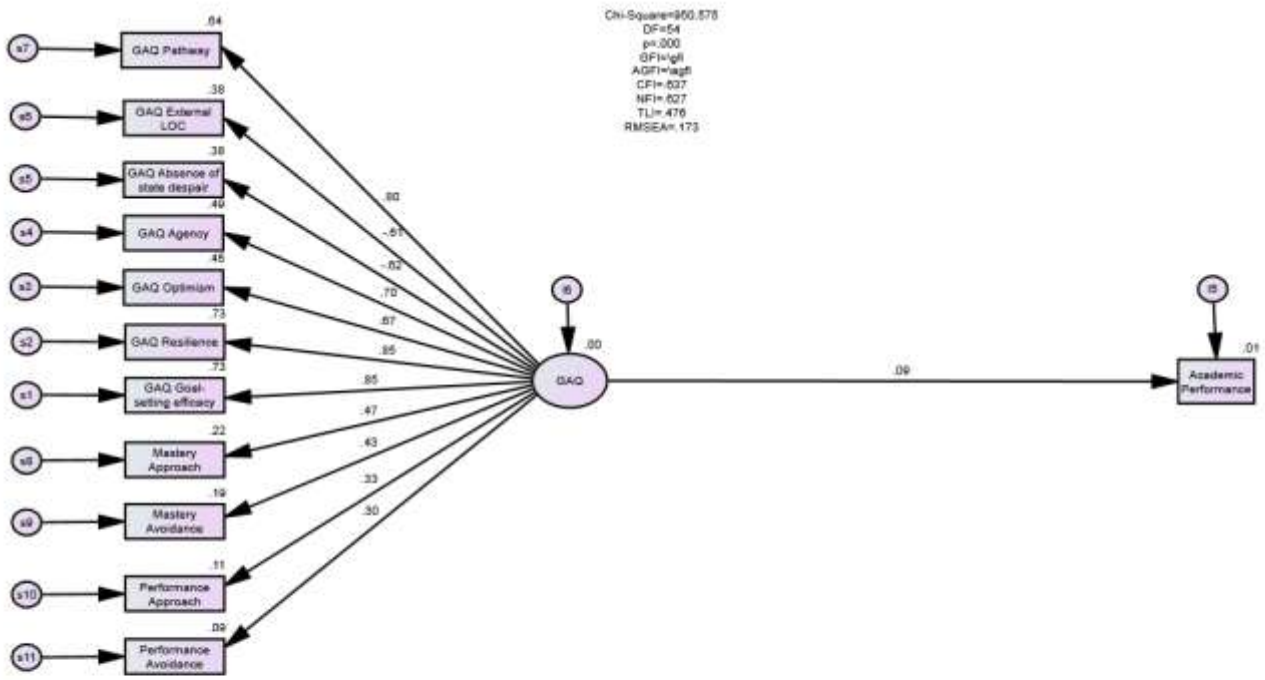

Figure 4.10 Structural equation model 3

4.4.4 Model 4.

A fourth hypothesized theoretical model was entered into AMOS SPSS and tested. In this Model the variable culture was omitted to establish if culture significantly affects the strength of the relationship.

4.4.4 (a) Model 4 parameter estimates. The number of variables for model 4 was 28 variables, of which 13 were observed variables (manifest variables), 15 were unobserved variables (latent variables), 14 were exogenous variables (independent variables) and 14 endogenous variables (dependent mediating variables). Only the variables GAQ, gender and academic performance are discussed in this section.

TABLE 4.35 Parameter estimates Model4

Relationship between variables		R^2	β	z	p
GAQ	→ Gender	0.00	0.01	0.24	0.81
GAQ	→ Academic performance	0.00	0.09	1.95	0.05
Gender	→ Academic Performance	0.00	0.16	3.51	***

Note: *** indicates p< .001, ** indicates p< .05. The arrows indicate the direction of the relationship. Gender is an observed endogenous variable. GAQ is an unobserved, endogenous variable. Academic performance is an unobserved, exogenous variable.

Table 4.35 represents the relationship between the variables. Goal achievement (GAQ) related positively, with a small direct, non-significant effect with gender (R^2=0.0, **β =**0.01**, C.R.** = 0.24, p = 0.81).GAQ related positively, with a small direct, significant effect with academic performance (R^2=0.0, **β =**0.09**,** C.R.= 1.95, p= 0.05). Gender related positively, with a small direct, significant effect with academic performance (R^2=0.51, **β =**-0.16**, C.R.**= 3.51, ***p< 0.01).

4.4.4 (b) Model fit. The minimum was achieved with chi – square = 998.62, degrees of freedom (DF) = 64 and probability of an exact fit (pclose) = .00 indicating non significance as p<.05 indicates no fit, Comparative fit index (CFI) = .63 and the

Normed fit index (NFI) =.62 both indicated a good fit with 0=poor fit and close to 1= good fit. With the root mean square error of approximation (RMSEA) = .16. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.36).

TABLE 4.36: Fit indices: Model 4

	χ2	**DF**	**pclose**	**CFI**	**NFI**	**RMSEA**
Model 4	998.62	64	.00	.63	.62	.16

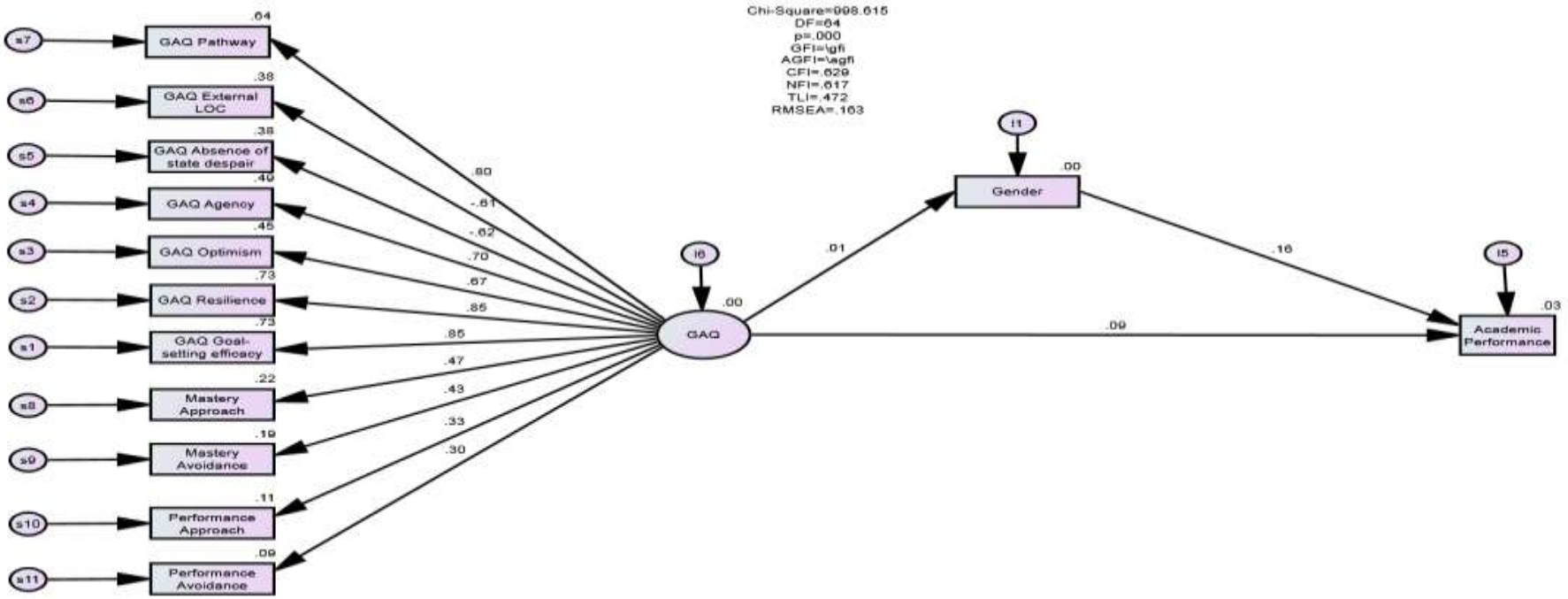

Figure 4.11 Structural equation model 4

4.4.5 Model 5.

A fifth hypothesized theoretical model was entered into AMOS SPSS and tested.

4.4.5(a) Model 5 parameter estimates. The number of variables for model 5 was 38 variables, of which 17 were observed variables (manifest variables), 21 were unobserved variables (latent variables), 19 were exogenous variables (independent variables) and 19 endogenous variables (dependent mediating variables). Only the variables GAQ, gender, culture and academic performance are discussed in this section**.**

Table 4.37 represents the relationship between the variables. Goal achievement (GAQ) did not relate with gender (R^2=0.0, **β =**0.00). Goal achievement (GAQ) related positively with a large direct, significant effect with culture (R^2=0.0, **β =**0.71**,** C.R**.**= 4.31, ***p <0.001) GAQ related positively, with a medium direct, significant effect with academic performance (R^2=0.0, **β =**0.44**,** C.R.= 3.97, ***p< 0.001). Gender did not relate with academic performance. Culture related negatively with a medium direct significant effect with academic performance (R^2=0.49, **β =-**.49**,** C.R.= -2.95, p=.003). Interesting finding in this model is the correlation between gender and culture with a negative bidirectional medium and significant relationship with (R^2=0.49, **β =**-0.35**,** z= -3.16, p= 0.002).

TABLE 4.37 Parameter estimates Model 5

Relationship between variables	R^2	β	C.R.	p
GAQ → Gender	.00	.00		
GAQ → Culture	.00	.71	4.34	***
GAQ → Academic performance	.00	.44	3.97	***
Gender → Academic Performance	.00	.00		
Culture → Academic performance	.49	-.49	-2.95	.003**
Gender ←→ Culture	.49	-.35	-3.16	.002**

Note: *** indicates p< .001, ** indicates p< .05. The arrows indicate the direction of the relationship. GAQ and Culture is an unobserved, endogenous variable. Gender and Academic performance is an observed, endogenous variable.

4.4.5 (b) Model fit. The minimum was achieved with chi - square□ = 1443.03, degrees of freedom (DF) = 117 and probability of an exact fit (pclose) = .00 indicating non significance as p<.05 indicates no fit, Comparative fit index (CFI) = .57 and the Normed fit index (NFI) =.55 both indicated a very small fit with 0=poor fit and close to 1= good fit. With the root mean square error of approximation (RMSEA) = .14. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.38).

TABLE 4.38 Fit indices: Model 5

	χ2	DF	pclose	CFI	NFI	RMSEA
Model 5	1443.03	117	.00	.57	.55	.14

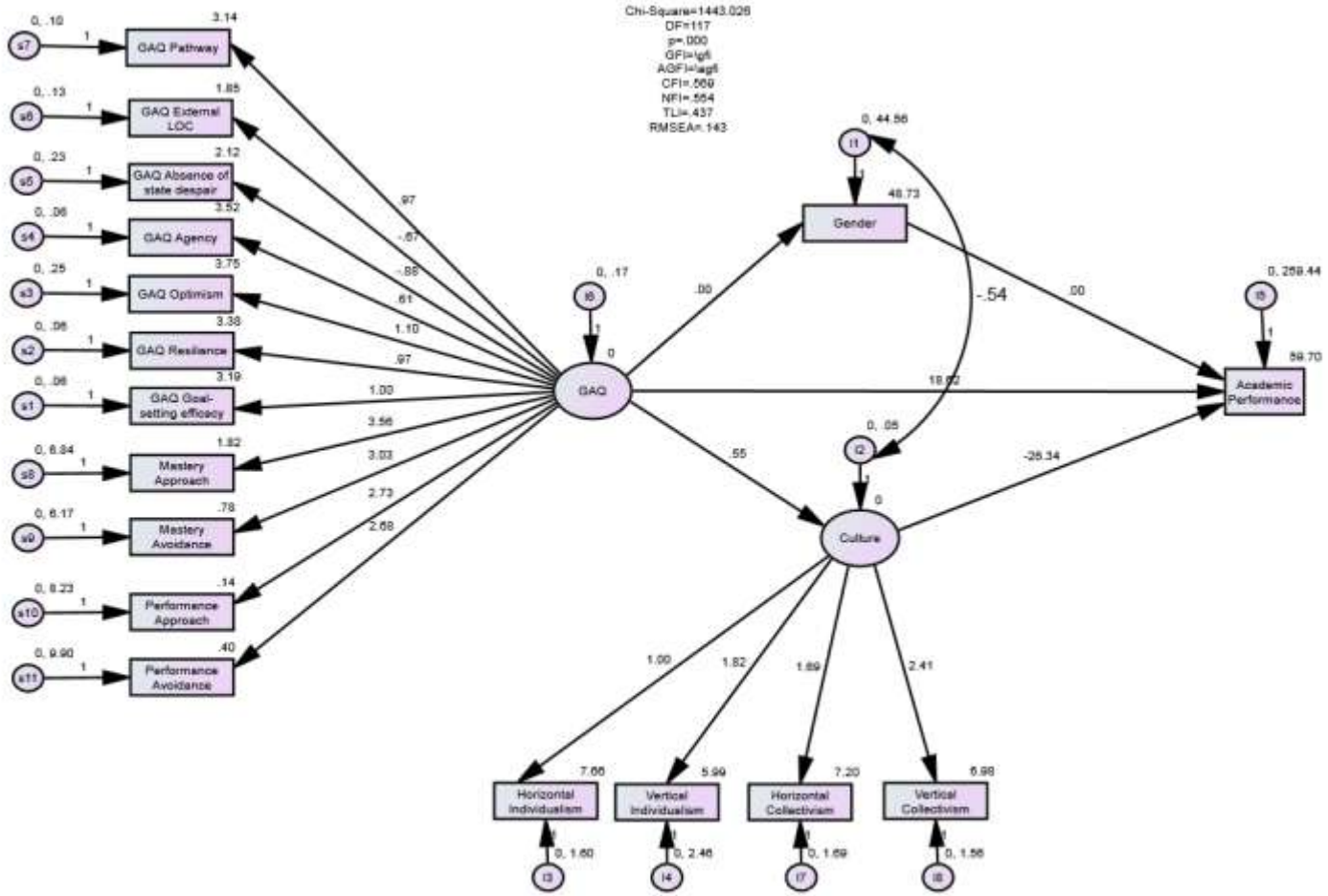

Figure 4.12 Structural equation model 5

4.4.6 Model 6.

A sixth hypothesized theoretical model was entered into Amos SPSS and tested.

4.4.6 (a) Model 6 parameter estimates. The number of variables for model 5 was 38 variables, of which 17 were observed variables (manifest variables), 21 were unobserved variables (latent variables), 19 were exogenous variables (independent variables) and 19 endogenous variables (dependent mediating variables). Only the variables GAQ, gender, culture and academic performance are discussed in this section.

The table 4.39 represents the relationship between the variables. Goal achievement (GAQ) related positively with a large direct, significant effect with culture (R^2=0.0, **β** =0.71, C.R.= 4.31, ***p <0.001) GAQ related positively, with a medium direct, significant effect with academic performance (R^2=0.0, **β =**0.44**,** C.R.= 3.97, ***p< 0.001). Gender related negatively with a small direct significant effect with culture (R^2=0.0, **β = -**0.25**,** C.R.= -3.23, **p< 0.001).

TABLE 4.39 Parameter estimates Model 6

Relationship between variables	R^2	β	z	p
GAQ → Culture	0.00	.71	4.34	***
GAQ → Academic performance	0.00	0.44	3.97	***
Culture → Academic performance	0.56	-0.49	-2.95	.003**
Gender → Culture	0.00	-0.25	-3.23	.001**

Note: *** indicates p< .001, ** indicates p< .05. The arrows indicate the direction of the relationship. GAQ and Culture is an unobserved, endogenous variable. Gender and Academic performance is an observed, endogenous variable.

4.4.6(b) Model fit. The minimum was achieved with chi - square□= 1443.03, degrees of freedom (DF) = 117 and probability of an exact fit (pclose) = .00 indicating non significance as p<.05 indicates no fit, Comparative fit index (CFI) = .57

and the Normed fit index (NFI) =.55 both indicated a very small fit with 0=poor fit and close to 1= good fit. With the root mean square error of approximation (RMSEA) = .14. The RMSEA indicates a poor fit as 0 = exact/good fit; <0.05 = close fit; >0.08 = mediocre fit and >.10 = poor fit (see table 4.40).

TABLE 4.40 Fit indices: Model 6

	χ^2	DF	pclose	CFI	NFI	RMSEA
Model 6	1443.03	117	.00	.57	.55	.14

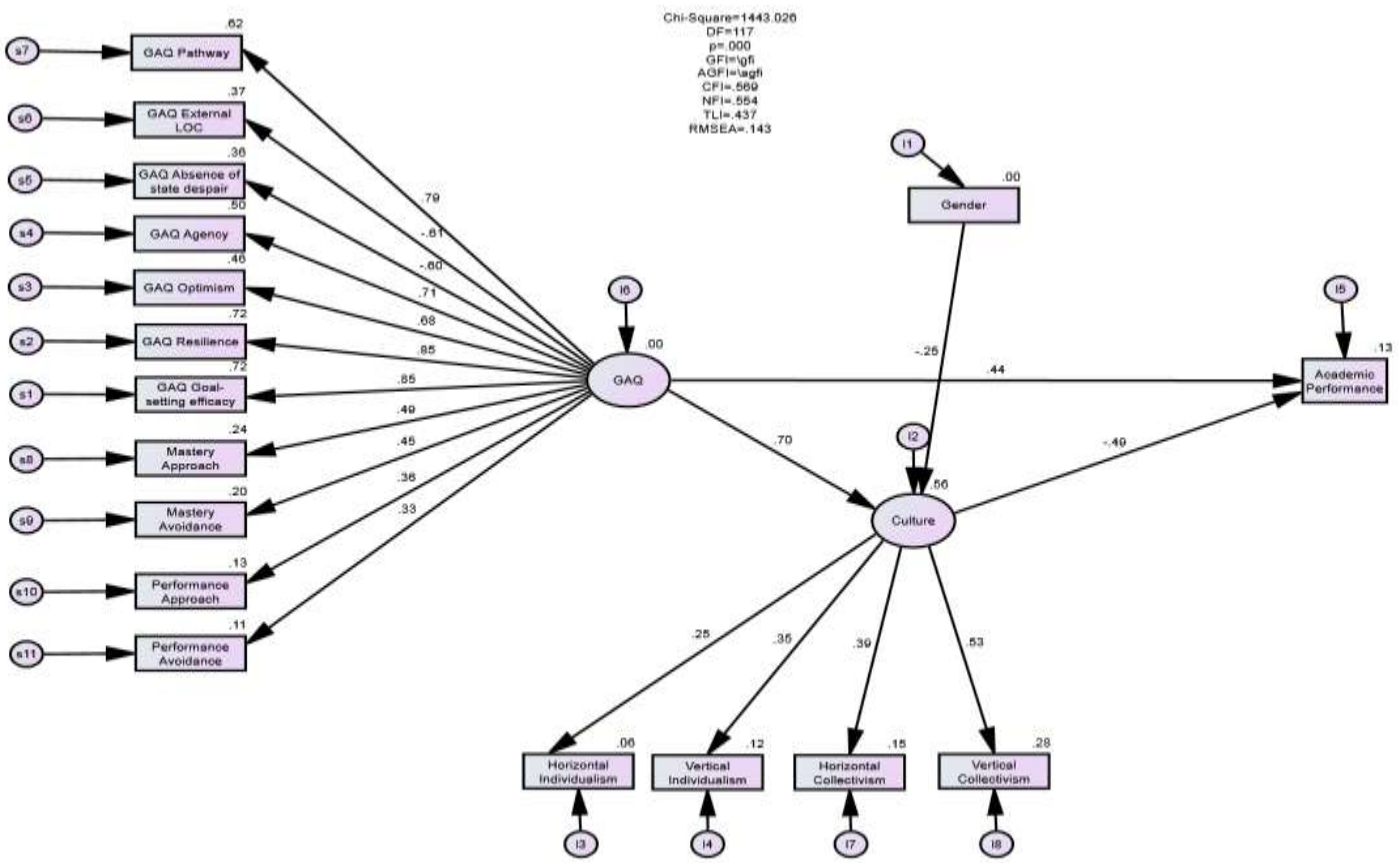

Figure 4.13: Structural equation model 6

4.4.7 Comparison of various models.

The last step is to compare and briefly discuss the various models.

TABLE 4.41 Fit indices: All models

	χ2	DF	Δχ2	ΔDF	p	pclose	CFI	NFI	RMSEA
Model 1	1454.26	116			.00	.00	.57	.55	.14
Model 2	1380.72	102	73.54	14	.00	.00	.58	.56	.13
Model 3	950.58	54	430.14	48	.00	.00	.64	.63	.17
Model 4	998.62	64	48.04	10	.00	.00	.63	.62	.16
Model 5	1443.03	117	444.41	53	.00	.00	.57	.55	.14
Model 6	1443.03	117	0	0		.00	.57	.55	.14

Note: P close suggests that If the p is less than or equal to .05, it is concluded that the model's fit is worse than close fitting. p≤.00 indicates significance in difference between (Δχ2) and (ΔDF).

Table 4.41 shows that we can compare successive models with each other to determine whether the change in chi-square and degrees of freedom (DF) is significant although the global chi-square for a particular model might not be significant. Thus, we can compare models 2 and 1, 3 and 2, 4 and 3, 5 and 4 and 6 and 5. Model 1 is regarded as the full model and thus the baseline model. We are interested in the effect of either culture and/or gender on mediating/moderating effect of Goals on academic performance. The various models were constructed to eliminate or include these two variables. These models are summarised and listed below:

1. Full model (gender and culture each link goals and academic performance)

2. Culture included (but not gender)

3. Gender and Culture excluded

4. Gender included (Culture excluded)

5. Both gender and culture included but correlation between gender and culture assumed

6. Gender with relationship to only culture but not with Goal and Academic performance.

Model 3 provides the smallest chi-square value which means it is the better fitting model. As soon as gender and/culture is added the explanatory value of the model is reduced instead of increased as we have expected. However, if one wants to determine which of the two variables has the most influence on the model then a comparison between model 2 and 4 indicates that including Gender provides a better model than Model 2 with only culture.

By including both gender and culture (models 5 and 6) with gender's link between goal and performance provides a marginal better model (1454.26-1443.03=11.23 with 1 DF: $p = 0.000805$). By leaving gender out there is a significant improvement between models 5/6 and model 2 (Chi = 62.31 df = 15 $p < 0.00001$) as well as between model 1 and model 2 (Chi = 73.54 df = 14 $p < 0.00001$).

If one looks at the magnitude of the loadings of correlations between variables, then the following (table 4.42) shows the relationships between variables.

TABLE 4.42 Loadings of correlations between variables

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GAQ > AP	.37	.41	.09	.09	.44	.44
GAQ > Culture	.72	.71			.71	.70
Culture>AP	-.38	-.44			-.49	-.49
GAQ >Gender	0			.01	0	
Gender >AP	.13			.16	0	

The magnitude of the correlations between the variables in the model stays relatively the same except for models 3 and 4 when culture is removed. The models make sense with culture and/or gender in the path model (1,2, 5 and 6). Given the fact that gender does not correlate highly in models 1 and 4 (.13 and .19), a model without gender such as model 2 or model 6 might have better explanatory value. If one wants to include gender then the -.25 correlation with culture in model 6 needs to be described, namely an increase in Gender scores correlates with lower culture scores.

As mentioned in chapter 3, Gender scores can be interpreted as low scores indicating traditional views and high scores indicating egalitarian views and Culture scores are interpreted as low scores indicating individualism and high scores indicating collectivism. An increase in Gender scores correlates with lower Culture scores which means that individualistic students are more egalitarian.

Interestingly if the culture scores are removed from the model (3 and 4), the substantial correlation between GAQ and Academic performance becomes substantially small. If mediation or moderation was present then it should have increased without one of the two variables (gender and culture) and as soon as one adds one of these two variables, the direct correlation between GAQ and AP should decrease. However, this is not the case and the relationship between GAQ and academic performance require culture to be present.

The best one can do with model 2 or 6 is to interpret the weights between variables i.e. an increase in GAQ leads to an increase in AP (similarly the contributions of each component to GAQ indicates the importance of each; the same goes for Culture and its components). Also in an increase in Culture scores leads to an increase in AP. The loading between Culture scores and AP is negative which means that decrease in Culture scores correlate with an increase in AP scores. This means that students who are individualistic (or traditional) perform better academically. It appears as if better AP is associated with individualism (traditionalism).

4.5. Chapter Summary

This chapter reported on the results on statistical analysis conducted on data collected from participants. At the start of this chapter the sample was described followed by variable distribution, reliability and correlations. The different groups were also reported and finally results of SEM were presented. In Chapter 5 a discussion of the results is presented as well as limitations, and recommendations thereof.

CHAPTER 5: DISCUSSION

5.1. Introduction

In this final chapter the research problem and the aim of the study is reaffirmed. At first findings regarding goal orientation and academic achievement as well as mediating variables are discussed. Next the structural equation models and mediations are summarised. All of the hypotheses in the context of literature are discussed, followed by a discussion of limitations and implications of the study. Recommendations based on the current research are suggested followed by a conclusion.

5.2. Summary of study

This study wanted to find a deeper understanding of the relationship between goal orientation and academic achievement through examining factors thought to mediate the relationship. Due to the interest in a deeper understanding of this relationship and its complexities, a mediational analysis was considered.

5.3 Findings with regard to the relationship amongst variables

The following section discusses the findings in relation to Chapter 4, however it also highlights similarities and contradictions as were found in Chapter 2. The findings discuss the variables: gender(sex), gender roles orientation, historical groups, culture orientation, first university generation, medium of instruction, goal orientation and academic achievement.

5.3.1 Gender (sex) findings

Two way between groups ANOVA suggested that gender (sex) effects academic achievement and that an interaction between gender (sex) and goal orientation impacts academic achievement. T tests concluded that mean differences

existed amongst some of the sub scales for the goal achievement questionnaire. For gender (sex) the sub scales pathway and agency yielded mean differences amongst females and males. Although Chapter 2 suggests that some studies conducted on the differences between a person's gender (sex) and their goal orientations have inconclusive results (Meece & Holt, 1993; Thorkildsen & Nicholls; 1998; Pajares & Valiante, 2001). Weerakkody and Ediriweera (2008) found that female students achieve higher exam marks than male students. Females are more goal orientated compared to males overall accept for mastery avoidance scores where males are more mastery avoidant although females score for performance approach appear higher, boys are more performance approach compared to their mastery approach scores. Amani and Was (2006) also found what appeared to be a relationship between goal orientation and academic achievement. In their study boys appeared to be higher on mastery-avoidant and girls appeared more mastery approach, boys also appeared more performance approach orientated.

5.3.2 Gender roles findings

In the results chapter Pearson correlation coefficients suggested that a relationship exists amongst academic achievement and gender roles. This is in line with findings from Chapter 2. Hyde and Durik (2005) researched gender roles and goal orientation. They found that males were more approach oriented and females were more avoidance oriented. Another study found research that females were more learning oriented and males more performance orientated (Anderman & Young, 1994; Middleton & Midgley, 1997; Patrick et al., 1999).

5.3.3 Culture findings

There also appears to be a relationship amongst culture orientation and goal orientation. These findings are supported with literature findings in Chapter 2 which also suggests that there appear to be relationships amongst these variable. Verkuyten et al. (2001) compared the importance of culture for achievement motivation and academic performance in students from different cultural backgrounds. The study found that culture does influence achievement motivation and academic performance.

Another study by Urdan (2004) reported that poor academic performances of students are related to cultural characteristics and differences. The results in a similar study indicated that individuals from an individualistic culture scored lower on performance goals and individuals from a collectivistic culture scored higher on performance goals. Abd-El-Fattah and Patrick (2011). Research suggests that a students' orientation towards culture, whether individualistic or collectivistic, has a direct impact on students' goal orientation (Wagner, Meyer, Humphrey & Hollenbeck, 2005). Research also indicated that a student's orientation towards culture, in this case individualistic or collectivistic influences a students' academic achievement (Yi, 2004).

5.3.4 Historical group findings

Historical groups effect academic achievement. Historical advantaged students achieve academically higher compared to historical disadvantaged students, but goal orientation does not affect this relationship. For historical groups resilience, optimism, mastery avoidance and performance avoidance yielded mean differences amongst historical advantaged and historical disadvantaged students.

These results relate to findings mentioned in chapter 2. Maree et al. (2011) found that it seemed as if black students conformed more to a performance orientation and other students performed more to a learning orientation and Ramnarian (2012) found that black students tend to be more performance goal orientated. This is reflected in these present findings.

5.3.5 Medium of instruction findings

Medium of instruction effects academic achievement and an interaction between medium of instruction and goal orientation impacts academic achievement. First language as medium of instruction students perform better academically however second language of instruction as medium are more performance approach orientated compared to first language as medium of instruction. This is supported by researchers in the South African educational environment who speculated that academic language is an influencing variable in academic achievement (Brock-Utne, 2007). For medium of instruction, resilience, optimism, mastery approach, mastery avoidance, performance approach and performance avoidance yielded mean differences amongst first language as medium of instruction and second language as medium of instruction.

5.3.6 First university generation findings

Results from analysis of the first university generation yielded no significance for academic achievement and T test for first university generation yielded mean differences amongst yes first university generation and not first university generation for resilience, optimism and mastery approach. This is contrary to Alokan and Osakinle (2013) who conducted a study in which they evaluated differences between the academic performances of students from parents with a high educational

background and students from parents with a low educational background. The results showed a significant difference between academic performance of students from parents with high educational background and students from parents with low educational background.

5.4. Discussion of structural models and mediation

A relationship exists amongst goal achievement and culture orientation, goal achievement also related to academic performance. When the variable culture orientation was absent the relationship between goal achievement and academic performance became smaller. This could be indicative of culture orientation playing the role of a mediator between academic performance and goal achievement. Gender roles had no relationship with goal achievement, however earlier in this present study a Pearson correlation suggested that gender roles had a relationship with goal orientation, this could have been due to the sample size as a Pearson correlation is sensitive to sample size. A small relationship exists between gender roles and academic performance, however when culture was added no relationship existed amongst academic performance and gender roles. In Model 5 where all the variables were present a bidirectional relationship was noted for gender roles and culture orientation.

5.5. Answers to research question and hypotheses

The Hypotheses attempted to answer: **Sub question 1:** do the variables history, academic language and gender (sex) and parental education influence the relationship between goal orientation and academic achievement? **Sub question 2:** are there significant differences between the different groups for the goal orientation

subscales? **Sub question 3:** do the variables gender role and culture orientation influence the relationship between goal orientation and academic achievement?

5.5.1. Hypothesis 1.

It was at first hypothesised that how students perceive themselves in terms of their culture (individualistic vs collectivistic) influences goal orientation. This hypothesis is accepted as results showed that culture had a significant, strong and positive relationship with goal orientation.

5.5.2. Hypothesis 2.

The second hypothesis was how students perceive themselves in terms of their culture (individualistic vs collectivistic) influences academic achievement. This hypothesis is rejected as results showed that an insignificant relationship exists between culture orientation and academic performance.

5.5.3. Hypothesis 3.

There are significant differences in goal orientation amongst the two historical groups. This too is accepted as a relationship was found amongst some sub scales in the goal achievement scale.

5.5.4. Hypothesis 4.

The fourth hypothesis stated that there are significant differences in academic achievement amongst the two historical groups. This is accepted as historical group had a strong and positive relationship with academic achievement.

5.5.5. Hypothesis 5.

Hypothesis five predicted that the medium of instruction significantly affects a student's goal orientation. This hypothesis is accepted as a relationship was found with some of the sub scales in the goal achievement scale.

5.5.6. Hypothesis 6.

Medium of instruction has a significant impact on students' academic achievement. This hypothesis was accepted as a strong, positive relationship does exist amongst medium of instruction and academic achievement.

5.5.7. Hypothesis 7.

The seventh hypothesis stated that gender roles have significant influence on students' goal achievement. This is rejected as gender roles had no impact on goal achievement.

5.5.8. Hypothesis 8.

Hypothesis eighth predicted that gender roles have significant influence on students' academic achievement. This too is accepted as gender roles had an impact on academic achievement. The hypotheses lead the study to answering the research question: **Is there a relationship between academic achievement and goal orientation*? Sub question 4: Can the goal orientation questionnaire predict academic success?***

This question is one that has been plaguing the educational setting for decades. Although it is clear that there is a relationship between goal orientation and academic achievement, this present study cannot be bold enough to state that goal orientation can indeed predict academic achievement. However, it is clear that there are mediating factors which influence the relationship between goal orientation and academic achievement. It is with this in mind that the limitations and recommendations are discussed below.

5.6. Limitations

This present study was conducted through an online survey which brings with it some challenges. One such challenge is that a student had to have internet

access; therefore, some students might not have partaken in this study because they did not want to sit in the library or on campus to complete the survey. It is not clear if one student completed multiple surveys with the approval of classmates by giving him/her their student information such as student numbers and email addresses. It is also not clear if more than one student completed one survey as there were no time limit, this could not be monitored and students' identity could not be verified between questions. The questionnaire was extensive with many questions; therefore, some students did not complete the whole survey. Also it could be that some students wanted to finish the survey and randomly answered questions without reading the actual statements. Whether students understood all questions is not apparent. Lack of prior research studies on the topic in respect to the surveys used in this study identified future opportunities and research gaps specifically in terms of the current South African socio economic climate.

5.7. Recommendations

In future a bigger sample could give clearer findings. Quality control should also be practiced. This means that students could be put in a venue where they are monitored and where they have the opportunity to ask questions should something be unclear. It would be interesting to do a study between faculties. The questions should be re-evaluated and shortened. A qualitative approach would strengthen the research to understand students, perceptions and behaviours in terms of goal orientation and academic achievement. Although mediators were investigated, deeper investigations into the mediators and how they play a role could yield important results which could strengthen future findings for use in the South African educational climate. It would be interesting to build a lecturer involvement set of

questions into survey to understand if lecturer involvement has an effect on goal orientation and academic achievement. In conclusion this present study could be repeated in a different setting to establish generalisability.

5.8. Conclusion

The results of the present study provide a good foundation for the interaction and relation between goal orientation and academic performance. In conclusion, it can be emphasised that individual differences in academic performance are related to goal orientation. It is also clear that the relationship between academic performance and goal orientation is mediated by culture, gender, history and language. How students approach a given task and their motivation to complete the given task plays a significant role academic performance. On a final note, this dissertation suggests that there is a relationship between goal orientation and academic performance and the mediating variables that play a pivotal role. It was discussed how these mediators were investigated, with the research framework and methodology that was used. The results were reported and discussed, which included discussion of the study's limitations. Recommendations were then provided on the bases of the findings and discussion.

REFERENCES

Abd-El-Fattah, S. M., & Patrick, R. R. (2011). The Relationship among Achievement Motivation Orientations, Achievement Goals, and Academic Achievement and Interest: A Multiple Mediation Analysis. Australian Journal of Educational & Developmental Psychology, 11, 91-110. Retrieved from: http://files.eric.ed.gov/fulltext/EJ960227.pdf

Alokan, F. B., Osakinle, E. O., & Onijingin, E. O. (2013). The Influence Of Parents' educational Background And Study Facilities On Academic Performance Among Secondary School Students. Ozean Journal of Social Science, 6(2). Retrieved from: http://scholar.googleusercontent.com/scholar?q=cache:_gG3_TljhnAJ:scholar.google.com/&hl=en&as_sdt=0,5

Amani, H., & Was, C. A. (2006) Academic identity status, goal orientation, andacademic achievement among high school students Elaheh Hejazi Masoud Gholamali Lavasani. Retrieved from: https://www.researchgate.net/profile/Masoud_Lavasani/publication/251713523_Individual_characteristics_identity_styles_identity_commitment_and_teacher's_academic_optimism/links/02e7e52be925689f8a000000.pdf

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. Journal of Educational Psychology, 84(3), 261. doi: 10.1037/0022-0663.84.3.261

Anderman, E. M., & Young, A. J. (1994). Motivation and strategy use in science: Individual differences and classroom effects. Journal of research in science teaching, 31(8), 811-831. DOI: 10.1002/tea.3660310805

Babbie, E. R., & Mouton, J. (2001). The practice of social research. Cape Town: Oxford University Press Southern Africa.

Banks, J.A., Banks, & McGee, C.A. (1989). Multicultural education. Needham Heights, MA: Allyn & Bacon.

Bantu Education act of 1953 (No.47) Retrieved from: http://www.sahistory.org.za/archive/bantu-education-act%2C-act-no-47-of-1953

Baranik, L.E., Barron, K.E., & Finney, S.J. (2007). Measuring Goal Orientation in a Work Domain Construct Validity Evidence for the 2× 2 Framework. Educational and Psychological Measurement, 67(4), 697-718. doi: 10.1177/0013164406292090

Barkus, E., Yavorsky, C., & Foster, J. (2006). Understanding and Using Advanced Statistics. Faculty of Health & Behavioural Sciences-Papers, 393.

Beere, C. A. (1990). Gender roles: A handbook of tests and measures. Greenwood Publishing Group.

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. Psychological review, 88(4), 354. Retrieved from: http://dx.doi.org/10.1037/0033-295X.88.4.354

Bhorat, H. (2004). Labour market challenges in the post-apartheid South Africa. South African Journal of Economics, 72(3), 940–977. doi: 10.1111/j.1813-6982.2004.tb00140.x

Blunch, N. (2012). Introduction to structural equation modeling using IBM SPSS statistics and AMOS. Sage.

Bodley, J.H., (2011). Cultural Anthropology: Tribes, States and the Global System. United Kingdom: Alta Mira Press

Brock-Utne, B. (2007). Learning through a familiar language versus learning through a foreign language—A look into some secondary school classrooms in Tanzania. International Journal of Educational Development, 27(5), 487-498. doi:10.1016/j.ijedudev.2006.10.004

Brown, A.J. & Bimrose, J. (1993) 'Admissions to higher education: current practice and future policy', Journal of Access Studies, **8** (2), 154 – 169. doi:0269-2562

Button, S.B., Mathieu, J. E., & Zajac, D.M. (1996). Goal orientation in organizationalresearch: A conceptual and empirical foundation. Organizational Behavior and Human decision processes, 67(1), 26-48.

Byrne, B. M. (2013). Structural equation modeling with AMOS: Basic concepts, applications, and programming. Routledge.

Chiou, J. S. (2001). Horizontal and vertical individualism and collectivism among college students in the United States, Taiwan, and Argentina. The Journal of Social Psychology, 141(5), 667-678 Retrieved from: http://www.tandfonline.com/doi/abs/10.1080/00224540109600580

Cooley, M. (Eds.), The psychology of sex roles (pp. 3-26). New York: Harper & Row. Coutinho, S. A. (2007). The relationship between goals, metacognition, and academicsuccess. Educate~, 7(1), 39-47. Retrieved from: http://educatejournal.org/index.php/educate/article/viewFile/116/134

Creswell, J.W. (2013). Research design: Qualitative, quantitative, and mixed methods. Sage.

Damji, T., & Lee, C. M. (1995). Gender role identity and perceptions of Ismaili Muslim men and women. The Journal of Social Psychology, 135(2), 215-223. Retrieved from: http://www.tandfonline.com/doi/abs/10.1080/00224545.1995.9711425

Daugherty, C. G., & Dambrot, F. H. (1986). Reliability of the attitudes toward women scale. Educational and Psychological Measurement, 46(2), 449-453. Retrieved from: http://epm.sagepub.com/content/46/2/449.short

Department of Higher Education and Training. (2013). Statistics on Post-School Education and Training in South Africa: 2010. Retrieved from: http://www.dhet.gov.za/LinkClick.aspx?fileticket=sviC7VgIdcQ=&tabid=36

Department of Higher Education and Training. (2013). Strategic Planning with DHETInstitutions, Entities and Stakeholders: University of Education, Cape Town, 16 February 2013. Retrieved from: http://www.dhet.gov.za/LinkClick.aspx?fileticket=sviC7VgIdcQ=&tabid=36

De Vos, A.S. (2005). Scientific theory and professional research. De Vos, AS, Strydom, H., Fouché, CB & Delport, CSL.

Dweck, C.S. (1986). Motivational processes affecting learning. American psychologist, 41(10), 1040. doi: 10.1037/0003-066X.41.10.1040

Dweck, C.S., & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. Psychological review, 95(2), 256. doi: 10.1037/0033-295X.95.2.256

Elliot, A.J., & McGregor, H.A. (2001). A 2× 2 achievement goal framework. Journal of Personality and Social Psychology, 80(3), 501. doi: 10.1037/0022-3514.80.3.501

Elliot, A. J., & Thrash, T. M. (2010). Approach and avoidance temperament as basic dimensions of personality. Journal of personality, 78(3), 865-906. doi:10.1111/j.1467-6494.2010.00636.x

Everitt, B. S., & Dunn, G. (1993). Principal components analysis. Applied Multivariate Data Analysis, Second Edition, 48-73. doi: 10.1002/9781118887486.ch3

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. Educational psychology review, 13(1), 1-22. Retrieved from: http://link.springer.com/article/10.1023/A:1009048817385#page-1

Field, A. P. (2009). Discovering statistics using SPSS: (and sex and drugs and rock 'n' roll). Los Angeles. Thousand Oaks, California.: SAGE Publications.

Fisher, G. and Scott, I. (2011). The Role of Higher Education in Closing the Skills Gap in South Africa. Background Paper 3 for the project 'Closing the skills and technology gap in South Africa'.Washington D.C.: The World Bank. Retrieved from:http://www.dhet.gov.za/LinkClick.aspx?fileticket=DznMTmEUqdk%3d&tabid=1063&mid=2158

Finlayson, R., & Madiba, M. (2002). The intellectualisation of the indigenous languages of SouthAfrica: Challenges and prospects. Current issues in language planning, 3(1), 40-61. doi:10.1080/14664200208668036

Fiske, E. B., & Ladd, H. F. (2004). Elusive equity: Education reform in post-apartheid South Africa. Brookings Institution Press.

Fordham, S. (1996). Blacked out: Dilemmas of race, identity, and success at Capital High. University of Chicago Press.

Forzano, L.A.B., & Gravetter, F.J. (2012). Research methods for the behavioural sciences. Belmont, CA: Wadsworth.

Foxcroft, C., & Roodt, G. (Eds.). (2006). An introduction to psychological assessment in the South African context. London, UK: Oxford University Press.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. Journal of counseling psychology, 51(1), 115. Retrieved from: http://psycnet.apa.org/journals/cou/51/1/115/

Grant, H., & Dweck, C.S. (2003). Clarifying achievement goals and their impact. Journal of Personality and Social Psychology, 85(3), 541 - 553. doi:10.1037/00223514.85.3.541

Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. American Psychologist, 56(2), 109. Retrieved from: http://dx.doi.org/10.1037/0003-066X.56.2.109

Guo, X., Schwartz, S. J., & Mccabe, B. E. (2008). Aging, gender, and self: Dimensionality and measurement invariance analysis on self-construal. Self and Identity, 7(1), 1-24. Retrieved from: http://www.tandfonline.com/doi/abs/10.1080/15298860600926873

Heyman, G. D., & Dweck, C. S. (1992). Achievement goals and intrinsic motivation: Their relation and their role in adaptive motivation. Motivation and emotion, 16(3), 231-247. Retrieved from: http://link.springer.com/article/10.1007/BF00991653

Hicks, M. (2011). The Student Academic Readiness Survey (STARS). Retrieved from: http://web.up.ac.za/default.asp?ipkCategoryID=19299&language=0

Hoyle, R. H. (Ed.). (1995). Structural equation modeling: Concepts, issues, and applications. Sage Publications.

Hunter, A. G., & Sellers, S. L. (1998). Feminist attitudes among African American women and men. Gender & Society, 12(1), 81-99. Retrieved from: http://gas.sagepub.com/content/12/1/81.short

Hutchins, A.M. (2009), "The Relationship between Goal Orientation and GenderRoles".Masters Theses & Specialist Projects. Paper 61. Retrieved from:http://digitalcommons.wku.edu/theses/61

Hyde, J.S., & Durik, A.M. (2005). Gender, competence, and motivation. Handbook ofcompetence and motivation, 375-391.

Jansen, J. (2011). Sinking deeper into mediocrity. Times Live.

Jansen, J.D. (2009). Knowledge in the blood: Confronting race and the apartheid past. Juta online. co. za.

Jansen, J.D., & Taylor, N. (2003). Educational change in South Africa 1994-2003: Case studies in large-scale education reform. Education Reform and Management Team, Human Development Network-Education, World Bank.

Kaplan, D. (2008). Structural equation modeling: Foundations and extensions (Vol. 10). Sage Publications.

Khalid, R., & Frieze, I. H. (2004). Measuring perceptions of gender roles: The IAWS for Pakistanis and US immigrant populations. Sex Roles, 51(5-6), 293-300. Retrieved from: http://link.springer.com/article/10.1023/B:SERS.0000046613.99273.22

Klitgaard, R. E. (1986). Elitism and meritocracy in developing countries: Selection policies for higher education. Johns Hopkins University Press.

Klotz, A. (1999). Norms in international relations: The struggle against apartheid. Cornell University Press.

Lemmens, J. C. (2010). Students' readiness for university education (Doctoral dissertation, University of Pretoria).

Lemmens, J.C., Du Plessis, G.I., & Maree, D.J. (2011). Measuring readiness and success at a higher education institution. Journal of Psychology in Africa, 21(4), 615–622. Retrieved from: http://hdl.handle.net/2263/18691

Linnenbrink, E.A., & Pintrich, P.R. (2002). Motivation as an enabler for academic success. School Psychology Review, 31(3), 313-327.

Madiba, M. (2010). Towards multilingual higher education in South Africa: the University of Cape Town's experience. Language Learning Journal, 38(3), 327-346. doi: 10.1080/09571736.2010.511776

Madiba, M. (2012). Language and academic achievement: Perspectives on the potential role of indigenous African languages as a lingua academica.Per Linguam, 28(2), 15-27. Retrieved from: http://dx.doi.org/10.5785/28-2-528

National language policy framework (2006). Retrieved from: http://www.gov.za/documents/national-language-policy-framework-final-draft

Maree, D.J., Maree, M., & Collins, C. (2008). The relationship between hopeand goal achievement. Retrieved from: http://hdl.handle.net/2263/11781

Marjoribanks, K. (2003). Family background, individual and environmental influences, aspirations and young adults' educational attainment: A follow-up study. Educational Studies, 29(2-3), 233-242.

MacCallum, R.C., Widaman, K.F., Zhang, S., & Hong, S. (1999). Sample size in factoranalysis. Psychological Methods, 4(1), 84. doi: 10.1037/1082-989X.4.1.84

Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. Annu. Rev. Psychol., 57, 487-503. doi: 10.1146/annurev.psych.56.091103.070258

Meece, J.L., & Holt, K. (1993). A pattern analysis of students' achievement goals. Journal of Educational Psychology, 85(4), 582. doi: 10.1037/0022-0663.85.4.582

Merriam-Webster Inc. (2004). Merriam-Webster's collegiate dictionary. Merriam-Webster. Chicago.

Middleton, M.J., & Midgley, C. (1997). Avoiding the demonstration of lack of ability: An underexplored aspect of goal theory. Journal of Educational Psychology, 89(4), 710. doi: 10.1037/0022-0663.89.4.710

Miller, F. P., Vandome, A., & McBrewster, F. J. (2010). Missing Values: Expectation-Maximization Algorithm. Listwise Deletion, Imputation, Regression Estimation, MCR.

Ministry of Education (2001) National Plan for Higher Education. Retrieved from: http://sun025.sun.ac.za/portal/page/portal/Administrative_Divisions/INB/Home/Documentation/Documentation_National/National%20Plan%20for%20Higher%20Education%20in%20South%20Africa.pdf

Ministery of education (2003) Retrieved from: http://www.gautengonline.gov.za/Publications%20and%20Reports/Education_Annual_Report_2003_2004.pdf

Mlambo, V. (2011). An analysis of some factors affecting student academic performance in an introductory biochemistry course at the university of West India.

Niles, Robert, 2006. "Robert Niles' Journalism Help: Statistics Every Writer Should Know," RobertNiles.com. Retrieved from: http://www.robertniles.com/stats/

Nisbett, R., (2003). The Geography of Thought: How Asians and Westerners Think Differently and Why. Free Press

Noguera, P.A. (2003). The trouble with Black boys: The role and influence of environmental and cultural factors on the academic performance of African American males. Urban Education, 38(4), 431-459. doi:10.1177/0042085903038004005

Pallant, J. (2010). SPSS survival manual: A step by step guide to data analysis using SPSS. Open University Press.

Pajares, F., & Valiante, G. (2001). Gender differences in writing motivation and achievement of middle school students: A function of gender orientation? Contemporary Educational Psychology, 26(3), 366-381. doi:10.1006/ceps.2000.1069

Patrick, H., Ryan, A. M., & Pintrich, P. R. (1999). The differential impact of extrinsic and mastery goal orientations on males' and females' self-regulated learning. Learning and Individual differences, 11(2), 153-171. doi:10.1016/S1041-6080(00)80003-5

Pintrich, P.R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. Journal of educational Psychology, 95(4), 667.

Posel, D. (2001). Race as common sense: Racial classification in twentieth-century South Africa. African Studies Review, 44(02), 87-114. doi:http://dx.doi.org/10.2307/525576

Prah, K.K. (2006). The African nation: The state of the nation. Centre for Advanced Studies of African Society (CASAS)

Progress in International Reading Literacy Study. (2006). Retrieved from: http://www.iea.nl/pirls_2006.html

Progress in International Reading Literacy Study. (2011). Retrieved from: http://www.iea.nl/pirls_2011.html

Qualtrics. (2013). Retrieved from: www.qualtrics.com

Ramnarain, U. (2013). The achievement goal orientation of disadvantaged physical sciences students from south africa. Journal of Baltic Science Education, 12(2), 139-

151. Retrieved from: http://episteme5.hbcse.tifr.res.in/index.php/episteme5/5/paper/view/140/31

Ramoketsi, M.S. (2008). The transformation of black school education in South Africa, 1950 – 1994: A historical perspective. (Philospiae doctor Thesis). University of the Free State, Bloemfontein

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting Structural equation modeling and confirmatory factor analysis results: A review. The Journal of educational research, 99(6), 323-338. Retrieved from: http://www.tandfonline.com/doi/abs/10.3200/JOER.99.6.323-338

Schumacker, R. E., & Lomax, R. G. (2004). A beginner's guide to structural equation modeling. Psychology Press.

Singelis, T.M., Triandis, H.C., Bhawuk, D.P.S., & Gelfand, M.J. (1995). Horizontal andvertical dimensions of individualism and collectivism: A theoretical and measurement refinement. Cross-Cultural Research, 29(3), 240-275. doi:10.1177/106939719502900302

Singleton, C. H. (1987). Biological and social explanations of sex-role stereotyping. In D. J. Hargreaves & A.

Soh, S., & Leong, F. T. (2002). Validity Ofvertical and Horizontal Individualism and Collectivism in Singapore Relationships with Values and Interests. Journal of Cross-Cultural Psychology, 33(1), 3-15. Retrieved from: http://jcc.sagepub.com/content/33/1/3.short

Spence, J. T., Helmreich, R., & Stapp, J. (1973). A short version of the Attitudes toward Women Scale (AWS). Bulletin of the Psychonomic Society, 2(4), 219-220.retrieved from http://link.springer.com/article/10.3758/BF03329252:

Spence, J.T., & Hahn, E.D. (1997). The attitudes toward women scale and attitude change in college students. Psychology of Women Quarterly, 21(1), 17-34. doi:10.1111/j.1471-6402.1997.tb00098.x

Stats, S. A. (2004). Labour force survey. Retrieved from: http://www.statssa.gov.za/publications/SAStatistics/SAStatistics2004.pdf

Statistics South Africa. (2012). Retrieved from: http://www.statssa.gov.za/publications/SAStatistics/SAStatistics2012.pdf

Stats SA language. (2012) Retrieved from: http://www.statssa.gov.za/publications/SAStatistics/SAStatistics2012.pdf

Steinmayr,R., Meißner,A., Weidinger, A.F., & Wirthwein,L. Academic Achievement in

Education. ISBN: 9780199756810. Published online July 2014. doi: http://dx.doi.org/10.1093/obo/9780199756810-0108

Sudano, J.J., (2000) Structural Equation Modelling (SEM) for Dummies. Centre for Health Care Research and Policy. Western Reserve University. Retrieved from: http://www.chrp.org/pdf/hsr050903.pdf

Thorkildsen, T.A., & Nicholls, J.G. (1998). Fifth graders' achievement orientations and beliefs: Individual and classroom differences. Journal of Educational Psychology, 90(2), 179. doi: 10.1037/0022-0663.90.2.179

Tishman, S., Jay, E., & Perkins, D. N. (1993). Teaching thinking dispositions: From transmission to enculturation. Theory into practice, 32(3), 147-153. doi:10.1080/00405849309543590

Todman, J. B., & Dugard, P. (2007). Approaching multivariate analysis: An introduction for psychology. Hove [England: Psychology Press.

Trends in International Mathematics and Science Study. (1995). Retrieved from: http://timss.bc.edu/timss1995i/HiLightB.html

Trends in International Mathematics and Science Study. (1999). Retrieved from: http://nces.ed.gov/timss/results99_1.asp

Trends in International Mathematics and Science Study. (2003). Retrieved from: http://timss.bc.edu/PDF/t03_download/T03INTLMATRPT.pdf

Trends in International Mathematics and Science Study. (2011). Retrieved from: http://timss.bc.edu/timss2011/downloads/T11_IR_Science_FullBook.pdf

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. Journal of personality and Social Psychology, 54(2), 323. doi:10.1037/0022-3514.54.2.323

Triandis, H.C., & Gelfand, M.J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. Journal of Personality and Social Psychology, 74(1), 118-128. doi: 10.1037/0022-3514.74.1.118

Ullman, J. B., & Bentler, P. M. (2003). Structural equation modeling. John Wiley & Sons, Inc.

UNESCO (2005) Convention on the Protection and Promotion of the Diversity of Cultural Expressions. Retrieved from: http://unesdoc.unesco.org/images/0014/001429/142919e.pdf

University of Pretoria, (nd). Code of Ethics for Research. Retrieved from: http://www.ais.up.ac.za/research/docs/code_ethics.pdf

Urdan, T. (2004). Predictors of Academic Self-Handicapping andAchievement: Examining Achievement Goals, Classroom Goal Structures, and Culture. Journal of Educational Psychology, 96(2), 251. doi: 10.1037/0022-0663.96.2.251

Van der Berg, S., & Van Broekhuizen, H. (2012). Graduate unemployment in South Africa: A much exaggerated problem. Centre for Development and Enterprise, Stellenbosch University.

VandeWalle, D. (1997). Development and validation of a work domain goalorientation instrument. Educational and Psychological Measurement, 57(6), 995-1015. doi: 10.1177/0013164497057006009

Vedder-Weiss, D., & Fortus, D. (2011). Adolescents' declining motivation to learn science:Inevitable or not?. Journal of Research in Science Teaching,48(2), 199-216. doi:10.1002/tea.20398

Verkuyten, M., Thijs, J., & Canatan, K. (2001). Achievement motivation and academic performance among Turkish early and young adolescents in the Netherlands. Genetic Social and General Psychology Monographs, 127(4), 378-408. Retrieved from: e.com/+Achievement+Motivation+and+Academic+performance+among+turkish&hl=en&as_sdt=0,5

Vroom, V.H. (1964). Work and motivation. Oxford, England: Wiley

Wagner, J. A. (1995). Studies of individualism-collectivism: Effects on cooperation ingroups. Academy of Management journal, 38(1), 152-173. doi: 10.2307/256731

Wagner, J. A., Humphrey, S. E., Meyer, C. J., & Hollenbeck, J. R. (2012). Individualism–collectivism and team member performance: Another look. Journal of Organizational Behavior, 33(7), 946-963. doi: 10.1002/job.783

Weerakkody, W. A. S., & Ediriweera, A. N. (2008). Influence of Gender on AcademicPerformance: A Comparative Study between Management and Commerce Undergraduates in the University of Kelaniya, Sri Lanka. Retrieved from: http://www.kln.ac.lk/uokr/all.html

Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. The Counseling Psychologist, 34(5), 719-751. doi: 10.1177/0011000006286345

Winne, P.H., & Muis, K.R. (2011). Statistical estimates of learners' judgments aboutknowledge in calibration of achievement. Metacognition and Learning, 6(2), 179-193. doi: 10.1007/511409-011-9074-8

Wingrove, C. R., & Slevin, K. F. (1982). Age Differences and Generational Gaps:" College Women and Their Mothers' Attitudes Toward Female Roles in Society". Youth and Society, 13(3), 289. Retrieved from:

http://search.proquest.com/openview/39123d430e8d441d512d2107600c517f/1?pq-origsite=gscholar

Yi-fan, S. U. I. (2004). Reflections on Culture Construction of the University. Research On Education Tsinghua University, 1, 002. Retrieved from: http://en.cnki.com.cn/Article_en/CJFDTOTAL-QHDJ200401002.htm

APPENDIX A

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Department of Psychology
Maxine Pietersen
Maxine.pietersen@up.ac.za

Research Study: The orientation of achievement: can goal orientation be used to predict academic achievement in a multicultural environment?

Dear Potential Participant

My name is Maxine Pietersen. I am currently completing a research report in fulfilment of my Master's degree in Research Psychology at the University of Pretoria. My research attempts to explore the relationship between goal orientation and academic achievement. The researcher attempts to examine whether goal orientation can be used to predict academic achievement. The areas which will be explored are culture, history, academic language and gender roles.

I hereby ask for your willingness to participate in my study as your contribution into this area of research is highly valuable. All volunteering participants in the study will remain anonymous. The information given will be used for research purposes only. You will be asked to complete a survey, a link will be provided via Click Up to the qualtrics website. The survey entails a number of self-assessment questions about your goal orientations, culture orientations and gender perceptions, the session should take about 60 minutes to complete. I am also interested in your average mark for your modules in 2014 and whether you have passed or failed the compulsory academic language proficiency test, therefor your student number is required to be able to access this information.

If you agree to participate and provide your student number, your academic performance of your current and last full year of marks will be requested from the university's Registrar. An average will be calculated and correlated with the goal orientation results. All of your data will be kept anonymous and confidential and will in no way be accessible to anyone outside of this research project. As a voluntary participant, you are free to leave out any questions you do not feel comfortable answering; you may also withdraw at any point if you wish to do so. Non-participation or withdrawal in the study will not have any negative consequences for you in any way.

Individual feedback will be made available to participants on request; there for the provision of your email address is important. Feedback regarding the study's outcomes will be made available in the form of a report of the findings should you be interested.

Your support is greatly appreciated.

Contact: Maxine Pietersen (maxinepietersen@yahoo.com; 0718596660) or Prof David Maree
(david.maree@up.ac.za; 012 420 2329) - Department of Psychology, University of Pretoria.

Survey Instrument
First page:
Uncover the factors that determine your academic performance! Research showed that there is a relationship between goal orientation and academic achievement.

By completing the Survey you can find out about the following factors:
1. Culture orientation – this gives you an indication of your cultural preference.
2. Gender perception – this gives you an indication of your believe in gender roles
3. Goal achievement resources - this indicates a belief in your ability to find ways to solve problems and achieve goals, and the extent to which you have a positive outlook.
4. Unproductivity - this indicates the tendency to avoid responsibility, not to take action, to be easily influenced to change goals, to be easily and negatively influenced by events, and the extent to which one doubts one's own ability to be effective.
5. Future vision - this indicates the extent to which you have an optimistic outlook based on the belief that the future holds promise and goals will be reached.
6. Despondency (hopelessness) - this shows your tendency to feel despondent and it reflects your current state of mind.
7. Action driven - the last dimension shows your tendency to focus and act.

By doing the questionnaire you will get scores on the 7 factors above. Some of these dimensions are related to academic achievement, you will also be helping us to make accurate predictions for students. So, although this is part of a research project you will get feedback on your results. By the end of the research we aim to indicate how goal orientation influences academic performance. If you're interested please go to the next page otherwise exit by clicking on "exit survey".

Second page:
Consent
All information is treated as confidential and the data will be destroyed should you withdraw. Participation is voluntary. By completing your email and student number below, you agree to participate in the research or exit by clicking on "exit survey".
1. Please complete the following information
Email address:
2. Please type your student number (without the 's'). This is important for feedback purposes. If you do not have a number please enter "12345" without the quotation marks.

Student number (without the‘s’):

Third page:
Complete questionnaire
Section A

Instructions

In this section you are required to complete your biographical information. Please provide the following information:

1. Mother tongue? _____
2. Home Language? _____
3. Race? _____
5. Ethnicity? _____
6. Are you the first generation studying at a higher educational institution? _____
7. If you answered no, what qualifications does your parent/s hold? _____

Forth page:
Continue completing questionnaire
Section B

Instructions

Please read the following statements carefully. Please indicate how you feel by answering 1= never, 2 = almost never, 3= rarely, 4= Occasionally, 5= Neutral, 6 = Sometimes, 7 = Frequently, 8 = almost or 9 = always. Please choose only one answer per statement. If you are unsure, please choose the answer closest to how you feel.

1. I'd rather depend on myself than others

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

2. I rely on myself most of the time, I rarely rely on others

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

3. I often do my own thing

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

4. My personal identity, independent of others, is very important to me

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

5. It is important for me to do my job better than the others

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

6. Winning is everything

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

7. Competition is the law of nature

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

8. When another person does better than I do, I get tense and aroused

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

9. If a co-worker gets a prize, I would feel proud

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

10. The well-being of my co-workers is important to me

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

11. To me, pleasure is spending time with others

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

12. I feel good when I cooperate with others

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

13. Parents and children must stay together as much as possible

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

14. it is my duty to take care of my family, even when I have to sacrifice what I want

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

15. Family members should stick together, no matter what sacrifices are required

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

16. It is important to me that I respect the decision made by my groups

1 Never	2 Almost never	3 Rarely	4 Occasionally	5 Neutral	6 Sometimes	7 Frequently	8 Almost never	9 Always

Fifth page:
Continue completing questionnaire
Section C

Instructions

Please express how you feel about each statement by indicating whether you (A) agree strongly, (B) agree moderately, (C) disagree moderately, or (D) disagree strongly. Please only choose one answer per statement. If you are unsure choose the answer which is closest to how you feel.

1. Swearing and obscenity are more repulsive in the speech of a woman than a man.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

2. Under modem economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing laundry.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

3. It is insulting to women to have the "obey" clause remain in the marriage service.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

4. A woman should be free as a man to propose marriage.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

5. Women should worry less about their rights and more about becoming good wives and mothers.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

6. Women should assume their rightful place in business and all the professions along with men.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

7. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

8. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

9. The intellectual leadership of a community should be largely in the hands of men.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

10. Women should be given equal opportunity with men for apprenticeship in the various trades.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

11. Women earning as much as their dates should bear equally the expense when they go out together.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

12. Sons in a family should be given more encouragement to go to college than daughters.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

13. In general, the father should have greater authority than the mother in the bringing up of the
children.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

14. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

15. There are many jobs in which men should be given preference over women in being hired or promoted.

A	B	C	D
Agree strongly	Agree moderately	Disagree moderately	Disagree strongly

Last page
Continue completing questionnaire
Section D

Instructions

Please express your opinion about each statement by indicating whether you regard the statement as (A) definitely false, (B) mostly false, (C) mostly true, or (D) definitely true. Mark the corresponding option on your answer sheet.

	Definitely False	Mostly False	Mostly True	Definitely True

	Definitely False	Mostly False	Mostly True	Definitely True
1. I hope to have a solid career one day				
2. At this time, I am meeting the goals that I have set for myself.				
3. I usually achieve the goals that I have set for myself				
4. I am easily downed in an argument				
5. I believe I have a good future in South Africa				
6. I hope to get good grades at the end of the year				
7. There are lots of ways around any problem that I am facing now.				
8. Even when others get discouraged, I know I can find a way to solve the problem				
9. In times of stress I say to myself “I can get through this”				
10. I see no way out of my current bad situation				
11. I hardly ever expect things to go my way				
12. I energetically pursue my goals				
13. I usually find myself worrying about something				
14. In difficult times I rely on my friends or family				
15. I believe that a terminal illness can be beaten by positive thinking				
16. My future goals are easily influenced by things people say				
17. Although I know I am not doing my best right now I hope to do well at the end of the year				
18. In uncertain times, I usually expect the best				
19. I am able to think of many ways of achieving my personal goals				
20. Usually I find it difficult to create goals for myself				
21. I believe I have a rosy future				
22. If I should find myself in a jam, I could think of many ways to get out of it.				
23. If I get discouraged I am able to pick myself up				
24. Currently I find it difficult to focus on my goals				
25. Because I work hard I will reach my goals one day				
26. I can name specific things that make me depressed about my future				
27. I feel very lost				
28. My past experience taught me that things will go better in future				
29. I am easily influenced by what my friends say I should do				
30. I am currently in a difficult situation				
31. There are lots of ways around any problem				
32. I am currently depressed about my future				
33. I have enough inner strength to overcome difficult situations.				
34. I rarely count on good things to happen to me				
35. I hope to earn enough money to work comfortably one day				
36. I generally expect things to go wrong in my everyday life				
37. There are often many ways to solving a problem				
38. I would rather wait for a difficult situation to pass than doing something about it				

	Definitely False	Mostly False	Mostly True	Definitely True
39. If I am in a difficult situation I see it as a challenge				
40. I'm always optimistic about my future				
41. I stay optimistic even when under a lot of stress				
42. I usually avoid challenging tasks because I am convinced that I will not succeed				
43. If something can go wrong for me, it will				
44. Things usually get better without me doing anything about it				
45. I have at least one long term goal for the next five years				
46. I can think of many ways to reach my current goals.				
47. If I were stuck in a lift this event tends to ruin my day				
48. I can think of many ways to get the things in life that are most important to me				
49. Good things will happen to me in the future				
50. At the present time, I am energetically pursuing my goals.				
51. I can name specific things that make me hopeful				
52. I hope to have a solid marriage or relationship one day				
53. When something goes wrong it is usually my fault				
54. I can think of many solutions when faced with a problem				
55. I am able to overcome obstacles by finding practical solutions				
56. I am able to identify goals for myself				
57. I worry about my health				
58. When I am confronted with a difficult situation I can easily figure a way out				
59. I achieve most of my short-term goals and will continue to do so				
60. Right now, I see myself as being pretty successful.				
61. I can find different ways to reach my goals if my current attempts are not succeeding				
62. I hope to perform well at the end of the year because I am doing my best				
63. I meet the goals that I set for myself				
64. I can think of many ways to get out of a jam				
65. I've been pretty successful in life				
66. Overall, I expect more good things to happen to me than bad				
67. There are often situations that seem hopeless but I can always see a way out				
68. My failures motivate me to do better				
69. I am responsible for achieving my goals				
70. My past experiences have prepared me well for my future				
71. When I am experiencing a bad situation I can see no way out				
72. I am responsible to make my future happen				
73. I always rely on others to bail me out in difficult situations				
74. I do not set goals for myself in fear of disappointment				
75. Difficult situations in the past have shown me that I can cope				
76. In bad times I am able to see that there will be better times				
77. When faced with difficult situations I usually doubt whether I can deal with it				

	Definitely False	Mostly False	Mostly True	Definitely True
78. I am able to control my actions in order to achieve positive outcomes				
79. I am able to maintain my goals even if I fail to reach some of them occasionally				
80. I have future events which I look forward to				

Done