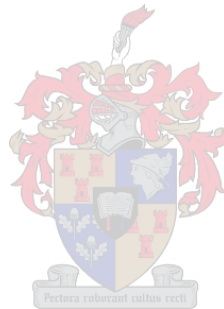


**Evaluation of Hope, Courage, and Love of Learning as Predictors of Academic
Performance**

Chevonne Klue

*Thesis presented in partial fulfilment of the requirements for the degree Master of
Commerce (Industrial Psychology) in the Faculty of Economic and Management Sciences at
Stellenbosch University*



Department of Industrial Psychology

Supervisor: Mrs. S. Goosen

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Abstract

Poverty, inequality, youth unemployment, and skills deficiency are four major challenges adversely affecting South Africa (Mubangizi, 2021). In addition, inadequate education systems and resources present further hurdles to disadvantaged students in meeting the strict entrance requirements of most universities. This, in turn, influences the employment opportunities of these individuals in the open labour market. Nevertheless, there are individuals who have utilised their specific character strengths to face situations of hardship and still succeeded (Peterson & Seligman, 2004). Non-cognitive constructs, such as character strengths, may add additional predictive value to that of cognitive ability (Akos & Kretchmar, 2017). This study aimed to examine the relationship between disadvantaged students' levels of hope, courage (i.e., bravery, perseverance, zest, and honesty), love of learning and academic performance, whilst considering previous academic marks. This study utilised a cross-sectional research design with a convenience sample of N = 231 NSFAS students from the University of Stellenbosch. The VIA-120 measurement instrument was included in an online questionnaire to assess the relevant non-cognitive variables. Partial Least Squares Structural Equation Modelling (PLS-SEM) results supported three (3) of the six (6) hypothesised relationships. The findings of this research indicate that perseverance, love of learning, and matric average results individually have a direct positive relationship with academic performance. Considering the results of the current study, this research proposes that universities in South Africa should consider adapting their current admissions models to include both cognitive (i.e., matric average results) and non-cognitive (i.e., perseverance and love of learning) constructs. An amended admission model may provide the necessary support or encouragement for individuals from disadvantaged backgrounds to continue with higher education. It is thought that this amended model may bring about ongoing positive change in the South African educational and employment situation. This study concludes by recommending that schools and universities adopt approaches which allow for individuals to develop and build on their character strengths.

Opsomming

Armoede, ongelykheid, werkloosheid onder die jeug, en vaardigheidstekorte is die vier groot uitdagings wat Suid Afrika nadelig affekteer (Mubangizi, 2021). Gevolglik veroorsaak ongenoegsame onderrigstelsels en hulpbronne addisionele struikelblokke vir benadeelde studente om te voldoen aan die streng keuringsvereistes van meeste universiteite. Dus, word hierdie studente se kanse om werk te kry in die openbare arbeidsmark geaffekteer. Daar is egter individue met spesifieke karakterkragte wat hul situasies van swaarkry verduur en steeds sukses behaal (Peterson & Seligman, 2004). Deur nie-kognitiewe konstrakte gesamentlik met kognitiewe konstrakte in ag te neem, word addisionele waarde moontlik voorspel (Akos & Kretchmar, 2017). Die doel van hierdie studie was om die verhouding tussen akademiese prestasie en benadeelde studente se vlakke van hoop, moed (dapperheid, deursettingsvermoë, energie / entoesiasme, en eerlikheid) en liefde vir leer te ondersoek, terwyl vorige akademiese punte steeds in ag geneem word. 'n Deursnee-navorsingsontwerp met 'n gerieflikheidsteekproef van $N = 231$ NSFAS studente van die Universiteit van Stellenbosch is gebruik in die studie. Die voorgenoemde nie-kognitiewe veranderlikes was deur die VIA-120 meetinstrument getoets in 'n aanlyn vraelys. Die resultate van PLS-SEM analyses het drie (3) uit die ses (6) hipoteses ondersteun. Die bevindinge van die navorsing dui daarop dat deursettingsvermoë, liefde vir leer en matriek gemiddelde punte elk positiewe verwantskappe met akademiese prestasie het. Gegewe die resultate van die huidige navorsing, moet universiteite in Suid Afrika dit oorweeg om hul huidige universiteit keuringsmodel aan te pas om beide kognitiewe (matriek gemiddelde punte) en nie-kognitiewe (deursettingsvermoë en liefde vir leer) konstrakte in te sluit. 'n Alternatiewe universiteitstoelatingsmodel kan moontlik vir benadeelde studente die nodige ondersteuning of aanmoediging bied om voort te gaan met verdere studies wat kan lei tot positiewe veranderinge in Suid Afrika se situasie. Hierdie studie sluit af met voorstelle vir skole en universiteite om benaderings aan te neem wat individue se karakterkragte ontwikkel en versterk.

Plagiarism Declaration

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Signed: C. Klue**Date:** March 2023

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Chapter 1: Background to the Study

1.1 Introduction

The civil uprising during the week of 9 to 17 July 2021, during which more than 200 people lost their lives and billions of Rands worth of damage was caused, can be attributed in large part to the high levels of poverty and inequality in South Africa, aggravated by the coronavirus (COVID-19) pandemic (Bauer, 2021). While the economy is recovering from the impact of the pandemic, the increasingly devastating effects of poverty and unemployment continue to impact millions of individuals who are struggling to fulfil their basic needs (BusinessTech, 2022).

More than ever before, South Africa is adversely affected by the four major challenges of poverty, inequality, unemployment, and skills deficiency (Mubangizi, 2021). Firstly, poverty is viewed as a significant defining feature of most South African citizens. Secondly, inequality remains a pressing problem, with South Africa being viewed as the most unequal country in the world. This viewpoint was reflected in a Gini coefficient¹ of above 60, ranking the country top amongst 164 countries, as indicated in the World Bank's global poverty database released on 9 March 2022 (Stoddard, 2022). Thirdly, the youth of South Africa are confronted with high levels of unemployment, partly due to their skills deficiency (Flanagan, 2021). Lastly, high numbers of South African children do not have access to quality education and are inclined to give up on school for many reasons, one of which is repeatedly failing. Whilst a significant 6.5% of the Gross Domestic Product (GDP) is invested in education (The World Bank, 2019), there are other limitations, for instance, unqualified teachers and lack of resources in the education system, that are preventing effective learning. Ultimately, South Africa is trapped in a perpetuating cycle of poverty as these major challenges continue to influence one another and exacerbate the country's issues. It is, however, proposed that quality education for

¹ The Gini coefficient is one of the most often used indicators of economic inequality. It ranges from 0 (0%), indicating a perfectly equal distribution of income within a population, to 1 (100%), representing perfect inequality when one individual in a population receives all the income (CFI Team, 2021).

disadvantaged² individuals could be a key solution in attempting to solve some of these challenges (Zezeza, 2021).

It is reasonable to propose, therefore, that basic quality education, and a concerted support and encouragement for people from disadvantaged backgrounds to continue with higher education, might bring about escalating positive change. This would, over time, lead to an increase in skill levels, provide broader access to increased-employment opportunities for the youth, address the poverty disparities and inequality would be gradually minimised. However, along with these challenges presently confronting disadvantaged school learners, they face the additional hurdle of the strict entrance requirements of universities which do not consider academic potential, but only current academic results. This, in turn, affects the extent to which these individuals gain access into the workplace as it is evident that the outcome of a higher education, such as a degree or diploma, is one of the most efficient means of finding employment.

1.2 South Africa's Situation

According to The World Bank (2019), South Africa's political conversion has been identified as one of the most noteworthy political accomplishments of the past century. The economy continued to grow during the ensuing years, as constant efforts were made to improve the well-being of the country's citizens after the conversion to democracy. However, The World Bank noted in 2019 that progress is, however, declining. In 2018 South Africa hit its lowest economic position, with a ranking of 67 against 140 of the world's largest economies (Sicetsha, 2018). In 2019 South Africa's standing improved with a ranking of 60 out of 141 economies, according to the Global Competitiveness Report (Schwab, 2019). In 2021, South Africa's international competitiveness ranking was 62 and in 2022, it improved again to 60 (Department of Employment and Labour, 2022). Factors such as real income growth, the development of

² For the purpose of this study, students whose family, social, or economic circumstances hamper their ability to learn at school will be referred to as *disadvantaged individuals*.

community safety nets and satisfaction of basic needs through services contributed to this improvement. In terms of poverty, a 2017 Statistics South Africa report highlighted that 66.6% of South African citizens were living in poverty in 2006. Although this figure decreased to 53.2% in 2011, it rose again in 2015 to a 55.5% poverty headcount³. The upper-band poverty line measurement of R 992.00 per person per month was utilised in these statistics (Statistics South Africa, 2017). This is primarily due to the structural challenges and weak development rates since the 2008 global economic crisis occurred, and secondly, because of developments in the labour market continuously demanding skills that South Africans lack (The World Bank, 2019). As of 2022, approximately 18.2 million individuals in South Africa lived in extreme poverty and the headcount is envisaged to increase in the coming years (Galal, 2022). It is further postulated that children, Black people, women, individuals from disadvantaged areas, and people lacking in educational opportunities are most affected in the unending battle against poverty (Statistics South Africa, 2017). In recent years, the poverty reduction figures have been negatively impacted by the devastating impact of the COVID-19 pandemic (The World Bank, 2021).

Approximately 12 million children live below the poverty line in South Africa, and approximately half (50%) of those who attend primary school do not finish high school. In some circumstances, children are forced to discontinue their schooling as their guardians cannot afford the cost, whilst other learners drop out because they lose motivation due to the lack of support and care they receive (Misselhorn, 2018). The World Bank reported in 2017 that one-third of employed people in low- and middle- income countries lack the required basic skills. Workers who lack these skills are therefore consequently forced into unemployment or trapped in jobs which are not stable, offer low salaries or wages, and have either limited or no career growth. This leads to disadvantaged individuals being unable to achieve their full productive capabilities and directly prevents them from reaching their potential to build successful careers. Inferior skills contribute directly to poverty and inequality as well, and for this reason,

³ The total number of South Africans living in poverty is referred to as a poverty headcount.

the private sector cannot grow in a country that does not have a capable labour market to sustain it. Adding to the reality of major skills deficiencies within the majority of the population, the issue is further aggravated by the accelerated technological advancement within the global economy, where it is increasingly expected of employees to be more creative, flexible, and adaptable to change. The World Bank rather worryingly states that more than 2 billion adults do not meet the most vital skills requirements necessary to perform jobs optimally (The World Bank, 2017), thus emphasising the link between skills deficiency and unemployment.

Statistics South Africa indicated an unemployment rate of 32.6% in the first quarter of 2021 and later in 2021 this rate is even higher, with 75% of young adults between the ages of 15 and 24 years of age being unemployed (Flanagan, 2021). More recent data indicate that unemployment is estimated at approximately 35%, and youth unemployment exceeds 50% (Organisation for Economic Co-Operation and Development, 2022). These figures clearly show that South Africa has the highest number of unemployed youth amongst 200 countries. A noteworthy fact is that South Africa has a dual economy with one of the highest global inequality rates, stemming in part from the high unemployment rate. Inequality has been a continual challenge, with the Gini coefficient increasing from 0.61% in 1996 to 0.63% in 2015, where it still remains in 2022 (Stoddard, 2022). In terms of income inequality, the top 1% of individuals in South Africa earn almost 20% of all the income in the country, whilst the top 10% earn 65%. The remaining 90% of South Africans receive only 35% of the total income (Weber, 2019). Inequality has been exacerbated by an inherited culture stemming from the Apartheid years which excluded Black people from participation in the formal economy and which has still not been totally eradicated. For this reason, the nature of economic growth in South Africa does not include effective policies that are directly aimed at reducing poverty and does not create an adequate pool of job opportunities. In South Africa, the richest 10% of the population held around 71% of net wealth in 2015, while the bottom 60% held only 7% of the net wealth. Moreover, inequalities are passed down from one generation to another and therefore little positive change in inequality has occurred over the years (The World Bank, 2021).

Due to the abovementioned challenges and status-quo, it is clear that a large number of people in South Africa are living with poverty as their reality. Together with poverty, there exists an inadequate education system and resources, which leads to the continuation of skills deficiency, unemployment, and inequality. Numerous schools do not have proper infrastructure and the classrooms are overcrowded, resulting in poor academic outcomes for these learners, as reflected in their school grades (Mtywaku & Pupil, 2020), which consequently hinders their access to tertiary education institutions.

1.3 University Admission in South Africa

All universities and other tertiary education institutions have their individual admission requirements, as stipulated in their admission policies. Stellenbosch University is a typical example of a South African university and will, for the purpose of this dissertation, serve as a representative for South African universities. Stellenbosch University (2020) has certain basic requirements outlined in their admissions requirements which learners must achieve in order to gain admission to study at this institution. These requirements include the condition that the applicants have attained a National Senior Certificate (NSC) or Independent Examinations Board (IEB) certificate to prove that they have passed matric. This certificate must further be certified by Umalusi in order to obtain acceptance to commence study for a bachelor's degree. Learners were also previously required to write the National Benchmark Tests (NBTs) as defined by each individual programme. For example, students who wanted to apply to study for a Bachelor of Commerce (BCom) degree, had to write NBTs for two subjects, namely, English and Mathematics, whereas if they were interested in completing a Bachelor of Arts (BA) degree, they were expected to write the NBTs for English. Following the COVID-19 pandemic, some of these restrictions have since been lifted.

Each programme of study has additional requirements to be met along with those previously mentioned. For instance, to be considered for acceptance to study a BAgri degree in Agribusiness Management within the Faculty of AgriSciences, learners would have to obtain a minimum average of 60% (excluding Life Orientation) for their NSC, including at least 50%

for English or Afrikaans (home language or first additional language), a mark of 60% for Mathematics and 50% for Physical Sciences (Stellenbosch University, 2020).

Besides the struggle to meet such stringent admission requirements, an additional obstacle in the paths of disadvantaged learners is that those who are accepted to attend university need financial assistance in the form of bursaries or loans. Together with numerous bursaries offered by private and public institutions, there is a particular bursary scheme applicable to needy prospective students, namely, the National Student Financial Aid Scheme (NSFAS). NSFAS is a government-run Institution which aims to assist students financially to pay registration and tuition fees, as well as providing them with allowances for textbooks, food, transport, and accommodation. NSFAS also has requirements that students have to meet in order to qualify for financial aid. Firstly, the applicant must be a South African citizen. Secondly, it must be the applicant's first time registering for an undergraduate degree and they must have already been admitted. Thirdly, the candidate's joint annual household income may not exceed R 350 000.00 per annum (SA Base, 2020).

It is widely known that South Africa has one of the most unequal school systems worldwide, with the largest disparity between the academic results of the top 20% of schools compared to the remaining schools (Mohamed, 2020). As an illustration, learners who are in the top 200 schools achieve more distinctions in Mathematics than learners in the remaining 6 600 schools combined. This comes as no surprise when one considers that thousands of learners attend secondary institutions with insufficient infrastructure and an absence of essential facilities. In addition, disadvantaged students are more likely to walk greater distances to school than those fortunate enough to fall within higher income groups (Mohamed, 2020).

However, there are students who have utilised specific strengths to overcome situations of hardship. The question therefore arises as to how these learners, who are subjected to difficult circumstances, overcome and produce outstanding outcomes despite their misfortune? Researchers have found that character strengths prevail in resilient individuals (Peterson & Seligman, 2004). Rather than solely focusing on overcoming the problems which confront them, resilient individuals are characterised by their efforts to understand the positive

consequences which occur during difficult times. In unpacking resilience, Peterson and Seligman divided it into external factors – such as living in a disadvantaged environment, and internal factors – where character strengths play a key role (Peterson & Seligman, 2004). Therefore, it is hypothesised that certain character strengths may be said to have an impact on the academic success of individuals which could, in turn, lead to other positive outcomes such as employment.

While many admissions policies currently focus only on cognitive variables, there is a benefit in considering non-cognitive constructs, such as character strengths, which may add additional predictive value to that of cognitive ability (Akos & Kretchmar, 2017). Character strengths might assist individuals to perform well academically, which is defined in this study as the average academic year-end results calculated⁴ by Stellenbosch University, should they be offered the opportunity to be selected as prospective students. Therefore, it is relevant to investigate the relationship between these latent non-cognitive constructs and the academic performance of disadvantaged students in South Africa. For the purpose of this study, academic performance and academic achievement will be used interchangeably.

1.4 Character Strengths as Contributing Factors in the Solution to South Africa's Problem

People, especially in South Africa, experience a wide variety of challenging circumstances throughout their lives, ranging from day-to-day troubles to major life challenges. Diverse types of individuals function differently in such situations. Some people will feel overwhelmed, whereas others are able to tolerate these situations exceptionally well, whilst still functioning optimally (Martinez-Marti, 2016). Through research into this phenomenon, Peterson and Seligman concluded that the “good life”, as they refer to it, is formed over periods of time and

⁴ Students weighted average grade for their university semester or year can be calculated by taking their module marks multiplied by their respective weights, sum it together, and then divide the total by the sum of the weights <https://www.thecalculatorsite.com/education/uni-grade-calculator.php>.

occurs through being exposed to different situations (Peterson & Seligman, 2004, p. 12). According to them, having characteristics of positivity, also referred to as character strengths, are crucial in attaining this “good life”.

Character strengths have been defined as positive concepts for cognitive, affective, and behavioural notions that are done for oneself, and to others’ advantage (Niemi, 2014). Therefore, character strengths are underpinned by positive psychology. Positive psychology is defined as a scientific style to investigate people’s positive thoughts, feelings, and behaviours. It highlights strengths rather than weaknesses, creating a good life, instead of merely mending what is bad and transforming regular people’s lives into something much brighter, or simply helping those who are struggling (Ackerman, 2020). Peterson and Seligman (2004), in their Values in Action classification (VIA), identified 24 character strengths that define six virtues (Park & Peterson, 2006). Character strengths are seen as unique ways to display these virtues. For instance, the virtue of justice includes specific character strengths such as citizenship, fairness, and leadership.

Additionally, hope, bravery, perseverance, zest, honesty, and love of learning are six of the character strengths that are assigned to specific virtues. Firstly, the character strength, hope, belongs to the virtue of transcendence. Secondly, courage is a virtue which consists of the underlying character strengths, namely, bravery, perseverance, zest, and honesty. Lastly, love of learning is one of the character strengths belonging to the virtue of wisdom and knowledge (Peterson & Seligman, 2004). The VIA Inventory is described as a measurement instrument for the latent constructs of the 24 strengths (Park & Peterson, 2006). Peterson and Seligman state that someone who has a minimum of one or two character strengths, as indicated by the VIA Classification, within a virtue set, is considered to have good character (Peterson & Seligman, 2004). According to Park and Peterson (2006), in order to live an optimal life and achieve societal well-being, moral competence and good character should be the root of development in the youth.

In addition, evidence has shown that humans who remained resilient, despite having experienced serious suffering, scored higher in the number of character strengths they

possessed, demonstrating that they had a good character. It was also found that all the strengths are positively associated with post-traumatic growth, particularly spirituality, optimism, kindness, bravery, and hope (Martinez-Marti, 2016). Research studies found that character strengths can encourage well-being and provide a cushion against psychological disorders among adolescents, which is a prevalent problem among disadvantaged individuals (Park, 2004). Moreover, it is argued that the reinforcement of certain character strengths⁵ would positively affect learners' happiness, health, and social connectedness, as well as improving in school, and could ultimately lead to increased productivity in their eventual occupation (Park & Peterson, 2009). This is a simple indication that the possession and application of character strengths hold numerous advantages for learners' futures, specifically in the role that these may play in increasing learners' academic results.

Moreover, Ruch and Weber (2011) acknowledge that numerous school- and social programs are implementing ways to help school learners in acquiring critical thinking skills and other abilities. In general, these skills are indeed crucial in achieving goals. However, they consider that having good character can provide individuals with the desire to do the things which are necessary, such as displaying positive behaviours in class, and spending more time engaging with their learning materials when needed, to ultimately achieve good academic results. It is thus suggested that having a good character directly influences learners' behaviour in class. Moreover, positive classroom behaviour has been found to have a direct relationship with academic achievement, and therefore having certain character strengths, which indicates a good character, is believed to have an indirect positive influence on academic achievement (Ruch & Weber, 2011).

This being said, it makes sense to argue that learners who have good character (i.e., learners who possess and use their character strengths) might perform better under the stressful situations that South Africa engenders, by behaving in a positive manner in school, and consequently performing better academically. Research also shows that numerous

⁵ Character strengths are explained in the subsequent sections of this study.

individuals have indeed managed to achieve academic success, despite the strained circumstances they were faced with. They have shown characteristics such as courage, determination, grit, perseverance, curiosity, resilience, and hope (Peterson & Seligman, 2004). Here, hope and courage, together with perseverance, are relevant to this study. These positive, non-cognitive characteristics may explain why these learners have been able to perform well academically. Taking this into account, there is reason to believe that if the current school and university systems continue to ignore the importance of non-cognitive variables' influence on academic performance, these systems will continue to exclude learners who could potentially achieve success in tertiary institutions, if afforded the opportunity. As a consequence, disadvantaged individuals will continue to be blocked by scarce job opportunities and narrow career options.

If it is true that these character strengths play a role in the success stories of disadvantaged learners achieving well academically, notwithstanding their hardships, then two important approaches should be considered. Firstly, it might be wise for learners to be made aware of their character strengths through school interventions so that they can utilise these strengths to perform better. Secondly, university admissions policies should be adjusted in order to take non-cognitive constructs, such as hope, courage and love of learning, into account along with cognitive variables. The overall outcome of incorporating these two approaches would most likely be that disadvantaged individuals would be provided with increased opportunities to enter gainful employment and build successful careers for themselves. This study will be focusing on the second approach. Therefore, current merit as well as future potential will be considered so that more equal decisions about learners' futures can be made. This can be achieved by including measurement scales to assess university applicants' level of hope, courage, and love of learning which are envisaged to be supportive predictors of academic potential.

1.5 Research Question

Given the introductory argument, the purpose of this study is to answer the following research question: “Do hope, courage and love of learning show a positive relationship with the academic performance of disadvantaged students, while controlling for previous academic results?”

1.6 Research Aim and Objectives

The aim of this research is to empirically test the relationships between disadvantaged students’ levels of hope, courage, and love of learning with their academic performance attained at Stellenbosch University, whilst considering their previous matric results. The following objectives will be the focus of the research study:

- To theoretically investigate and understand the impact of character strengths as positive, non-cognitive predictors of academic performance.
- To investigate the extent to which the specific strengths of hope, courage (i.e., bravery, perseverance, zest, and honesty) and love of learning positively correlate with learners’ academic performance, with a focus on disadvantaged learners within the South African context.
- To identify and account for the levels of hope, courage, and love of learning in academic performance, whilst controlling for previous academic marks.

1.7 Outline of Research Study

Chapter 1 presents the argument that the four major challenges in South Africa have a significant impact, both on the economy of the country and on society. Furthermore, poverty, skills deficiencies, unemployment, and inequality have an influence on the level of school education to which learners have access, as well as on whether the youth subsequently find suitable jobs. Bearing these factors in mind, it is acknowledged that there are individuals who possess specific personality traits or strengths who have been shown to achieve success, despite the terrible conditions in which they live. Hope, courage, and love of learning are

character strengths that may explain why these individuals are able to withstand their hardships and view them in a positive light. This chapter concludes by stating the research problem, question, and objectives.

Chapter 2 provides an extensive literature review which highlights and evaluates the specific character strengths of bravery, perseverance, zest, and honesty (i.e., courage), hope and love of learning, in relation to prior research studies. The interactions between salient variables are examined, and a conceptual model is developed to reflect the conceptualised relationships.

Chapter 3 explains the methodology that was followed. Chapter 4 summarises the results of the statistical analysis and Chapter 5 concludes by discussing the results in more depth and highlights the practical implications, limitations, and recommendations of this study.

Chapter 2: Literature review

2.1 Introduction

Poverty, youth unemployment, inequality, and skills deficiencies are key challenges in South Africa that may have dramatic effects on the academic performance of disadvantaged learners. Fortunately, some learners from these backgrounds seem to have overcome the problems facing them. Additionally, the significance of strengths, such as hope, courage, and love of learning, are believed to have a favourable influence on academic performance.

In this chapter existing literature is reviewed, by focusing specifically on (a) discussing the relevant concepts contributing to the study of character strengths, (b) defining hope, courage, and love of learning, (c) hypothesising the relationship between these character strengths and academic performance, (d) integrating the research findings within the South African context and (e) proposing an explanatory conceptual model that hypothesises the extent to which the independent variables of hope, courage, and love of learning influence the dependent variable, academic performance.

2.2 The Theory of Positive Psychology

In 1998 Martin Seligman argued that, since World War II, the field of psychology has primarily focused on repairing damage and healing pathology, and the expected outcomes were not achieved. Seligman came to the realisation that of the three psychology pre-World War II missions (i.e., curing mental disease, assisting all people to lead more fruitful and meaningful lives, and identifying and nurturing high talent), the latter two had been neglected (Seligman & Csikszentmihalyi, 2000). In the annual American Psychological Association presidential meeting in 1998, he proposed the introduction of a new sub-field of psychology, suggesting that the study of human behaviour should be more balanced. Ultimately, the new science of positive psychology was introduced (Seligman & Csikszentmihalyi, 2000).

Seligman is now considered to be the father of positive psychology, which he believes is “the study of positive subjective experiences, positive traits, and positive institutions” (Niemic, 2018a, p. 308). It is argued that positive psychology places a similar scientific focus on positive

people practices since it emphasises what is best in individuals, relationships, and organisations (Niemiec, 2018a). In comparison, at that stage, traditional psychology's focus was solely on the diagnosis of mental disorders, using the Diagnostic Statistical Manual of Mental Disorders, now in its 5th Edition (DSM-5) (Littman-Ovadia & Niemiec, 2016). Hence, positive psychology emphasises positive aspects, rather than merely focusing on mending negative issues.

Gable and Haidt (2005) defined positive psychology as “the study of circumstances and mechanisms that support people, communities, and institutions in flourishing or functioning at their best”. Positive psychological research has furthermore shifted the scientific focus toward an individual's character. In psychological terms, a good character is recognised as the main way to understand the meaning of living one's life well (Seligman & Csikszentmihalyi, 2000). It is further noted that identifying and applying one's unique character strengths is believed to contribute to the creation of a fulfilling life. It is argued that individuals with a good character focus primarily on their well-developed positive attributes, for example being honest, rather than on eliminating their shortages or issues, such as being impatient or disorganised (Park & Peterson, 2009). Hence, to have a good character does not mean a person is without negative attributes, but rather that the person's focus is on their specific positive characteristics with the intention of strengthening them. Character strengths are viewed as the positive qualities that indicate a good character (Gordon, 2022), and are therefore constructs within the study of positive psychology. Seligman and Csikszentmihalyi (2000) provide clarification by stating:

The field of positive psychology at the subjective level is about valued subjective experiences: well-being, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present). At the individual level, it is about positive individual traits: the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future-mindedness, spirituality, high talent, and wisdom. At the group level, it is about the civic virtues and the institutions that move

individuals toward better citizenship: responsibility, nurturance, altruism, civility, moderation, tolerance, and work ethic (p. 5).

Seligman (2002) explained, in a less complex way, that character strengths enable genuine contentment, and are thus regarded as one of the cornerstones of the field of positive psychology. The Classification of Character Strengths and Virtues was subsequently introduced through the broader concept of positive psychology.

2.3 An Overview of Character Strengths and Virtues (CSV)

Peterson and Seligman introduced a positive alternative to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and International Classification of Diseases (ICD) through their conceptualisation of Character Strengths and Virtues (CSV). The purpose of the investigation of the CSV was to restore the study of character and virtue as valid areas of psychological research and intelligent societal discussion (Peterson & Seligman, 2004).

The empirical study of good character that resulted from this research is known as the Classification of the Values in Action (VIA) Inventory (Park & Peterson, 2009). Over 50 specialists in the field of positive human functioning were consulted throughout the development of this influential model. Park and Peterson (2009) postulate the VIA classification of strengths and virtues to be a summary of the terminology used to explain the morally valued, positive, personal attributes of a person. The strengths that form part of this model are distinct and exist in different intensities. As previously mentioned, this classification emphasises the personal strengths that lead to the ideal development over one's lifetime (Park & Peterson, 2009). To clarify, these strengths can empower a person to grow and develop within their lives in order to eventually live an ideal life by reaching the contentment or happiness longed for by humans.

Peterson and Seligman (2014) define character strengths as distinct ways to demonstrate one or more of the virtues, whilst virtues are conceptualised as fundamental features cherished by ethical theorists and religious intellectuals. Notably, virtues are not fully supported by research since factor analytic studies did not support the six factors. However,

researchers have argued that the VIA Classification can be utilised to develop scientific investigations into the psychology of virtue (Brown & McGrath, 2020). Evident here is that the character strengths may be simultaneously associated with various virtues. Although people may behave in alignment with a virtue to a degree, the virtues are not characterised by their common overlap among the strengths. The virtues exist separately from the numerous strengths that enable individuals to exhibit a specific virtue (Proyer & Ruch, 2015). The findings of a recent study argued that some virtues include either the same or similar character strengths across culturally diverse populations, although further research is required on this issue (Kaya, 2022).

The VIA classification is comprised of 24 character strengths which are reflective of six broad categories of virtues, namely humanity, wisdom, justice, temperance, courage, and transcendence.

Table 2.1

The Values in Action Classification

The virtue of wisdom: Cognitive strengths involved in the acquiring and use of knowledge.
Creativity – Original and adaptive, clever, a problem solver.
Curiosity – Open to new ideas, interested, explores new things.
Judgement – Critical thinker, thinking things through, open-minded.
Love of learning – Adds systematically to knowledge, masters skills and topics.
Perspective – Providing wise counsel to others, takes the big picture view.
The virtue of courage: Emotional strengths needed to overcome opposition in order to accomplish goals.
Bravery – Shows valour, speaks up for what is right, doesn't shrink from fear.
Perseverance – Finishing what one starts, persistent, industrious.
Honesty – Being authentic and sincere, trustworthy.
Zest – Approaching life with enthusiasm and energy, doesn't do things half-heartedly.
The virtue of humanity: Interpersonal strengths needed to befriend and tend to others.
Love – Warm and genuine, values close relationships with others.
Kindness – Compassionate, generous, nurturing caring, altruistic.

Social intelligence – aware of feelings and motives of self and others, knows what makes others tick.
The virtue of justice: Strengths important for a healthy community life.
Teamwork – Team player, loyal, socially responsible.
Fairness – Just, doesn't let feelings bias decisions about others.
Leadership – Organises group activities, encourages a group to get things done.
The virtue of temperance: Strengths that guard against excess.
Forgiveness – Merciful, accepts others' shortcomings and gives them a second chance.
Humility – Modest, lets one's accomplishments speak for themselves.
Prudence – Careful, cautious, doesn't take undue risks.
Self-regulation – Self-controlled, disciplined, manages impulses and emotions.
The virtue of transcendence: Strengths that enable connection to the larger universe and provide meaning.
Appreciation of beauty and excellence – Feels awe and wonder in beauty, inspired by the goodness of others.
Gratitude – Thankful for the good, expresses thanks, feels blessed.
Hope – Optimistic, future-minded.
Humour – Light-hearted, playful, brings smiles to others.
Spirituality – Searches for meaning, feels a sense of purpose, senses a relationship with the sacred.

Note. Adapted from “Character Strengths and Virtues: A Handbook and Classification” by C. Peterson and M.E.P. Seligman, pp 29-30 and the VIA Institute on Character © Copyright 2004-2021, VIA Institute on Character. All Rights Reserved. Used with Permission. www.viacharacter.org.

According to Park and Peterson (2009), the main aim of the VIA Classification is to serve as a means of defining the individual traits that are believed to make people worthy of moral admiration and to enable psychological discussions. It is important to be aware that, within the context of the VIA Classification, character is seen as plural and not singular. The strengths in Table 2.1 should also be viewed along a continuum because they exist to various degrees. Each individual's character is comprised of variations of low- to high-intensity strengths (Park & Peterson, 2009). For instance, a person can be high on the strength of love but low on curiosity. It is important to note that the individual still has all these strengths to some extent and measures can be taken to improve them. While character strengths are indeed suggested

to be traits, they may not be apparent in specific situations. For example, although an individual might have the character strength of kindness, this might not be the trait that will be most perceived in that individual after being in a car accident (Peterson & Seligman, 2004).

While positive psychology strongly encourages positive experiences and human strengths, it does not necessarily imply that having a strong character has solely beneficial consequences for all aspects of development (Chen et al., 2022). According to Peterson and Seligman (2006), deviations from human strengths regarding under-, over-, and opposite expression would be a good indicator of counterproductive outcomes and possibly psychopathology. Similarly, based on the findings of Chen et al. (2022), overusing certain character strengths may have counterproductive consequences.

Based on the VIA Classification, the VIA Survey, otherwise known as the VIA Inventory of Strengths (VIA-IS), was developed to assess individual character strengths (Park & Peterson, 2009). An individual's five highest-ranked strengths, as identified from the VIA Survey, are called signature strengths (Littman-Ovadia & Niemiec, 2016). Signature strengths are explained as the character strengths suggested to be dominant in an individual. These strengths are owned, celebrated, and frequently exercised by an individual (Peterson & Seligman, 2004). These are the greatest strengths of a person which are crucial and energize one's individual strengths (Niemiec, 2018a), and are also said to be the most important in describing a person (Littman-Ovadia & Niemiec, 2016).

2.4 Developing Character Strengths

A study by Gander et al. (2019) confirmed that changes in character strengths can occur as a result of cultivation or deliberate intervention. Although character strengths are conceptualised as trait-like personality characteristics which demonstrate reasonable stability across time and circumstances, they can also be impacted by life situations and therefore might change throughout people's lives or in response to training (Gander et al., 2019). Therefore, character strengths are viewed as both fixed as well as malleable by definition (Peterson & Seligman, 2004).

Character strengths can be developed through gaining insight into one's strengths and the manner in which they can be optimally used. Once individuals are aware of their character strengths, essential pathways are opened to engagement at school, work, and relationships, throughout both the good and bad times in their lives. The more a particular strength is used, the more naturally a person will display that strength because the person will have genuinely been building that strength (Doman, 2020). While individuals may have different combinations of strengths, character strengths can be developed at will. Numerous character strength education programmes have been incorporated into educational institutions and have generated encouraging outcomes in terms of desirable behaviours, positive attitudes, academic performance, and reduced dangerous actions (Lavy, 2020).

2.5 The Relationship Between Hope, Courage, and Love of Learning with Academic Performance

The concept of academic performance has an amorphous nature as it includes numerous aspects, such as attaining a degree or developing academically (Gibson et al., 2015). It is argued that academic performance generally serves as a prime standard for determining one's educational position (Aud et al., 2010; Morsch, 2007). Steinmayr et al. (2017), defines academic performance as outcomes of performance which illustrate the extent to which an individual has attained certain targets that were the focus of actions demonstrated in educational contexts, specifically at school and university. Additionally, it is argued that academic performance refers to completing courses, attaining knowledge and skills, as well as having the ability to build a progressive career (Agarwal et al., 2021). For the purpose of this study, individuals' previous average academic results will be considered an indicator of academic performance.

Although it is important to consider an individual's academic performance when determining one's academic stance, research has shown the value of non-cognitive predictors of academic outcomes over and above cognitive ability (Akos & Kretchmar, 2017), with non-cognitive predictors including character strengths such as hope and love of learning, and

virtues, for instance, courage. Character strengths and a broad selection of other positive phenomena are closely correlated. Such phenomena include thriving, liveliness, achievement, and happiness, as examples (Niemiec, 2019). It is further argued that strengths of character enable individuals to flourish (Ruch & Weber, 2011). Niemiec (2018b) defines flourishing as having social and emotional or mental well-being. Additionally, investigators have stated that certain character strengths, namely gratitude, hope, zest, curiosity, and love, play a significant role in a person's well-being, which is also central to living a good life (Park & Peterson, 2009). In line with this reasoning, character strengths may also indirectly influence factors such as academic performance since, as previously mentioned, living a good life means that a person has good character, which leads to positive school behaviour and, in due course, academic achievement.

Arguably, it must be noted that if these character strengths influence students' academic performance, they would have formerly influenced their school marks as well. Similarly, perseverance, love, gratitude, and hope were found to correlate directly with the academic success of both school and university students. Here, hope and perseverance are relevant to this study (Ruch & Weber, 2011).

2.5.1 The Character Strength of Hope

In the VIA classification, hope belongs to the virtue, transcendence. Transcendence is believed to be anything earthly that leads individuals to view their daily worries as insignificant and their self-esteem issues as minor, for example, things or people in one's life which encourage gratitude. In other words, it describes strengths that enable people to unite with the bigger picture of life outside of themselves, and therefore transcendence provides humans with a sense of meaning. Peter and Seligman (2004) propose the character strength of hope to be a representation of "hope, optimism, future-mindedness, and future-orientation ..." (p. 16). Simply put, hope is described as expecting positive things that are likely to happen in the future (Peterson & Seligman, 2004).

A different perspective by Snyder (1995), defines hope as the procedure of acknowledging one's personal goals through the means of agency and pathways. Agency is an individual's striving and desire to continue to chase these goals, whilst pathways are considered action plans to attain one's goals. In support of this belief, more recent literature by Felten and McGowan (2021), suggested a simple formula as their heuristic for enacting hope. They argued that a strong sense of hope is created by combining a sense of personal agency ("I can change in meaningful ways despite the systems and structures constraining me") and a vision of potential pathways ("I see specific and purposeful steps I can take") (p. 474).

A clear link exists between Snyder's hope theory, Felten and McGowan's notion, and hope as a character strength since the latter is also regarded as an action-oriented strength involving agency and pathways (VIA Institute, n.d). Hence, hope is referred to an individual's belief in their ability to engage in certain behaviours that will lead to a desired outcome. A study by Adams et al. (2002) found the hope theory to recognise that even highly intelligent and capable college students sometimes fail to reach their potential academic success if they do not have hope of achieving positive results. The consequence of learners who are competent, but lack hope, suggest that they might not trust their own capabilities and they therefore consequently reduce their expectations. As a result, they might decide to abstain from applying for tertiary education opportunities because they have no hope of being successful. Notably, students with the character strength of hope are more likely to counter challenges by concentrating on success, rather than not believing in themselves, which ultimately maximises the likelihood that they will reach their academic goals (Adams et al., 2002). Academic goals are education-related aims that learners set for themselves according to a specific timeline (McQuerrey, 2018). To this end, learners who have hope as a strength, will show the desire and motivation to achieve their academic goals as well as strategising ways to reach them.

2.5.2 The Relationship Between Hope and Academic Performance

It is suggested that various perceived psychosocial variables⁶ may also affect academic performance. However, these factors remain unclear because of the limited number of studies undertaken on these variables. However, it is noted that studies have, in fact, demonstrated a correlation between such variables – for instance, hope – and favourable academic performance (Dixson, 2017).

Many investigators and educationalists who have researched different routes toward the academic performance outcomes of students, generally consider perspectives of the self (e.g., self-concept and self-efficacy) and the future (e.g., hope), as important aspects in relation to academic learning and achievement (Gallagher et al., 2017). The hope theory suggests that learners who have goals do not necessarily take action to reach them. It is rather individuals' perceptions of themselves and their capabilities to initiate and implement actions to pursue their goals, for example going to university, that ultimately lead to their desired outcomes (Adams et al., 2002). The agency aspect of hope encompasses an individual's motivation, perseverance, and perceived ability to achieve their present goals. Therefore, learners who have higher levels of hope are more likely to keep motivating themselves to put in the effort, to not give up when faced with hurdles, and to believe in themselves, which is likely to result in their academic success (Adams et al., 2002). This is another indication that educational institutions in South Africa, such as Stellenbosch University, should consider character strengths such as hope when admitting learners, since hopeful learners will more readily strive for academic success, despite the difficulties they may face.

Adams et al. (2002) found a positive relationship between agency (hope) and self-efficacy and further suggested that these constructs share a mutual focus on the character strength of perseverance (Adams et al., 2002). Self-efficacy is described by Bandura (1997) as the extent to which a person generally believes in their ability to take the necessary actions to achieve

⁶ Psychosocial variables encompass psychological and social factors. It is multifaceted constructs that include numerous subscales such as moods, for instance, happiness or anxiety, cognitive behavioural responses, like self-efficacy or locus of control and social factors, for example, education or relationships with others (Cumming & Long, 2013).

success. Despite the fact that self-efficacy and hope both underline the importance of goal-related outcomes, Bandura (1997) also recognised that the cognitive thinking associated with self-efficacy is dependent on the situation, while hope remains consistent across various contexts. Moreover, researchers reported that hope offers a unique predictability of academic scores above self-efficacy and therefore, it may lead to more thorough justifications for motivating processes. They further theorised that certain motivating factors, such as self-efficacy and having academic goals, can either encourage or prevent academic success, depending on personal factors, such as the individual's goal- or motivation orientation⁷ and hope is considered to be another one of these personal motivating factors since it is referred to as a self-motivating cognitive system (Adams et al., 2002). Significantly, hope-related cognitions, such as learning goals, are crucial for academic success as they are advantageous for learners to grow and improve. Individuals with learning goals are passionately committed to their learning, continually striving to reach their learning goals, and monitoring their progression to improve. Learning goals are proven to be positively related to high academic performance (Kaufman, 2011).

In addition, a six-year research study investigated the influence of hope on the academic achievement of undergraduate college students. The study illustrated that learners with more hope achieved higher academic scores, had a higher probability of eventually graduating from college, and a lower probability of dropping out because of poor grades. An important conclusion of this study revealed that hope was related to higher test scores, even after taking the participants' original entrance examination scores into account (Adams et al., 2002). In other words, hope was revealed by this study to have a positive relationship with improved academic results, above and beyond the marks with which they started university. Likewise, a three-year longitudinal research investigation in the United Kingdom discovered that hope was a key predictor of college students' academic achievements, regardless of previous academic performance outcomes (Day et al, 2010). Contrary to these findings, researchers

⁷ The motivation orientations (i.e., performance- and mastery orientation) are explained under the section of love of learning.

found discrepancies of hope among students with learning disabilities. Students with learning disabilities conveyed low levels of hope in general, and particularly with reference to academic success (Lackaye & Margalit, 2008).

In a 2015 study of university students by Feldman and Kubuta, hope was found to have a correlation of .69 with academic success. Though it is evident that there is a correlation between hope and academic success, researchers have questioned if this can be applied to all learners since some learners may achieve different levels of success than others (Feldman & Kubuta, 2015). For example, some may merely pass a subject whilst others may pass with distinction. In view of the above, literature has shown that hope has a higher correlation with academic performance for academically gifted groups, which are defined as learners who have high intelligence quotients (IQ's) or achieve good marks, than academically weak groups, who have low levels of academic achievement or who miss out on schooling, due to lack of access or other reasons, (Dixson, 2017). In relation to this, Holleran (2008) found that gifted learners had lower levels of hope, because having the description of being gifted led to higher expectations of these learners, increased their competition, and consequently resulted in lower academic results. Interestingly, Hale and Worrel (2001), in an investigation of at-risk learners, found that high school learners who had high levels of hope for the future graduated, whilst learners who had lower levels of hope failed to complete their schooling.

Research by Gallagher et al. (2016) revealed that hope exclusively predicted student enrolment (seen as university students returning for second semester, as well as continuous enrolment), good grades and successfully completing four consecutive years, while holding constant the influences of academic self-efficacy, involvement and previously achieved academic results. A meta-analysis by Gallagher et al. (2017) of 45 research studies on hope and academic outcomes found hope to be a significant non-cognitive indicator of good academic performance. The main arguments supporting this claim are the evidence that showed the usefulness of hope in predicting positive school behaviours and outcomes and the acknowledgement of hope as an element of an individual's eagerness to perform.

Arguably, strategies to increase hope might be of value if integrated into South Africa's education systems, since hope may be used to strengthen academic performance.

Hypothetically, if academic achievement is considered to be a goal, hope could be conceptualised as creating flexible goal-related expectations and actions, which could lead to a positive outcome of that goal. With reference to the numerous literature studies previously discussed, it is reasonable to theorise that hope might be a reliable predictor of academic performance. However, it is also clear that further research is needed to determine the exact cross-cultural validity of this statement.

2.5.3 The Character Strength of Love of Learning

Love of learning is viewed differently by various investigators. It is argued that love of learning can be liberating as individuals experience a power and capacity to comprehend, find, and embrace truth (Ellis & Penman, 2009). However, limited research has been conducted on the topic of love of learning. Notably, love of learning is believed to occur within the different stages of one's life (i.e., from childhood to adulthood) through a term called "effectance motivation" (Peterson & Seligman, 2004, p. 103). Effectance motivation is defined by White (1969), as the longing for meaningful contact with one's external surroundings in a competent way (i.e., with the necessary knowledge, skills, and abilities), which requires one to learn how to be competent.

According to Peter and Seligman (2004) having the character strength of love of learning refers to experiencing positive feelings each time an opportunity arises to learn something new, for instance, when developing new skills or building on current knowledge. Love of learning describes how an individual will engage with new knowledge and skills in general, and whether the individual will engage with new information with an established interest or not. It enables a person to be cognitively involved. Nillsen (2004) contends that love of learning cannot necessarily be explicitly taught, but he suggests that it is possible to try to raise students' awareness such that a spontaneous love of learning can emerge. Ways to foster a love of learning include being open to all opportunities for student learning, providing a safe

learning environment that enables students to show their passion for learning, and the availability of events and conditions that allow this to happen (Nillsen, 2004).

In a study by Ellis and Penman (2009) the participants described what they viewed love of learning to be. Some described love of learning as experiencing enjoyment from studying and discovering new knowledge or skills, while others argued that it is the enthusiasm or desire that an individual has for gaining new knowledge and understandings. It was also understood to mean continually learning as a commitment to lifelong learning. Love of learning is also emphasised as an aspect of fun or curiosity which is not forced (Ellis & Penman, 2009). A feeling of appreciation for learning is present through having love of learning as a strength. This is also believed to justify the relationship reported between love of learning and the characteristic of 'education and intelligence' as well as the assets 'achievement motivation' and 'school engagement' (Peterson & Seligman, 2004, pp. 77, 83).

Love of learning also influences a person's level of motivational outcomes because individuals with this strength are likely to keep on persisting in finding solutions or finding better alternative paths when confronted with obstacles, issues, and bad news (Peterson & Seligman, 2004). Having love of learning as a character strength therefore means that an individual enjoys the engagement with new content, and consequently it may lead to the advantage of reaching external achievement, for example, good exam scores, although this outcome is not guaranteed.

2.5.4 The Relationship Between Love of Learning and Academic Performance

Butcher (2022) postulates that future success depends on fostering a love of learning. In support of this notion, a study by Ruch and Weber (2011) found that the character strengths of love of learning, perseverance, and prudence are considered strengths of the mind, with all of them being predictors of positive behaviour in the classroom. Therefore, these strengths of the mind are also correlated with academic performance (Ruch & Weber, 2011). Similarly, Fisher et al. (2009) argued that it is anticipated that students with a greater love of learning strength of character will willingly adopt certain behaviours that lead to improved academic

marks. Such behaviours include regular class attendance, spending time reading and learning course materials, and gaining sufficient knowledge of terms presented in prescribed textbooks and lecturers.

A recent study by Holenstein et al. (2020) examined whether the character strengths of students could predict academic achievement as well as positive learning experiences in differing learning situations, such as teacher-centred learning, individual tasks, and group work beyond intellectual ability. The outcome signified that the character strengths of love of learning, and perseverance in particular, are conducive to both academic achievement and positive learning experiences across various situations. This study indicates that love of learning has a strong and consistent relationship with academic achievement above and beyond cognitive ability, which is in line with the hypothesis of the proposed study.

Love of learning has been included as a restricted descriptor of various constructs but is rarely discussed as an individual strength. Consequently, measures that 'tap into love of learning' tend to be subscales of other measures, such as 'motivational orientation, competence, value, and well-developed individual interest' (Peterson & Seligman, 2004, p. 164). Motivational orientation, competence, value, and well-developed interest are examples of measures that may include some items that reflect love of learning. Given the limited amount of research done on the love of learning, these examples will be explained to understand the character of strength and its correlation with academic performance better. Firstly, motivational orientation can be measured in terms of innate- and acquired motivation. Innate/intrinsic motivation emphasises the extent of an individual's desire to take on new challenges, to be competent and self-reliant, and to obtain new knowledge, irrespective of what the outcome will be (Downward et al., 2019). In contrast, acquired/external motivation exists when a person learns to achieve a particular outcome, for instance, achieving good grades at school. The strength of love of learning is more prevalent in an individual who has an intrinsic motivational orientation, although these individuals can be extrinsically motivated as well (Peterson & Seligman, 2004).

Secondly, with regard to competence, researchers have argued that individuals are likely to experience competence and efficacy to a certain extent if they have love of learning as a signature strength. For instance, they must perceive that they are becoming proficient in a skill or talent (Peterson & Seligman, 2004). There are two types of orientations underlying the construct of competence, namely mastery and performance. An individual with a mastery orientation is more inclined to strive for progress with regard to improvement and effort. On the other hand, people who have a performance orientation are more commonly driven to achieve in terms of external aspects, for example, good test scores (Malmberg et al., 2008). Mastery orientation is therefore dominant where an individual has the strength of love of learning since learners are able to preserve efficacy in the pursuit of learning (Peterson & Seligman, 2004). Since learners with a mastery orientation are likely to exert effort in school tasks, they are also more likely to gain knowledge and become increasingly more competent, which, in turn, could lead to academic success.

Thirdly, value is prevalent as it is suggested that individuals with a love of learning appreciate the value of the information that they can learn about (Peterson & Seligman, 2004). The amount of value an individual perceives a task to have therefore determines how motivated they will be to persist in learning, even in the face of adversities. Value also has a significant effect when learners adopt learning approaches during their studies as it ultimately influences their academic performance. That said, value has a direct influence on a learner's performance because it enables learners to control their behaviours, emotions, and thinking patterns when pursuing future goals which they consider to be valuable (Dehideniya et al., 2021). This further indicates that love of learning is related to academic performance, which leads to achievement. Love of learning is also related to both motivation and perseverance, which are also related to academic performance (Dehideniya et al., 2021; Ruch & Weber, 2011; Seligman & Peterson, 2004).

Finally, well-developed individual interest emphasises the love of learning character strength as it is determined by an individual's continuous and progressive intellectual and emotional relationship with specific information. Research has found that well-developed

individual interest is positively linked to the engagement with the specific content of interest. This means that learners who are interested in their schoolwork will spend more time learning or reading work. Perseverance is yet again emphasised here in the sense that learners will continue to engage with challenging content, notwithstanding the exasperation that the particular work content can cause, if they are personally interested therein (Peterson & Seligman, 2004).

In summation, there seems to be some support regarding the notion that there is a relationship between love of learning and academic success, and this should be investigated within the context of South Africa's major challenges.

2.5.5 The Virtue of Courage

Courage has historically been recognised as a significant virtue since it enables individuals to overcome intrapersonal struggles, for instance self-esteem issues, and interpersonal difficulties, such as feelings of frustration (Magnano et al., 2017). Moreover, researchers have stated that courage is the main virtue required to engage in any sort of virtuous behaviour in the face of adversity. As an illustration, Samuel Johnson reported that courage is arguably the ultimate virtue, because without courage it is improbable that one will maintain any of the other virtues (Yearley, 1990). Research highlights different types of courage, for instance, moral courage relies on risking one's social standing, but is ingrained in an individual's values and sense of right and wrong, while the ability to face one's own truth and take appropriate action to elicit change is known as psychological courage (Davies, 2020). According to Peterson and Seligman (2004) courage involves the determination to achieve goals when confronted with both internal and external hindrances. They further suggest that the four underlying character strengths of courage, as specified by the VIA classification, are able to help people counteract certain situations such as the struggles integral in one's life, the ability to resist temptations or to activate certain forms of motivation. Courage, according to Kowalski and Pury (2007) is defined as the prime virtue necessary to take positive action in the face of misfortune. Disadvantaged learners in South Africa live with great difficulties, partly due to the major socio-

economic challenges they are confronted with. If these learners gain courage through their individual struggles, they may be able to use these corrective strengths to achieve academically.

An accurate depiction of an individual with courage in relation to the VIA strengths, as stated by Kowalski and Pury (2007), is one who overlooks danger (bravery), continues to show active behaviours (perseverance), follows one's beliefs (honesty) and completes tasks with energy and enthusiasm (zest).

2.5.5.1 The character strength of bravery. A common definition of bravery is overcoming the fears for no other reason than the act itself. Peterson and Seligman (2004) stated that bravery can only exist where danger, loss, risk, or potential injury can occur. To be brave does not mean that one has no fear, but instead that an individual is capable of conquering fear. A popular idea of bravery is an act that is motivated by a noble cause (Roberts, 2011). It is further highlighted that bravery-related actions are associated with greater resiliency and longer life span (Black et al., 2017). Psychological bravery is crucial to a person's well-being, and involves confronting fears generated by people's personal habits. It is possible that disadvantaged students who reach success have the character strength of bravery since there are various risks in their lives, for instance, financial risks leading to them not receiving adequate basic education, including other challenges (Mtywaku & Pupil, 2020). These students will show bravery if they are able to make judgements to understand the risks and accept the consequences of their behaviours when making the decision to confront the issues apparent in their lives. Furthermore, moral bravery allows a person to behave in a manner which they believe is correct, notwithstanding the fear of negative social or economic outcomes (Peterson & Seligman, 2004). For example, although disadvantaged students often do not receive the support or encouragement from their immediate communities to pursue tertiary education, some might still be brave enough to engage in the necessary actions to work hard in school, despite the fear of failing to achieve. While bravery is typically viewed as a positive strength, research by Pury et al. (2015) has shown that in some situations, bravery can lead to individuals deliberately undertaking a recognised act of personal danger to attain

a goal that is both valuable to someone, but deplorable to the larger community. This is also referred to as bad courage. Therefore, the bravery aspect of courage is like a knife or fire that can be used for both good and bad purposes (Pury et al., 2015).

2.5.5.2 The character strength of perseverance. Perseverance is defined as willingly and continuously displaying goal-directed behaviours notwithstanding barriers, complexities, or disappointment. Martin (2011) proposes that academic courage comes down to having perseverance when confronted with academic obstacles and fear. Within the context of this study, academic obstacles are accepted to be problematic secondary education systems with poorly performing teachers, non-existing teacher- and parental encouragement to disadvantaged learners and other unavoidable consequences caused by the ongoing cycle of poverty. These consequences include, but are not limited to, a lack of transport to school, inadequate infrastructure and resources at school and/or home, uneducated family members and violence at school (Louw et al., 2013). In addition, academic perseverance is explained as the degree to which an individual can continue engaging in academic activities notwithstanding difficulties or obstacles (Oluremi, 2014). Numerous studies have shown that perseverance is a vital predictor for life success (Duckworth, 2016), and it frequently outperforms aptitude and raw talent as it is a reliable predictor of success (Schaffner, 2020). It is important to stick with one's tasks, goals, and passions. It takes work and practice to persevere, as well as the capacity to bounce back from setbacks and try again (Dweck, 2017).

2.5.5.3 The character strength of zest. Zest, also known as vitality, enthusiasm, vigour, and energy, is present in individuals who have an energetic spirit in their personal productivity and behaviours, but they also have the ability to influence others to be more energised (Peterson & Seligman, 2004). Zest is further defined as a dynamic strength that has a direct relationship with physical and psychological wellness (VIAStrengths, 2018). Amann et al. (2021) suggest that zest is a universally useful character strength which shows benefits in most of life's functional domains and is particularly prominent in the areas of mastery, health, engagement, enjoyment, and optimism. Zest entails having an enthusiasm for living life and it is associated with overall life satisfaction and an engagement-filled life. It is noticeable in

people who give their best when performing tasks, without cutting corners (Ball State University, 2020), which is an advantageous strength to have in the pursuit of attaining good academic performance.

2.5.5.4 the character strength of honesty. Individuals with the strength of honesty are believed to be who they truly are across different situations. They actively acknowledge and take responsibility for their emotions and actions (Peterson & Seligman, 2004). In addition, they have integrity in that they are consistently who they say they are in differing contexts. Honesty as a character strength has been associated with self-concordance, which represents the degree to which a person's goals correctly depicts his/her personal interests and values (VIA Institute on Character, n.d.). Therefore, it is feasible to argue that having the strength of honesty might contribute to the successful attainment of goals, such as academic performance.

This study will recognise learners considered to have courage as individuals who are able to demonstrate the signature strengths of bravery, perseverance, zest, and honesty along with determination in the presence of obstacles and fear.

2.5.6 The Relationship Between the Virtue of Courage and Academic Performance

Martin (2011) postulates that academic courage in school is valuable since school in itself provides learners with numerous opportunities to set a variety of goals. Various opportunities are made available to learners in most schools, for example, a learner might have the goal to be placed on the merit list of the top academic performers. However, it should be noted that since academic goals are challenging to achieve, having perseverance can assist learners to continue to strive towards reaching these goals. It can therefore also be emphasised as a key factor with regard to school success (Ruch & Weber, 2011). Peterson and Seligman (2004) suggest that learners with the character strength of perseverance are likely to willingly and continuously act and strive to reach their goals, regardless of difficult situations, barriers, and disappointments. Studies of persistent individuals have additionally shown that having the strength of perseverance increased the extent to which those individuals enjoyed achieving

successes they have strived for or persevered to reach (Peterson & Seligman, 2004). In line with the aforementioned, a more recent study discovered a connection between perseverance and individuals experiencing fewer learning issues (Chen et al., 2022). Perseverance has further been found to be conceptually related to conscientiousness, one of the Big Five personality traits (DeYoung et al., 2007), and conscientiousness was shown as a strong predictor of academic performance and lower levels of negative affect (Fayard et al., 2012). A study by Oluremi (2014) found there to be a significant positive correlation between academic perseverance and academic engagement. Here, academic engagement referred to displaying behaviours that indicate serious psychological investment in class work, such as completing the assigned work or taking the initiative to raise and ask questions.

Fisher et al. (2009) examined the relationship between character strengths and academic achievement of university undergraduate students, where academic achievement was represented by student satisfaction and grade point average (GPA). The result of this study demonstrated that character strengths, including bravery, perseverance, zest, and honesty (i.e., courage) are positively correlated with academic success. Moreover, perseverance, judgement, self-regulation, love of learning, and prudence was shown to correlate with GPA at a magnitude of .25 or greater. Evidently, higher academic performance is said to be attained by students with high levels of self-regulation, who demonstrate more perseverance in their studies, and who are involved in objective analysis and critical thinking, as opposed to students who score lower on these latent constructs (Fisher et al., 2009). This study provides conclusive and extensive support for the hypothesis stating that courage positively influences the academic performance of university students.

Moreover, it is argued that learners who demonstrate zest show energetic, alert, and lively functioning at school. Consequently, being awake and vigilant in class is proposed to be beneficial within the school context, as opposed to being absent-minded and distracted, which can lead to learners experiencing school as boring and unsatisfying (Ruch & Weber, 2011). This means that learners who have zest as a signature strength might be able to focus and engage more during class and hence might be more readily able to recall the content covered

in class. This might potentially lead to higher academic performance, while learners with low zest might not perform as well due to lack of interest or finding the work difficult because they did not pay attention in class when the work was explained. As previously indicated, zest is considered a character strength within the virtue of courage and is thus relevant to this proposed study.

Additionally, Martin (2011) investigated courage, together with three other factors, namely, confidence, avoidance, and helplessness, among secondary school learners. These factors were tested in relation to numerous measures of academic involvement which included class participation, enjoyment of school, and positive academic intentions. It highlighted that courage was more adaptive than avoidance and helplessness within the context of academic performance. This means that students who have courage as a character strength are shown to react more desirably to academic pressure, in contrast to students who are more inclined to avoidance or feelings of helplessness, and who are therefore less likely to display positive behaviours in the face of academic pressure. Furthermore, courage, as well as confidence, proved to be adaptive. However, students with the strength of confidence proved to be slightly more adaptive than those who had high levels of courage. Nonetheless, individuals with courage attained reliable results which suggested that students who have courage yielded academically sufficient outcomes, even when confronted with fear (Martin, 2011). Therefore, it appears that courage has predictive properties regarding academic performance.

It is evident that character strengths, particularly hope, love of learning, bravery, perseverance, zest, and honesty are considered to have a positive impact on the academic performance of students. However, the South African context breeds many difficulties as the country is faced with major challenges, as previously discussed. Therefore, the association between these non-cognitive predictors of academic success should be explored within the context relevant to disadvantaged students in South Africa.

2.6 Character Strengths and Academic Performance in South Africa

The recent COVID-19 pandemic highlighted even more serious issues, such as deep inequities (Felten & McGowan, 2021). While deep imbalances still exist in higher education on a global level (Unterhalter, 2010), these imbalances are particularly pronounced in institutions' policies, practices, and results related to teaching and learning, which are at the core of academic progress. For example, in the United States of America, learners of colour and those from lower socio-economic backgrounds, are significantly less likely to complete an undergraduate degree than their wealthier White peers (Asai, 2020).

Character traits are thought to assist people in overcoming adversity, navigating their symptoms and difficulties, and effectively handling stress and issues (Niemiec, 2020). The influence of character strengths has additionally been shown to be significant in the various situations that learners are confronted with at school. These situations include the learners' individual perceptions of their experiences at school, the extent to which they display positive actions in class, and the eventual achievement of good academic results, which could ultimately lead to other learning opportunities, such as access to tertiary education. It is further argued that learners with 'good' characters display academically appropriate behaviour in class, and this type of behaviour has a positive association with academic success at school (Ruch & Weber, 2011).

Studies also indicate that certain character strengths, including hope and perseverance, help people to overcome the obstacles such as stress and suffering. This enables people to avoid and limit difficulties in their lives (Park & Peterson, 2009). These character strengths are particularly crucial within the South African context where stress and suffering regularly need to be countered in order to achieve success. Other researchers argue that to succeed in difficult academic tasks, it is frequently necessary for the individual to have the ability to create numerous pathways towards goals. In other words, it is necessary to have hope in order to reach goals. The truth behind this statement is that having hope enables individuals to create various strategies to reach their goals and also to prepare contingency plans for how to handle

challenges and barriers when they arise (Adams et al., 2002). Hope is considered a highly valuable character strength in performing well academically, especially for disadvantaged learners. That said, students with high levels of hope are able to perceive the obstacles in their lives that prevent them from reaching their academic goals as challenges which can be overcome through the creation of alternative pathways, rather than perceiving them as failures and giving up (Adams et al., 2002; Felten & McGowan 2021; Peterson and Seligman, 2004).

As previously mentioned, courage is a key virtue for learners confronted with adversity in their lives, because it enables them to exhibit behaviours of continuous effort necessary to overcome hurdles. These hurdles might, for instance, include the disadvantaged students' parents not being educated themselves and therefore not considering school to be important. A persistent individual, however, will still continuously try their best and motivate themselves to learn and study, in spite of a lack of parental support in this regard.

Moreover, the character strength of love of learning might be useful to disadvantaged learners in South Africa in reaching academic success, due to the fact that these learners would have the desire to learn more in school, gain competencies, value and be interested in the content to which they are exposed, and be motivated to engage in their work with effort and motivation to do well. Consequently, they will not be completely discouraged by the hardships that they must endure, such as poverty, but will be able to use their strengths to endure and develop according to their goals.

Furthermore, hope is suggested to correspond with the protective factors of dreams, goals, and optimism, as well as the ability to delay gratification. Similarly, perseverance as a character strength provides evidence that leads researchers to believe that it corresponds with the factors of determination and perseverance as well as physical talent development (Peterson & Seligman, 2004). These character strengths can therefore assist learners in South Africa to overcome the challenges that they face in their lives. Niemiec (2019) further states that character strengths can serve as buffers against adversity and prevent issues by explaining and reinterpreting issues. He also believes that character strengths promote

resilience in that this encourages people to try again after failures or struggles occur (Niemic, 2019).

In summation, there is substantial evidence that proves that the character strengths of hope, bravery, perseverance, zest, and honesty (i.e., courage) as well as love of learning could be applicable in the South African context and would be able to enhance the likelihood of disadvantaged learners achieving academic success at university level.

2.7 The Relationship Between Matric Average Results and Academic Performance

Matriculation (matric) average results are attained by calculating the total sum of marks achieved and dividing this by the number of subjects. It is postulated that matric results have previously been utilised as adequate predictors of first-year students' academic performance at university level. However, a study found a weak relationship between students' matric and first-year optometry results. Therefore, the study indicated that national senior certificate (NSC) outcomes cannot be used as sole predictors of students' academic achievement (Mashige et al., 2014). In contrast, another study illustrated that university graduates with lower matric results completed their degrees within a longer period than those who had higher matric results. Moreover, graduates who had a higher matric average, had a higher degree average. Thus, it is argued that matric average results can be used as a predictor of academic performance, although this finding should be viewed with caution due to numerous contradictory factors. Nonetheless, it should be noted that there is evidence both to support and treat with caution the notion that matric grades are reliable predictors of academic performance (Joubert et al., 2013).

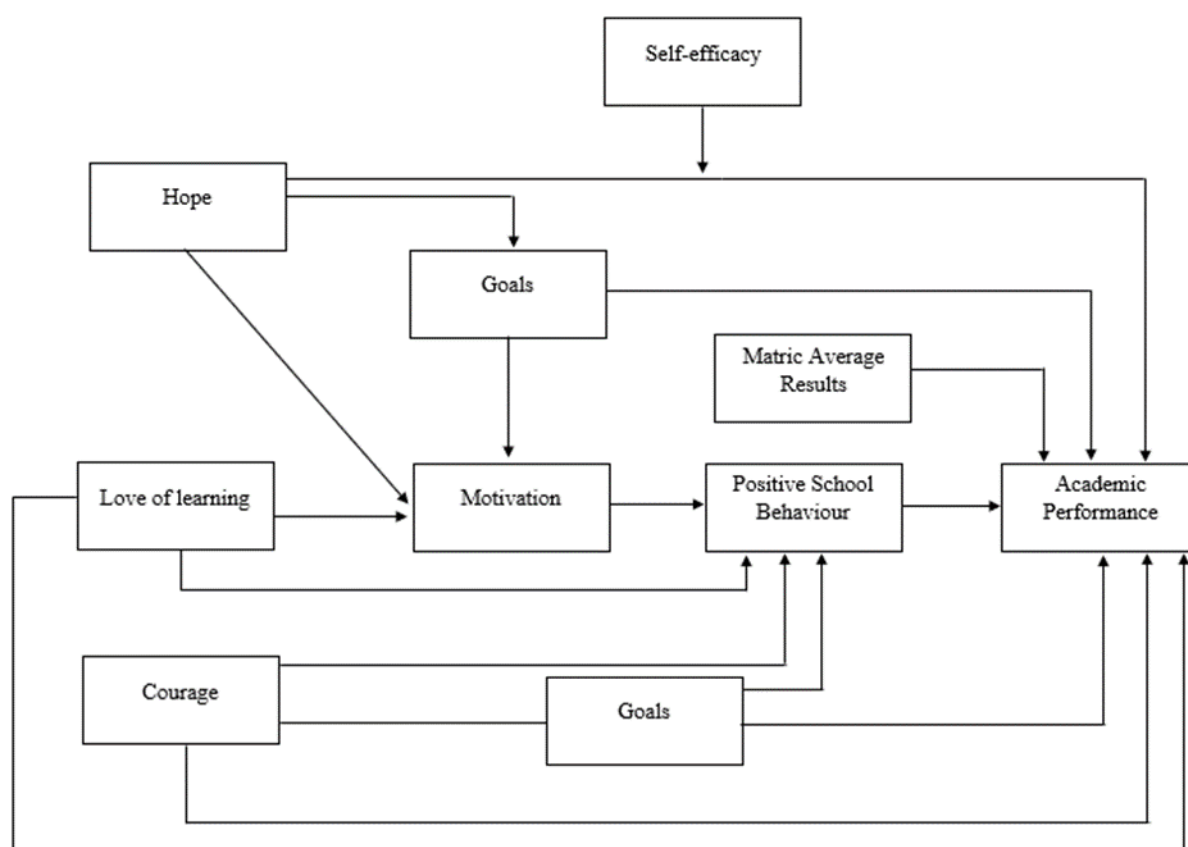
2.8 Conceptual Model

The relationships between hope, courage, and love of learning are theorised into a conceptual model that indicates their relationships with academic performance, as well as influencing variables that may play a role. This model illustrates the direct relationships of hope, courage, and love of learning respectively with academic performance. Notably, there are additional factors that contribute to the desired outcome of academic success. Positive

school behaviour is believed to have a direct influence as well, while goals, self-efficacy and motivation have indirect relationships with academic performance.

Figure 2.1

The Relationship between Hope, Courage, Love of Learning, and Matric Average Results, with Academic Performance, including External Influencing Factors



However, for the purpose of this research study, the focus will be on the relationships of hope, courage (i.e., bravery, perseverance, zest, and honesty), love of learning, and matric average results, each independently, with academic performance. A simpler model, as depicted in Figure 2.1, is proposed as a means to simplify the study, since the essence of the research study has not been completed in the South African context previously. Nevertheless, the relevant literature showing that confounding influences exist within these relationships are acknowledged. It is recommended that future research consider the impact of these variables.

2.9 Conclusion

Through the research gathered in this study it is clear that hope, courage – encompassing the strengths of bravery, perseverance, zest, and honesty – and love of learning as character strengths within the context of positive psychology, each have a positive relationship with academic performance. The main mediating variables between these strengths and academic success are goals, self-efficacy, motivation, and positive school behaviour. All six of the character strengths indicate clear signs of their relevance for disadvantaged learners in South Africa since these strengths all enable learners in some way to desire, enjoy and work for good academic results, even in the face of difficulties. This then also provides future academic possibilities such as access to university, which will lead to the attainment of knowledge and skills, and ultimately the opportunity for good quality employment and successful functioning in the workplace. Chapter 3 will now discuss the research methodology applied in this study.

Chapter 3: Research Methodology

3.1 Introduction

This chapter discusses the methodology adopted to empirically evaluate the relationships conceptualised in the previous chapter to answer the research initiating question: “Do hope, courage and love of learning show a positive relationship with the academic performance of disadvantaged students, while controlling for previous academic results?”

A conceptual model was developed to provide a comprehensive representation of the proposed variables emphasised in the literature, from which a structural model was created to reflect the research question. This aided in determining whether there is a relationship between the specific character strengths and academic performance. The aim of this chapter is thus to outline the following: (a) research hypotheses, (b) structural model, (c) research design, (d) sample design and research participants, (e) data collection procedure, (f) data collection instruments, (g) statistical analysis, and (h) research ethics in this section.

3.2 Substantive Research Hypothesis

The proposed methodology should be relevant to the research objectives outlined above. The main aim of this proposal is to demonstrate empirically unbiased evidence that disadvantaged learners with the character strengths of hope and love of learning, as well as the virtue of courage, possess the potential to perform well academically at university level, whilst factoring in the impact of previous academic outcomes.

The overarching research hypothesis aligns jointly with the depicted structural model as set out in Figure 3.1, which reveals the relationships that have theoretically been found to exist. Path-specific hypotheses have been formulated to test the validity of the structural model to achieve the research objectives, as well as solving the research problem. The resultant path-specific substantive research hypotheses follow:

Hypothesis 1: There is a positive relationship between hope and the academic performance of disadvantaged students.

Hypothesis 2: There is a positive relationship between courage and the academic performance of disadvantaged students.

It should be noted that since courage consists of four character strengths, these respective relationships were also analysed to determine the effects thereof, resulting in four additional hypotheses.

Hypothesis 2a: There is a positive relationship between bravery and the academic performance of disadvantaged students.

Hypothesis 2b: There is a positive relationship between perseverance and the academic performance of disadvantaged students.

Hypothesis 2c: There is a positive relationship between zest and the academic performance of disadvantaged students.

Hypothesis 2d: There is a positive relationship between honesty and the academic performance of disadvantaged students.

Hypothesis 3: There is a positive relationship between love of learning and the academic performance of disadvantaged students.

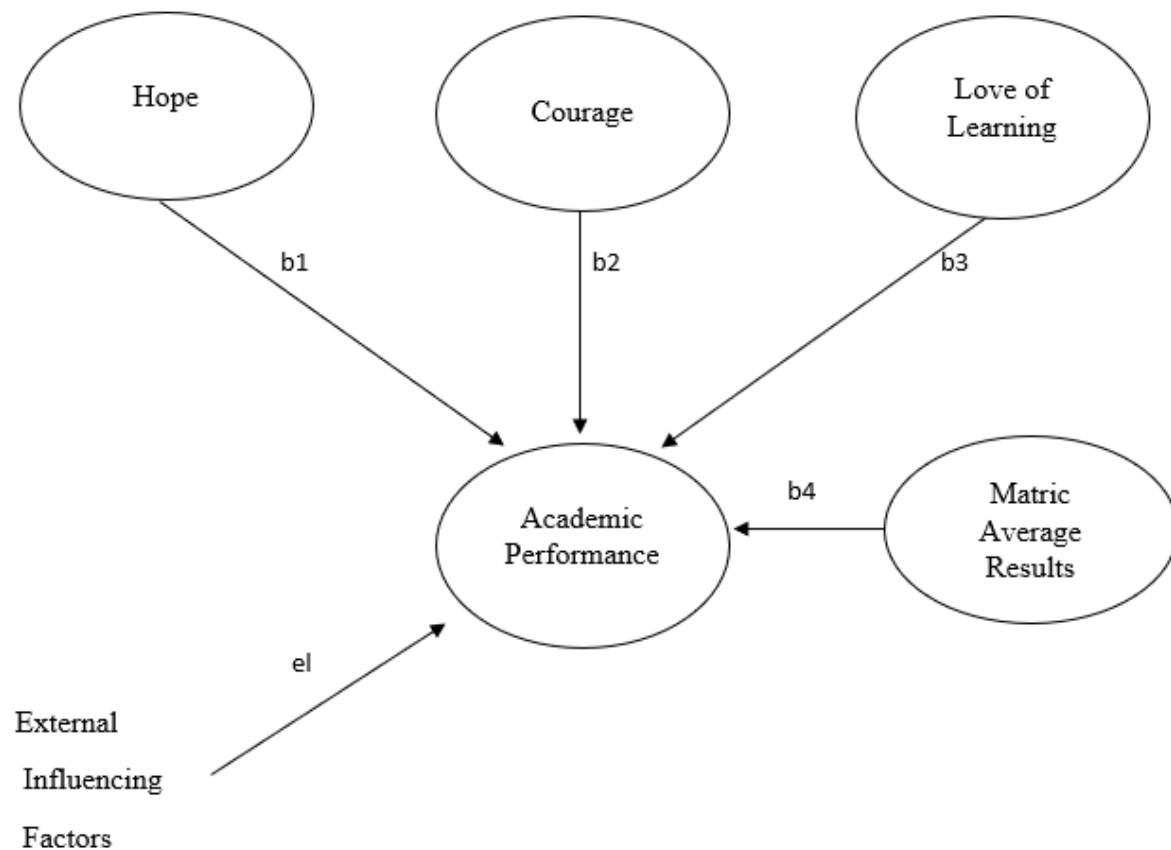
Hypothesis 4: There is a positive relationship between matric average results and the academic performance of disadvantaged students.

3.3 Structural Model

The structural model (i.e., Figure 3.1) exhibits the relationships between the independent variables, and the dependent variable. The size and significance of path relationships is generally the focus of scientific endeavours used in scientific research (Henseler, 2015). It is an illustration of the hypothesised separate relationships between hope, courage, love of learning, and matric average results with academic performance.

Figure 3.1

Structural Model of the Relationship between Hope, Courage, Love of Learning, Matric Average Results, and Academic Performance



In essence, the structural model depicts that these non-cognitive latent variables are predictors of the academic performance of learners in South Africa, whilst taking due note of possible error.

Therefore, the following path-specific substantive hypotheses were theorised into a structural model, where:

- b1 represents the partial regression coefficient of hope, whilst holding courage and love of learning constant.
- b2 represents the partial regression coefficient of courage, whilst holding hope and love of learning constant.

- b_3 represents the partial regression coefficient love of learning, whilst holding courage and hope constant
- b_4 represents the partial regression coefficient of matric average results, whilst holding hope, courage, and love of learning constant.
- e_1 represents sources of variance in academic performance which are not included in the model.

3.4 Research Design

The world advances through research. Empirical research employs a methodical approach and depends on scientific techniques to solve research challenges. A strategy of investigation to find answers to research questions is known as a research design (Hilman et al., 2012). A well-planned research design aids in ensuring that a study's research objectives are met, high-quality data is collected, and guarantees efficient analysis of the data in order to draw valid and trustworthy conclusions to answer the research initiating question (Thattamparambil, 2020).

In contrast to qualitative research methods, quantitative research evaluates the connections between various variables by utilising specific procedures and techniques. The advantages of using a quantitative approach include providing researchers with fairly conclusive solutions to research problems, the data obtained and analysed follow reliable methodology, and the outcomes are generally valid (Bhatia, 2018). Therefore, a quantitative approach was used in this study to investigate the relationship between variables, by testing whether the independent variables, hope, courage (i.e., bravery, perseverance, zest, and honesty), love of learning, and matric average results show positive relationships with the dependent variable of academic performance.

A cross-sectional research design was suitable for this study since such a design enables the collection of quantitative data from numerous individuals at a single point in time. In addition, this design allows the researcher to observe the variables of interest, without compromising them, thereby indicating that the design is non-experimental in nature (Setia,

2017). There are many benefits of using a cross-sectional research-design; for instance, it is less expensive, less time-consuming, and a simpler way to gather data than longitudinal studies, which seeks to accumulate data continually from the same participant group over periods of time (Thomas, 2020).

3.5 Sample Design and Research Participants

This section provides an explanation of the sample design used in this study, as well as information pertaining to the selected research participants.

3.5.1 Sample Design

Both probability sampling and non-probability sampling techniques were considered in terms of suitability for the research design of this study, and non-probability sampling was ultimately chosen as it involves subjective methods to determine a sample, rather than randomisation (Alkassim et al., 2016). As a result, all participants do not have an equal probability of being included in the sample, because a specific sample has already been selected. The major benefits of choosing a non-probability sampling design are that it is less expensive than a probability sampling technique and can often be executed faster.

Convenience sampling was the non-probability sampling method chosen for this study. Convenience sampling involves collecting information from respondents who are easily accessible to participate in the study. Furthermore, it typically ensures that the research respondents meet specific practical conditions, such as physical proximity, easy approachability, the willingness to participate and being available within a certain timeframe (Alkassim et al., 2016). In this study, the selected sample method was relatively inexpensive, quick, and simple to apply because the participants were easily accessible.

For every research project, especially a quantitative one, choosing the appropriate sample size is a crucial decision that every researcher must make. Determining an adequate sample size is essential for drawing sound conclusions from research (Cham et al., 2020). Larger sample sizes are suggested because they demonstrate greater replicability of results and are more likely to generate stable correlations between variables (Babbie & Mouton, 2001).

3.5.2 Research Participants

Participants in a cross-sectional study are generally selected based on an inclusion and exclusion criteria set for the study in question (Setia, 2017). The sample for this study consisted of students studying towards an undergraduate degree who were currently in their second, third or fourth year of study at Stellenbosch University. The sample was categorised as disadvantaged students in South Africa, which was determined by whether or not they met the requirements for and attained a NSFAS bursary (i.e., their parents having a joint income of R350 000 per annum or less) in the previous year. The research participants were consequently preselected. This study initially aimed to include 250 respondents. Although 407 people commenced the survey, only 244 fully completed it, leaving 163 of the responses incomplete and thus unable to be used. All 244 respondents who fully completed the responses and complied with the requirements for inclusion in this study provided consent to utilise their data. However, since the previous academic marks of some of the respondents were unavailable, the sample was subsequently reduced to N = 231 participants.

The sample comprised 73% females, 26% males and 1% who preferred not to say or classified themselves as 'other'. The respondents' ages ranged from 19 to 22 years, with 11% being 19 years and 33% being 21 years of age. 38% of respondents were in their second year, 44% in the third year, and 18% in their fourth year of study at Stellenbosch University. In terms of race, 39% of the sample identified as Black, 30% Coloured, 3% Indian, 26% White, and 3% preferred not to disclose their ethnicity. The respondents originated from different provinces in South Africa, being: 12% Eastern Cape, 1% Free State, 8% Gauteng, 10% KwaZulu-Natal, 6% Limpopo, 3% Mpumalanga, 2% Northern Cape, 58% Western Cape and 1% indicated that they were from somewhere else.

3.6 Data Collection Procedure

Ethical clearance to collect and use the data was obtained from the Research Ethics Committee (REC), whereafter the researcher contacted the Division of Data Governance to gain access to the identified sample group. As previously stated, the study is cross-sectional

in nature and a convenience sampling method was used to collect quantitative data. The data was collected through an online survey using SUNSurvey. A representative of the Division of Data Governance agreed to work with the researcher by uploading the selected sample onto the researcher's SUNSurvey. Every second-, third- and fourth-year 2022 undergraduate student who qualified for a NSFAS bursary in 2021 was considered to represent disadvantaged students in South Africa. An email was sent to the email addresses of the selected students, which included a link to the survey. Upon opening the survey, the respondents were informed about the rationale of the study, and only students who provided informed consent were able to commence with the survey.

The VIA-120 instrument was included in the survey to measure the participants levels of hope, courage (i.e., bravery, perseverance, zest, and honesty), and love of learning. The SUNSurvey link was open for a period of two weeks, from 25 July 2022 to 5 August 2022. The list of participants' student numbers was thereafter used to compare their university average results with their outcomes on the VIA-120 questionnaire, whilst taking into consideration their matric average results. These academic average results were made available by the Division of Data Governance of Stellenbosch University. The data was then linked to a random number allocated to replace the participants' student numbers, and the actual student numbers were subsequently excluded from the spreadsheet received by the researcher.

After statistically analysing the data, inferences were drawn about whether or not the hypotheses could be accepted or rejected (i.e., whether the hypotheses were proven to be true or not) which will be discussed in the following chapter.

3.7 Data Collection Instruments

Neither the cognitive construct (i.e., matric average results) nor the outcome variable (i.e., academic performance) were measured, but the results utilised in the study were provided by the Division of Data Governance. Measurement instruments were, however, needed to measure the non-cognitive constructs (i.e., hope, courage, and love of learning). An existing survey was slightly adapted to be more suitable for use in the current study. The survey

included 2 sections, namely, biographical information, and the measure for character strengths. Although the researcher planned to measure courage as a whole, the questionnaire utilised was suited to measure the character strengths making up courage, namely bravery, perseverance, zest, and honesty. The academic records of the participants' matric averages and university averages were obtained from the Department of Data Governance at Stellenbosch University at a later stage and were not requested in the survey.

3.7.1 Biographical Information

The biographical information which was requested from the participants included: gender, age, race, province of origin, year of study, and field of study. This information assisted the researcher to discuss the composition of the study's sample in greater depth.

3.7.2 The VIA Inventory of Strengths Measuring Hope, Courage, and Love of Learning

The VIA Survey is an empirically valid measurement tool. This measure allows a comprehensive analysis of a person's character strengths since it provides users with their highest to lowest ranked results (Niemi, 2018). Peterson and Seligman (2004) decided not to measure the six virtues directly, as they considered the virtues to be too abstract. Accordingly, they developed a VIA-IS self-report survey that allows for a complete assessment of the character strengths in 24 subscales of 10 items each. This survey can be used by any individual aged 18 years or older and takes approximately 45 minutes to complete. However, when considering the participant's time and attention span, the original 240-item version's length is viewed as a drawback. Thus, the shortened, 120-item version of the VIA-IS was used for the purpose of this study as it is quicker and easier to use (Hausler et al., 2020). The VIA-120 survey includes 5 items for all 24-character strengths, but this study only included the items relevant to the 6-character strengths of interest, namely hope, bravery, perseverance, zest, honesty, and love of learning. Choosing a multi-purpose measure was an advantage to the study, as it was more time efficient.

According to Littman-Ovadia (2015), the 120-item short version (VIA-120) consists of 5 items per subscale which were selected on the basis of the most significant item-total

correlations from the original 10 items. It takes the form of a 5-point Likert-type scale where respondents can rate their agreement with each item, from 5 = “*very much like me*” to 1 = “*very much unlike me*”. As an illustration, “I always look on the bright side” is a statement representing the strength of hope (Peterson & Seligman, 2004). The VIA-120 is presently displayed as the standard VIA Survey on the VIA Institute of Character official website, thus replacing the original 240-item form (Hausler et al., 2020).

Evidently, substantial equivalence in terms of psychometric properties (internal consistency, reliability, and validity) have been demonstrated between the shortened and original character strengths surveys. As an illustration, a significant average correlation of .93 was found between the 24 subscales of the VIA-120 and VIA-IS subscales respectively (Azanedo et al., 2017). More recently, a study by Hausler et al. (2020) found that the average alpha of the VIA-250 ($\alpha = .82$) was slightly higher than the average alpha of the VIA-120 ($\alpha = .76$), although this is not surprising given the higher number of items per scale (10 compared to 5). Hence, this study also found the two measures to be comparable in terms of validity and reliability. Therefore, the psychometric properties reported on the VIA-IS are also applicable to the VIA-120. Fisher et al. (2009) reported acceptable overall reliability, with 18 of the coefficients .80 or above, and the remainder of the six coefficients yielded results of between .76 to .79. (Fisher et al., 2009). Similarly, researchers found that the VIA-IS subscales are demonstrated to have acceptable internal consistency reliabilities, where all of the subscales yielded coefficients of more than 0.70 (Park et al., 2005). In addition, satisfactory Cronbach alphas for both versions of the survey are delineated in Table 3.1, as drawn from the official VIA institute on character website (VIA Institute on Character, n.d).

Table 3.1

VIA-120 and VIA-IS Cronbach's Alphas

Character Strength	VIA-120	VIA-IS
Hope	.79	.83
Bravery	.80	.84
Perseverance	.87	.88
Zest	.82	.84
Honesty	.70	.77
Love of Learning	.76	.85

Note. Only the 6 character strengths relevant to this study are presented herein.

To date, translations of the VIA-IS have been made available in 20 languages and the survey can be accessed in any of these languages on the VIA Institute website. The variety of data using these translations provides an opportunity to investigate the cross-cultural validity of the VIA-IS when measuring character strengths. Multi-group confirmatory factor analysis substantiated that participants' primary responses to the variables in the survey are equivalent between many different groups and that various groups attached the same meaning to these variables (Biswas-Diener, 2006; McGrath 2014). In addition to this finding, a study examined measurement invariance across participants from 15 different countries who completed the VIA-IS in various translations. The results suggested that in many instances direct comparison of scores were found to be reasonable, the metric equivalence (the influence of factors on the scale scores were consistent), as well as the scalar equivalence (the variances in the scores across translations is a function of differences in the factor scores) were acceptable. In summation, the outcomes of this study were found to be consistent with the cross-cultural relevance of the VIA Classification of character strengths (McGrath, 2016).

By contrast, Saunders and Stichter (2019) have questioned the cross-cultural validity of the VIA inventory of strengths. The reason for the doubt concerning the cross-cultural validity of the VIA-IS measure is rooted in the fact that non-cognitive concepts, such as hope, can have various meanings across different cultural groups. It is argued that people's understanding of such latent variables may depend on their own culture, as well as their social position in that culture (Saunders & Stichter, 2019). However, it is suggested that the VIA-IS has shown adequate internal and test-retest reliability of the scales used to measure character strengths,

convergence has been detected between self-report results and peer ratings, and evidence of discriminant validity was found when character strengths were correlated with social desirability (Harzer et al., 2010; Peterson & Seligman, 2004).

Overall, the VIA-120 has demonstrated good psychometric properties in Germany (Hausler et al., 2020), Spain (Azanedo et al., 2015), and Israel (Littman-Ovadia, 2015), amongst others. For example, the Cronbach alpha values of the Spanish VIA-IS version yielded an average alpha of .82, while the average alpha of the VIA-120 was .78 (Azanedo et al., 2015), both being satisfactory. Similarly, researchers have postulated that the VIA-IS has demonstrated adequate reliability as well within the South African context, with 20 of the 24 scales having demonstrated satisfactory Cronbach alpha values of above .70 (Khumalo et al., 2008).

3.7.3 University Average Results Measuring Academic Performance

University average results were used to provide an indication of students' level of academic performance. Specifically, the students' module averages, calculated on the results of their previous year of study, was utilised. It is commonly accepted that students who attain good marks at university level are likely to be successful in their future academic performance (Aud et al., 2010; Morsch, 2007). However, recent literature maintains that non-cognitive constructs (i.e., hope, courage, and love of learning) may also serve as an important predictor of future academic success (Adams et al., 2002; Feldman & Kubuta, 2015; Martin, 2011; Niemiec, 2019; Park & Peterson, 2009; Ruch & Weber, 2011). The next section will provide an in-depth discussion of the analysis followed in this investigation.

3.8 Statistical Analysis

This section discusses the variety of techniques used to analyse the data, with the aim of answering the study's research question. The online survey was developed on SUNSurvey, and the data was retrieved and saved in the format of a Microsoft Excel spreadsheet. The outcomes were indicated by the participants' university average results, and their matric average results were then included on the spreadsheet.

The data was analysed using item analysis and partial least squares structural equation modelling (PLS-SEM) in structural equation modelling (SEM). The PLS software, SmartPLS, was used to conduct PLS-SEM. The structural model portrayed in Figure 3.1 was tested by means of data analysis to determine whether the hypotheses of the proposed study are true or false.

3.8.1 Missing Values

Missing values occur even in well-designed and controlled research studies. Anesthesiol (2013) defined missing values as the data value that is not saved for a variable in the observation of interest. It is notable that missing data often creates major problems for the estimation of data analysis methods. As an example, missing values in structural equation modelling can cause bias in standard errors and measurement statistics, as well as the ineffective utilisation of data (Allison, 2003). Moreover, missing values decrease the reliability and validity of studies as these can produce biased estimates which lead to invalid findings. Missing values can also lower the sample representativeness (Dekkers & Groenwold, 2020). To combat the problem of missing data, the listwise deletion approach was used. This is viewed as the most popular approach in managing missing values and entails omitting those cases with the missing data and only analysing the remaining data (Anesthesiol, 2013). Therefore, the data of participants who did not complete the measurement successfully (i.e., failed to complete each question of the survey), was eliminated from the dataset. The dataset utilised did not include any missing values.

3.8.2 Item Analysis

To investigate the quality of the measurement items of each scale used to measure the intended variables, item analyses was conducted. Item analysis is referred to as the method used to investigate research participants' responses to individual measurement items to evaluate the adequacy of each item as well as the measurement instrument in its entirety (Jones, 2011). The purpose of item analysis is to assist the researcher to select and omit items

from the survey that do not contribute to a reliable explanation of the various latent dimensions under investigation (Theron & van Heerden, 2014).

Additionally, Cronbach's alpha was used in order to examine the reliability, specifically the internal consistency, of the measurement instrument. Although a Cronbach alpha value close to 1 is desirable, as a rule of thumb, an internal consistency value of $\geq .70$ is regarded as practically acceptable (Foxcroft & Roodt, 2018), and this is also the cut-off used in this study. Finally, the average inter-item correlations were used to establish construct validity (Piedmont, 2014).

3.8.3 Structural Equation Modelling (SEM)

Structural equation modelling (SEM) is defined as an influential, multivariate method commonly used in empirical studies to measure and evaluate multivariate causal relationships (Chen et al., 2016; Scherer, 2020). This technique is a combination of factor analysis and multiple regression analysis. SEM allows researchers to easily formulate and reliably test hypothetical relationships between measured variables and theoretical latent constructs. Similarly, SEM tests the proposed causal relationships (Deng et al., 2018).

Specifically, the partial least squares structural equation modelling (PLS-SEM) was used to test the hypotheses of this study.

The PLS-SEM technique is often used to estimate large models with several constructs, indicator variables, and structural paths without imposing distributional assumptions on the data (Hair et al., 2018). More crucially, this technique is a causal-predictive approach to SEM as it stresses prediction when estimating statistical models whose structures are intended to offer causal explanations (Sarstedt et al., 2017 as cited by Hair et al., 2018). There are three salient steps when applying PLS (Hair et al., 2018) which were used in this study. First, model specification, which entailed setting up the inner and outer models. Henseler (2015) emphasised that two sets of linear equations are prevalent in PLS, namely, the measurement model (also referred to as the outer model) and the structural model (also referred to as the inner model). The measurement model describes the relationship between a construct and its

observed indicators (also known as manifest variables), while the structural model specifies the relationships between the constructs (Henseler, 2016). The inner model is only as valid and reliable as the outer model; therefore, the sound specification of the outer model is vital.

Second, the reliability and validity of the construct measures in the outer models was evaluated. Third, the reliability and validity were verified to assess the reflective outer models. Composite reliability, rather than Cronbach's alpha, was used to evaluate the construct measures' internal consistency reliability. The reason for this decision is that Cronbach's alpha assumes that all indicator loadings are equal in the population. Validity was then inspected. Research supports convergent validity when each item has outer loadings higher than .70 and when each variable's average variance extracted (AVE) is .50 or higher. As a general rule of thumb, loadings close to or below .40 were considered less valuable and an AVE of < .50 was not considered to indicate sufficient variance for the items to converge into a distinct construct. An AVE of .50 or higher suggests that the construct explains more than 50% of the variance of its indicators.

Next, the discriminant validity of each measurement scale was analysed. Hair et al., (2014) reports that discriminant validity represents the extent to which the variables are scientifically distinct from other variables. To clarify, it measures what it intends to measure. To verify discriminant validity, the heterotrait-monotrait ratio (HTMT) technique was used to examine whether the loadings of each indicator on its construct were higher than the cross loadings on other constructs. A threshold of 1 was utilised, meaning that results below 1 indicated that discriminant validity is evident between latent variables (Hair et al., 2014). Thereafter, the researcher applied bootstrapping analysis to inspect the degree of significance of each indicator weight. Drawing on the standard error, the significance of each parameter was determined with t-values. A path model was created that links the variables and constructs based on theory and logic (Hair et al., 2014).

After establishing the reliability and validity of the outer model, a number of steps need to be taken to evaluate the hypothesised relationships within the inner model. A variance inflation factor (VIF) was utilised to test for multicollinearity, which refers to the correlation between

predictor variables, to ensure that there were no problematic variables included in the model (Kim, 2019). The R-squared determined the model's predictive accuracy. It represents the exogenous variables' joint effect on endogenous variable(s). The coefficient of determination (i.e., R-squared) ranges from 0 to 1, with 1 indicating complete predictive accuracy. Once the PLS model were run, estimates were provided for the path coefficients, which represented the hypothesised relationships linking the constructs. Standardised path coefficient values range from -1 to 1, with coefficients closer to 1 indicating strong positive relationships (Hair et al., 2014).

3.9 Research Ethics

The credibility of researchers is damaged by unethical research (Lievore et al., 2021). Research ethics govern the standards of conduct for empirical research. In order to respect the dignity, rights and well-being of research participants, it is essential to adhere to ethical principles. For this reason, research involving human subjects should be reviewed by an ethics committee to guarantee that adequate ethical standards are being upheld (World Health Organisation, n.d), as was the case in this study. A number of steps had to be performed before the study could officially commence as data was to be obtained directly from human subjects by means of a measurement instrument. Firstly, ethical clearance was approved by the Research Ethics Committee Human Research of Stellenbosch University (REC), as shown in Addendum A. This committee offers autonomous, knowledgeable, and well-timed evaluations of the ethical threats associated with research proposals and can suggest actions intended to avoid or minimise these threats (Stellenbosch University, n.d.).

The study was deemed medium risk by REC. This was due to demographic information, such as gender and race, being requested, the fact that student identification numbers were required, and the possibility of psychological discomfort associated with certain items in the questionnaire. To negate or minimise this issue, the researcher provided the contact details of Stellenbosch University's Centre for Student Counselling and development and arranged for the participants to be able to make use of these services should they feel it necessary.

Furthermore, institutional clearance was obtained from the Department of Information Governance, as shown in Addendum C, in order to gain access to the participants' academic results, and for a list of students at Stellenbosch University that met the requirements of the sample to be uploaded to the researcher's SUNSurvey.

Important information concerning participation, rights, and responsibilities, and the assurance that the participants were freely allowed to withdraw from the study at any point should they no longer wish to participate, were emphasised at the beginning of the survey. Students were further advised that once the questionnaire had been submitted, they would not be able to withdraw from participation since all information was obtained anonymously. This was to avoid the ethical risk of uninformed or confused participants. Those who accepted the terms and conditions of the study were requested to sign an online consent form via SUNSurvey to ensure that there was proof that each respondent had been provided with all the details concerning the study and accepted the procedure to be followed, as well as their role in the study, before they could begin the survey. Therefore, participants could make an informed decision on whether or not they wanted to take part in the study, and no ethical issues arose with reference to informed consent.

The participants were further advised that their confidentiality would be safeguarded as they would not be expected to disclose their name and surname (Williams, 2018). Their student numbers were, however, initially requested when they completed the VIA-120 survey. A representative from the Department of Information Governance at Stellenbosch University re-allocated the participants' student numbers by assigning codes to each participant in order to link their scores on the non-cognitive constructs with their respective university average results and matric average results. Thus, the student numbers were only initially requested and needed to determine what the achievement outcomes of these specific students were. In addition, the students were informed why and how their academic university and matric results would be utilised in the study. Overall, the ethical risk of maintaining confidentiality and anonymity was addressed and resolved to the fullest possible extent. The data gathered from the respondents, as well as their scores on the measurement scale, were stored on a

computer in a password-protected file as well as on a cloud-based platform to minimise data security-related risks.

3.10 Chapter Summary

This chapter has explained in detail the research methodology for the study.

Chapter 4 will discuss the expected results, limitations, and implications of this research study.

Chapter 4: Research Results

4.1 Introduction

The main aim of this chapter is to highlight and elaborate on the statistical results presented in Chapter 3. As a first step, the biographical data of the sample was evaluated. Next, item analysis was conducted to assess the psychometric soundness of the instrument used to measure the latent variables of interest (i.e., hope, bravery, perseverance, zest, honesty, and love of learning). The relationships between the various variables were then analysed. Following the completion of item analysis, the partial least square (PLS) structural equation modelling (SEM) was employed to examine and interpret the relevant relationships between the latent variables to validate the structural model. In a concluding step, the hypotheses were analysed and interpreted.

4.2 Sample Biographical Information

The sample (N = 231) consisted of second-, third-, and fourth-year students who were granted an NSFAS bursary through Stellenbosch University in the year prior to the study. The composition of the sample group can be described in terms of demographic information pertaining to the participants' gender, age, race as well as their year of study, as depicted in Table 4.1.

Table 4.1

Biographical Information of Respondents

Category	Percentage
Age	
19	11%
20	30%
21	33%
22	26%
Race	
Black	39%
Coloured	30%
Indian	3%

Category	Percentage
Race	
White	26%
Preferred not to say	3%
Province of Origin	
Eastern Cape	12%
Free State	1%
Gauteng	8%
Kwazulu-Natal	10%
Limpopo	6%
Mpumalanga	3%
Northern Cape	2%
Western Cape	58%
Other	1%
Year of Study	
Second Year	37%
Third Year	44%
Fourth Year	19%

On inspection of the figures in Table 4.1 above, it appears that the sample represents different age groups, with there being no major discrepancies. The majority of the participants were 21 years of age. In terms of race, quite significant differences were noted, with the majority of the participants being Black, Indian students being in the minority and some preferring not to disclose this information. The sample appears to be representative of South Africa overall as it includes participants from all 9 of the provinces, although the largest number of participants originated from the Western Cape, Eastern Cape and Kwazulu-Natal, in descending order. Furthermore, the participants were sufficiently dispersed across the period of their studies.

4.3 Validating the Measurement Model

The outcomes of the statistical measures utilised in this study are presented and discussed in the sections below as a means to indicate the validation of the measurement model.

4.3.1 Item Analysis

To determine the quality and internal consistency reliability of all of the measurement items used in this study, item analysis was conducted via SEM to eliminate ambiguous or deceptive items (Theron & van Heerden, 2014). The summary of item analysis performed is reported in Table 4.2 and includes the sample size, number of items, Cronbach alpha values and average inter-item correlation values of each subscale measuring the latent variables.

Table 4.2

Internal Consistency Reliabilities

Scale	Sample Size	Number of Items	Cronbach's Alpha	Average Inter-Item Correlation
Hope	231	5	.73	.36
Bravery	231	5	.63	.27
Perseverance	231	5	.80	.46
Zest	231	5	.79	.44
Honesty	231	5	.67	.29
Love of Learning	231	5	.69	.31

A reliability (i.e., Cronbach alpha) criterion $\geq .70$ was considered desirable (Foxcroft & Roodt, 2018), and .60 was deemed to be acceptable (Ponteretto & Ruckdeschel, 2007). The closer the score is to 1, the higher the reliability (Bentler & Ullman, 2013). Half of the Cronbach alpha coefficients of internal consistency were desirable, with bravery, honesty, and love of learning being slightly lower than desired, but still considered acceptable. In order to establish construct validity, the average inter-item correlations were evaluated. The extent to which scores on one item have a relationship with scores on all other items is examined through inter-item correlations. This evaluates which items on a measurement scale are measuring the same content (Cohen & Swerdlik, 2005). An average inter-item correlation for a set of items is considered acceptable if $> .20$, suggesting that whilst items are reasonably homogenous, there is sufficient distinctive variance to avoid being isomorphic with one another (Piedmont, 2014). A high inter-item result indicates that the items are measuring the same

construct to some degree and vice versa. Taking this into account, all of the average inter-item correlations are regarded as acceptable. Overall, satisfactory item analysis results were found.

4.3.1.1 Hope. A Cronbach alpha of .73 for the hope scale was found, indicating a satisfactory internal consistency reliability coefficient ($\alpha \geq .70$). Therefore, it appears that the items of the hope scale delivered consistent results. Moreover, an average inter-item correlation of .36 can be viewed as an acceptable score. Thus, the findings demonstrated that the hope scale measured what it was supposed to measure.

4.3.1.2 Bravery. The bravery subscale, one of the four character strengths encompassing the virtue of courage, denoted an acceptable Cronbach alpha of .63, since it met the minimum threshold of $> .60$ (Ponteretto & Ruckdeschel, 2007). The inter-item correlation of .27 was quite low but was nonetheless not considered problematic as it was ($> .20$). Given these results, it appears that the scale measured what it was intended to measure.

4.3.1.3 Perseverance. The perseverance scale of the VIA-120 yielded a Cronbach alpha score of .80, portraying an exceptionally good internal consistency reliability ($\alpha \geq .70$). The results further specified an inter-item correlation of .46. This score was deemed acceptable. Again, the overall scores suggest that the scale measured what it was intended to measure.

4.3.1.4 Zest. A remarkably good internal consistency reliability ($\alpha \geq .70$) for the subscale zest was denoted by a Cronbach alpha score of .79. Item analysis further indicated an average inter-item correlation of .44, which is not considered to be problematic. The results demonstrated that the zest scale measured what it set out to measure.

4.3.1.5 Honesty. A Cronbach alpha of .67 was obtained for the honesty scale. Whilst the internal consistency reliability coefficient is slightly lower than desirable ($\alpha \geq .70$), the score is considered acceptable. Although the inter-item correlation of .29 was relatively low, it was, however, still regarded as acceptable. These findings illustrate that the scale measured what it was intended to measure.

4.3.1.6 Love of Learning. The love of learning scale produced a Cronbach alpha of .69, denoting an acceptable internal consistency reliability. An inter-item correlation of .31 for the total scale was found, suggesting sufficient reliability. This scale also measured what it was supposed to measure.

4.3.2 Overall Reliability of the Latent Variables

Item analysis endeavoured to examine how each latent variable functioned, as well as to assess the psychometric validity of the indicator variables for each latent variable. Ultimately, the item analysis outcomes indicated sufficient proof to support the utilisation of the items of the VIA-120 measurement instrument that were included in the present study. The majority of the items yielded desirable internal consistency reliability ($\alpha \geq .70$). The three scales that did not produce desirable scores were considered acceptable, when considering that these scores did not deviate enormously from the benchmark of .70. The average inter-item correlations of the scales ranged from .27 to .46, denoting mostly acceptable results. Thus, satisfactory item analysis outcomes justified and directed subsequent analyses to be performed.

4.4 Correlation Analysis

The most popular test technique to assess the statistical relationship between 2 continuous variables is referred to as Pearson's correlation coefficient (Jaadi, 2019). It provides information regarding the correlation and direction of a relationship, with $< .3$ being regarded as a weak correlation, between .3 and .5 indicating a moderate correlation, and $> .5$ suggesting a strong correlation (Cohen, 1988). The p-value has a threshold of .05 and reflects the extent to which data is compatible with the null hypothesis. This means that a correlation is considered to be statistically significant when the p-value is smaller than .05 (Babbie & Mouton, 2001).

Table 4.3*Correlations between the Non-Cognitive Variables*

Variable 1	Variable 2	Pearson	Pearson P-Value
Bravery	Perseverance	.28	<.01
Bravery	Honesty	.3	<.01
Bravery	Hope	.34	<.01
Bravery	Love of Learning	.23	<.01
Bravery	Zest	.41	<.01
Perseverance	Honesty	.47	<.01
Perseverance	Hope	.55	<.01
Perseverance	Love of Learning	.28	<.01
Perseverance	Zest	.44	<.01
Honesty	Hope	.27	<.01
Honesty	Love of Learning	.23	<.01
Honesty	Zest	.19	<.01
Hope	Love of Learning	.19	<.01
Hope	Zest	.67	<.01
Love of Learning	Zest	.32	<.01

Note. Statistically significant correlation is indicated in bold where $p < .05$.

Statistically significant positive relationships ($p < .05$) between all relevant variables are illustrated in Table 4.3 above. However, it is noted that 6 of the correlations are considered relatively weak, 6 are considered moderate, and only the two relationships between perseverance and hope ($r = .55$, $p < .01$) and hope and zest ($r = .67$, $p < .01$) are considered strong.

Table 4.4*Correlations between the Cognitive Variable and Non-Cognitive Variables*

Variable 1	Variable 2	Pearson	Pearson P-Value
Matric Average	Year Average	.38	<.01
Matric Average	Hope	-.08	.25
Matric Average	Bravery	-.08	.21
Matric Average	Perseverance	0	.99
Matric Average	Zest	-.03	.63

Variable 1	Variable 2	Pearson	Pearson P-Value
Matric Average	Honesty	-.06	.33
Matric Average	Love of Learning	.11	.09

Note. Statistically significant correlation is indicated in bold where $p < .05$.

As shown in Table 4.4, the only positive statistically significant correlation found was between the cognitive variable 'matric average' and the outcome variable 'year average' ($r = .38$, $p < .05$). No correlation was detected between matric average and perseverance. Furthermore, the relationships between matric average and hope ($r = -.08$, $p > .05$), matric average and bravery ($r = -.08$, $p > .05$), matric average and zest ($r = -.03$, $p > .05$), and matric average and honesty ($r = -.06$, $p > .05$) denoted negative, statistically non-significant outcomes. Finally, a statistically non-significant positive correlation was found between matric average and love of learning ($r = .11$, $p > .05$).

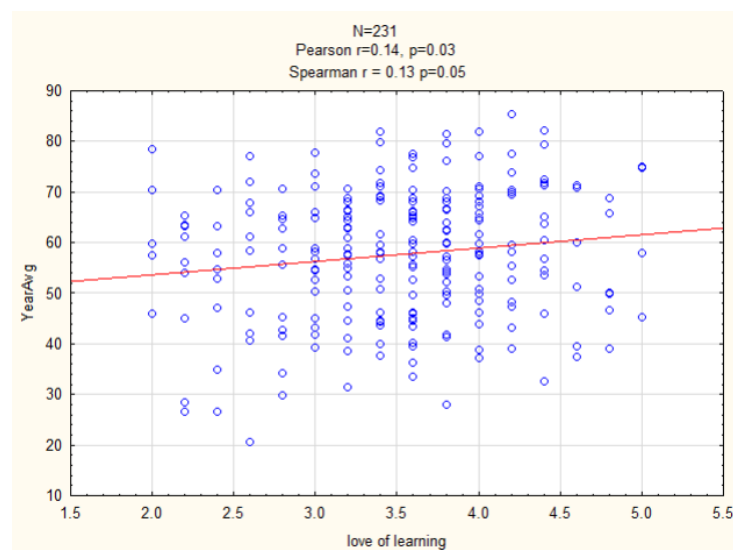
Table 4.5

Correlations between the Outcome Variable and Non-Cognitive Variables

Variable 1	Variable 2	Pearson	Pearson P-Value
Year Average	Hope	0	.97
Year Average	Bravery	-.08	.2
Year Average	Perseverance	.11	.1
Year Average	Zest	.02	.78
Year Average	Honesty	.01	.09
Year Average	Love of Learning	.14	.03

Note. Statistically significant correlation is indicated in bold where $p < .05$.

As demonstrated in Table 4.5 and Figure 4.1, only one statistically significant positive correlation was detected between year average and love of learning. This suggests that the higher the love of learning an individual has, the better their academic performance will be. Moreover, it was found that there is a non-significant negative correlation between year average and bravery. Unfortunately, no correlation between hope and year average was evident. Perseverance, zest, and honesty yielded scores indicating positive relationships with year average; however, none of these correlations were statistically significant.

Figure 4.1*Positive Statistically Significant Correlation between Love of Learning and Year Average*

4.5 Partial Least Square Structural Equation Modelling (PLS-SEM) Analysis

As a rule, the first step in the PLS-SEM analysis is to evaluate the measurement model. The second step includes the evaluation of the structural model. As part of the PLS-SEM analysis, the reliability of the relevant variables is established, whereafter the path coefficients are inspected to determine the strength and significance of the hypothesised relationships to estimate the structural model fit (Hair et al., 2014).

4.5.1 Evaluation and Interpretation of the Measurement Model (Outer Model)

Table 4.6 demonstrates the average variance extracted (AVE) and composite reliability (CR) results as a means to evaluate convergent validity. The CR scores were used to evaluate the appropriateness of the latent variables. A CR score of $\geq .70$ is typically considered as a desirable value (Hair et al., 2014). The CR scores of the latent variables range from .80 (love of learning) to .87 (perseverance), indicating satisfactory results. This indicates that the items that were theoretically intended to measure hope, courage (i.e., bravery, perseverance, zest, and honesty) and love of learning are, in fact, doing so. Furthermore, AVE values of $\geq .50$ are

deemed as satisfactory reliability (Hair et al., 2014). Unfortunately, only perseverance and zest yielded AVE values of above .50, indicating that more than 50% of the variance in the items of perseverance and zest were explained by these two variables respectively. In comparison, hope (.49), bravery (.41), honesty (.43) and love of learning (.44) presented an AVE score of below .50, which means that these latent variables are not considered adequate to distinguish the proportion of variance in the indicator variable. This is regarded as a limitation of this study.

Table 4.6

Reliability Statistics of the PLS Model

Scale	Average Variance Extracted (AVE)	Composite Reliability (CR)
Hope	.49	.83
Bravery	.41	.78
Perseverance	.57	.87
Zest	.55	.86
Honesty	.43	.79
Love of Learning	.44	.80

4.5.1.1 Discriminant Validity. Further analyses were conducted to determine the discriminant validity of each measurement subscale. This is essentially to ensure scientific uniqueness of the measurement model whilst ensuring that the variables of interest are effectively represented by the relevant measurement subscale for each specific variable, and not captured by another subscale (Henseler et al., 2016). The heterotrait-monotrait ratio (HTMT) of correlations method was used in this study to inspect discriminant validity. The HTMT was calculated to assess the ratio of the relationship between the respective variables and their items and how the variables cross-correlate to determine if discriminant validity is evident. Values below 1 indicated the presence of discriminant validity, whereas values higher than 1 indicated a lack of discriminant validity (Hair et al., 2014). As indicated in Table 4.7 below, each subscale demonstrated discriminant validity, indicating that all variables were unique.

Table 4.7*Discriminant Validity*

Latent Variable 1	Latent Variable 2	Ratio	95%	95%	Discriminant
			Lower	Upper	
Hope	Love of Learning	.35	.26	.54	Yes
Hope	Grade 12 Average	.09	.05	.25	Yes
Hope	Bravery	.53	.43	.7	Yes
Hope	Honesty	.41	.3	.59	Yes
Hope	Perseverance	.74	.61	.85	Yes
Hope	Zest	.89	.81	.97	Yes
Hope	Academic Performance	.08	.05	.2	Yes
Love of Learning	Grade 12 Average	.13	.06	.29	Yes
Love of Learning	Bravery	.42	.33	.63	Yes
Love of Learning	Honesty	.37	.28	.55	Yes
Love of Learning	Perseverance	.42	.3	.58	Yes
Love of Learning	Zest	.5	.36	.67	Yes
Love of Learning	Academic Performance	.21	.11	.36	Yes
Grade 12 Average	Bravery	.15	.09	.29	Yes
Grade 12 Average	Honesty	.09	.06	.24	Yes
Grade 12 Average	Perseverance	.08	.05	.18	Yes
Grade 12 Average	Zest	.07	.05	.2	Yes
Grade 12 Average	Academic Performance	.38	.28	.49	Yes
Bravery	Honesty	.53	.44	.74	Yes
Bravery	Perseverance	.43	.33	.61	Yes
Bravery	Zest	.58	.45	.73	Yes
Bravery	Academic Performance	.12	.07	.3	Yes
Honesty	Perseverance	.65	.51	.8	Yes
Honesty	Zest	.33	.26	.48	Yes
Honesty	Academic Performance	.1	.06	.23	Yes
Perseverance	Zest	.56	.44	.69	Yes
Perseverance	Academic Performance	.12	.05	.27	Yes
Zest	Academic Performance	.1	.08	.22	Yes

4.5.1.2 Evaluation of the Outer Loadings. A PLS bootstrap analysis was the final step in the reliability evaluation. The primary goal of utilising the bootstrapping technique was to establish the significance of the item factor loadings. If zero falls within the 95% confidence interval, non-significance of the outer loadings would be evident. Additionally, a p-value of $< .05$ is deemed statistically significant. Table 4.8 depicts the strength of the relationships between the latent variables and the relevant items measuring them. In view of the results obtained, it is clear that the loadings of the items were acceptable as they were all $> .4$. The relationships between the items and their relevant latent variables proved to be statistically significant since zero did not fall within the 95% confidence interval for any of them.

Table 4.8*Outer Loadings*

Manifest Variable	Latent Variable	Loading	95%	95%	Statistically Significant
			Lower	Upper	
Hop1	Hope	.68	.61	.74	Yes
Hop2	Hope	.79	.74	.84	Yes
Hop3	Hope	.64	.55	.71	Yes
Hop4	Hope	.69	.62	.76	Yes
Hop5	Hope	.68	.6	.74	Yes
LoL1	Love of Learning	.54	.44	.62	Yes
LoL2	Love of Learning	.62	.53	.69	Yes
LoL3	Love of Learning	.75	.69	.8	Yes
LoL4	Love of Learning	.76	.71	.81	Yes
LoL5	Love of Learning	.65	.57	.72	Yes
Gr12Avg	Grade 12 Average	1	1	1	Yes
YearAvg	Academic Performance	1	1	1	Yes
Bra1	Bravery	.59	.5	.67	Yes
Bra2	Bravery	.62	.54	.7	Yes
Bra3	Bravery	.7	.63	.76	Yes
Bra4	Bravery	.7	.61	.76	Yes
Bra5	Bravery	.59	.49	.68	Yes
Hon1	Honesty	.72	.65	.78	Yes
Hon2	Honesty	.59	.51	.68	Yes

Manifest Variable	Latent Variable	Loading	95% Lower	95% Upper	Statistically Significant
Hon3	Honesty	.69	.61	.77	Yes
Hon4	Honesty	.66	.57	.74	Yes
Hon5	Honesty	.6	.52	.67	Yes
Pers1	Perseverance	.76	.71	.81	Yes
Pers2	Perseverance	.75	.69	.8	Yes
Pers3	Perseverance	.8	.75	.84	Yes
Pers4	Perseverance	.74	.67	.79	Yes
Pers5	Perseverance	.71	.64	.77	Yes
Zes1	Zest	.66	.58	.73	Yes
Zes2	Zest	.78	.73	.83	Yes
Zes3	Zest	.76	.7	.82	Yes
Zes4	Zest	.82	.76	.86	Yes
Zes5	Zest	.76	.59	.74	Yes

Note. Hop = Hope, LoL = Love of Learning, Bra = Bravery, Hon = Honesty, Pers = Perseverance, Zes = Zest, Gr12Avg = Grade 12 Average, and YearAvg = Academic Performance.

4.5.2 Evaluation and Interpretation of the Structural Model (Inner Model)

The structural model illustrated in Figure 3.1 of the present study depicts the hypothesised relationships between the dependent variable and respective independent variables. This section set out to investigate the structural model through evaluating the relationship quality between the latent variables. Hence, PLS-SEM was utilised to determine the extent to which the latent variables correlated. In order to examine the structural model fit, the multicollinearity results and R-square values are analysed.

4.5.2.1 Multicollinearity. It is assumed that all predictor variables are uncorrelated with one another when regression analysis is performed. However, predictors can occasionally be highly correlated, which can adversely affect the regression results. Therefore, high multicollinearity will make it increasingly difficult to estimate the relationship between the respective independent variables and the dependent variable. In order to indicate the degree of multicollinearity (i.e., correlation between predictors) that is evident in a regression analysis, the variance inflation factor (VIF) can be used (Kim, 2019). The primary aim of utilising VIF in

this study was to assess the degree to which variance of an independent variable is influenced (or inflated) by its correlation with the other independent variables. The higher the VIF value, the greater the possibility that multicollinearity exists. A VIF higher than 5 is deemed troublesome since it would indicate that the independent variables are highly correlated (Kim, 2019). As shown in Table 4.9, all variables yielded results of below 5 and were therefore not classified as troublesome.

Table 4.9*Multicollinearity*

	Variance Inflation Factor (VIF)
	Academic Performance
Hope	2.25
Bravery	1.33
Perseverance	1.81
Zest	2.13
Honesty	1.39
Love of Learning	1.26
Matric Average	1.04

4.5.2.2 Evaluation and interpretation of the R square. The proportion of variance of a dependent variable that is explained by an independent variable or variables is referred to as the R-squared value (Israeli, 2007). The R-squared value of the dependent variable is shown in Table 4.10. Academic performance presented a R-squared value of .18. This suggests that 18% of the variance in academic performance may be accounted for by hope, bravery, perseverance, zest, honesty, love of learning and matric average results in the structural model. This means that 82% of the variance in academic performance was not accounted for in the model.

Table 4.10*R Square*

	R Square
Academic Performance	.18

4.5.2.3 Evaluation and interpretation of path coefficients. The main aim of PLS-SEM path modelling is to assist with making predictions (Hair et al., 2011). Following the establishment of each latent variable's reliability, the multiple path coefficients were evaluated to establish the importance of the hypothesised relationships. As mentioned previously, the bootstrap technique was utilised. The hypothesised paths demonstrated in the structural model (Figure 3.1), were analysed by determining whether zero fell within the 95% confidence interval. According to Hair et al. (2014), path coefficient values range from -1 to 1, with strong relationships being represented by coefficients closer to 1. Table 4.11 shows the significance of the hypothesised relationships. P-values of <.05 are indicated as statistically significant.

Table 4.11*Path Coefficients of the PLS Model*

Path	Path Coefficient	95% Lower	95% Upper	P-Value	Significant
Hope → Academic Performance	-.04	-.21	.16	.707	No
Bravery → Academic Performance	-.12	-.26	.03	.115	No
Perseverance → Academic Performance	.13	-.03	.28	.111	No
Zest → Academic Performance	0	-.17	.17	.959	No
Honesty → Academic Performance	-.02	-.15	.11	.754	No
Love of Learning → Academic Performance	.14	-.01	.27	.058	No
Matric Average → Academic Performance	.36	.24	.47	<.001	Yes

Hypothesis 1: *There is a positive relationship between hope and the academic performance of disadvantaged students.*

The hypothesised relationship between hope and academic performance generated a non-significant result (PLS path coefficient = $-.04$), with zero falling within the 95% confidence interval. To further prove the non-significant finding, the p-value was not smaller than $.05$. This was unexpected as numerous literature studies support a positive relationship between hope and academic performance, including recent studies (Adams et al., 2002; Day et al., 2010; Dixson, 2017; Feldman & Kubota, 2015; Gallagher et al., 2016; Gallagher et al., 2017; Marques et al., 2017). This particular result indicates that there is no significant relationship between hope and academic performance.

Hypothesis 2: There is a positive relationship between courage and the academic performance of disadvantaged students.

The character strengths of bravery, perseverance, zest, and honesty jointly represent the virtue of courage and were measured independently, as illustrated in the SEM model (Figure 4.2). Therefore, additional hypotheses were included to represent the individual character strength relationships.

Hypothesis 2a: There is a positive relationship between bravery and the academic performance of disadvantaged students.

The hypothesised relationship between bravery and academic performance showed a non-significant result (path coefficient = $-.12$), and zero fell within the 95% confidence interval. While the relationship did not meet the $<.05$ threshold for statistical significance (Babbi & Mouton, 2001), the p-value of $.115$ is relatively close to $<.05$, indicating that a trend is, in fact, demonstrated (M. Kidd, personal communication, October 28, 2022). Interestingly, this finding implies that there is a negative relationship between bravery and academic performance, which is contrary to this hypothesis. This means that the higher level of bravery an individual has, the poorer their academic performance will be. Literature provides some support for this belief (Pury et al., 2015).

Hypothesis 2b: There is a positive relationship between perseverance and the academic performance of disadvantaged students.

The hypothesised relationship between perseverance and academic performance demonstrated a positive result (path coefficient = .13), albeit not statistically significant (p -value = .111, $>.05$); nonetheless, a trend is still evident. This result suggests that there is a positive relationship between perseverance and academic performance, which is in accordance with previous research (Martin, 2011; Oluremi, 2014; Peterson & Seligman, 2004; Ruch & Weber, 2011; Schaffner, 2020). This suggests that the higher level of perseverance an individual has, the more they will achieve academically.

Hypothesis 2c: *There is a positive relationship between zest and the academic performance of disadvantaged students.*

The hypothesised relationship between zest and academic performance produced a non-significant result (PLS path coefficient = 0), with zero falling within the 95% confidence interval. To further prove the non-significant finding, the p -value was not smaller than .05. Whilst a limited number of studies have been conducted regarding the relationship between zest and academic performance, some research has suggested a positive relationship (Fisher et al., 2009; Ruch & Weber, 2011). However, this study indicates that there is no significant relationship between zest and academic performance.

Hypothesis 2d: *There is a positive relationship between honesty and the academic performance of disadvantaged students.*

The hypothesised relationship between honesty and academic performance provided a non-significant result (PLS path coefficient = -.02), with zero falling within the 95% confidence interval. To further prove the non-significant finding, the p -value was not smaller than .05. This outcome was not completely surprising due to the limited amount of research available with regard to the influence of honesty on academic performance. This study indicates that there is no significant relationship between honesty and academic performance.

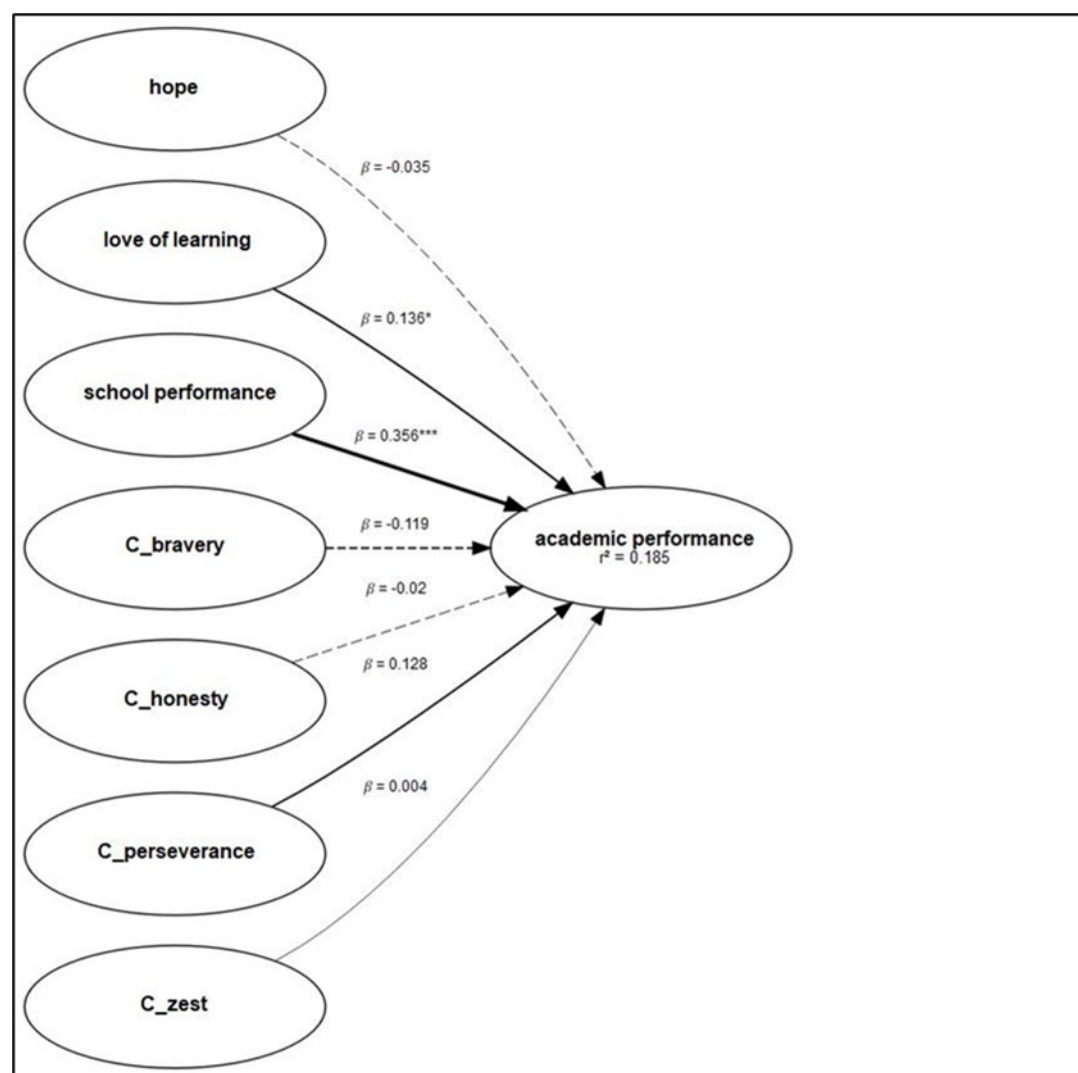
Overall, hypothesis 2 refers to courage as a whole, and since none of the character strengths representing courage showed significant positive relationships with academic performance, it is clear that this study found no significant relationship between courage and academic performance.

Hypothesis 3: *There is a positive relationship between love of learning and the academic performance of disadvantaged students.*

The suggested relationship between love of learning and academic performance did not reveal a statistically significant result ($p\text{-value} = .058, >.05$), and zero fell within the 95% confidence interval. Nonetheless a positive significant relationship was still presented (PLS path coefficient = .14). This outcome is in alignment with prior research (Dehideniya et al., 2021; Fisher et al., 2009; Malmberg et al., 2008; Peterson & Seligman, 2004; Ruch & Weber, 2011; Wagner et al., 2020), implying that the higher the love of learning of an individual, the better their academic performance will be.

Hypothesis 4: *There is a positive relationship between matric average results and the academic performance of disadvantaged students.*

The hypothesised effect of matric average results on academic performance produced a significant and positive result (PLS path coefficient = .37), with zero not falling in the 95% confidence interval. A $p\text{-value}$ of below .05 was also found, further supporting the statistical significance of the relationship. This result supports past research findings with regard to this relationship (Joubert et al., 2013; Mashige et al., 2014). This finding clearly demonstrates that individuals who attained high academic results in Grade 12 will likely perform well academically in tertiary studies.

Figure 4.2*SEM Structural Model*

Note. School performance = matric average results.

4.6 Chapter Summary

The purpose of Chapter 4 was to present and report on the statistical analysis results. Item analysis was utilised to validate the measurement model (outer model) through evaluating each measurement scale's psychometric properties. Thereafter, the structural model (inner model) was examined to determine the validity of the associations between the latent variables in this study. The results were analysed and interpreted, and this chapter concluded with a brief explanation of the hypothesised relationships. Hypothesis 1, 2c and 2d were not supported, therefore conflicting with previous research, whereas hypothesis 3 and 4 provided

additional support for existing research based on character strengths and academic performance. The final chapter of this study, Chapter 5, consists of a discussion of the findings, the limitations of the study, practical implications, and recommendations.

Chapter 5: Findings, Limitations, Implications, and Recommendations

5.1 Introduction

Chapter 1 provided the context of the study and presented the research question and resulting research objectives. The purpose of the study was to answer the following research question: “Do hope, courage and love of learning show a positive relationship with the academic performance of disadvantaged students, whilst controlling for previous academic results?”. Certain objectives were formulated to answer this question and provide empirical grounds to support the inferences made in this study. An in-depth literature review directed the research objectives and consequently resulted in the development of the model outlined in Chapter 2. Chapter 3 consisted of the research methodology which included the structural model to be tested, as well as a discussion and justification of the research design, research hypotheses, sampling procedure, data collection process, and measures used. Chapter 4 discussed the findings of the statistical analysis.

Chapter 5 sets out to discuss the main findings, revisit the aim and objectives of the study, highlight the limitations evident in the study, discuss the practical implications of the findings, and to propose recommendations.

5.2 Discussion of Main Findings

Although numerous studies have investigated the relationship between character strengths and academic performance, few have considered the South African context specifically. Particular character strengths (e.g., hope and love of learning) and a virtue (e.g., courage) were selected for inclusion in the current study, as these latent constructs have theoretically been shown to have a relationship with academic performance, especially in the face of adversity. Previous academic results (i.e., matric average results) were also considered since their impact on future academic performance is undeniable. This section provides an in-depth discussion of the findings of this study in comparison to the results of previous research. A structural model was developed and tested, which explains the variance that hope, courage (i.e., bravery, perseverance, zest, and honesty), and love of learning can account for in the

academic performance of disadvantaged students, whilst taking into consideration the influence of matric average results. Subsequently, the PLS-SEM path analysis indicated that the model accounted for an average variance of 18% in academic performance, leaving 82% of the variance in academic performance not accounted for by the model. Although this percentage might seem small, it could not be practically expected that greater variance could be explained by a model focused narrowly on specific character strengths and matric marks. There are various potential factors that could exert an additional influence on academic performance. The contribution of the model is thus still valuable within the field of industrial psychology. Seven hypothesised paths were tested in this study of which three were found to be significant.

Many researchers have found a positive relationship between hope and academic performance (Dixon, 2017; Feldman & Kubota, 2015; Gallagher et al., 2016; Hale & Worrel, 2001; Kaufman, 2011; Marques et al., 2017). As an example, it is argued that students with hope as a character strength will likely utilise agency and pathways to reach their academic goals (The VIA Institute, n.d; Adams et al., 2002; Felten & McGowan, 2021). In addition, two separate studies found that hope among students undertaking tertiary studies was positively related to higher academic results, whilst controlling for previous academic outcomes, such as entrance examination scores and previous test scores (Adams et al., 2002; Day et al., 2010). More recently, a meta-analysis by Gallagher et al., (2017) of 45 research studies demonstrated that hope was a significant non-cognitive indicator of academic performance. Nonetheless, the findings in the present study indicated a non-significant relationship between hope and academic performance, thus hypothesis 1 was not supported. This suggests that the level of hope of NSFAS students at Stellenbosch University has no impact on their academic performance. It is clear that this outcome is contrary to that of previous research, for a number of possible reasons. One possible reason for the outcome presented in the current study may be due to the sample utilised. The sample was intended to represent disadvantaged students in South Africa; however, the participants consisted of NSFAS students from one university only (i.e., Stellenbosch University). In addition, the sample size

(N = 231) was relatively small when considering that it was ideally meant to represent an exceptionally large population group. Furthermore, a study including undergraduate students (N = 334) showed that although hope did not have a direct relationship with final course results it did, nonetheless, have a positive indirect relationship with academic performance, with grade expectancy having a significant moderating influence (Fischer et al., 2020). Similarly, school-related satisfaction and positive school functioning have been shown to moderate the relationship between hope and academic performance (Ruch & Weber, 2011). Therefore, another possible reason could be that there might rather have been an indirect relationship between hope and academic performance, instead of a direct relationship. Nevertheless, this study provides evidence that no relationship appears to exist between hope and academic performance.

In order to determine whether there is a positive relationship between courage and academic performance (i.e., hypothesis 2), the relationships between the character strengths encompassing courage and academic performance first had to be examined. Previous research has postulated that individuals who have the strength of bravery are able to make decisions to confront challenges in their lives (Mtywaku & Pupil, 2020), which may also include academic challenges. In the present study, hypothesis 2a yielded a negative yet significant result, suggesting that bravery has a negative relationship with academic performance. To explain, the braver the individual, the poorer their academic performance will likely be. Whilst the hypothesised outcome was a positive relationship, research by Pury et al. (2015) does, to some extent, support the negative relationship obtained, since it was found that there is a negative side to courage as well. The link between 'bad' courage and bravery exists since bravery is explained as defending what is right when confronted with opposition and acting on convictions even if unpopular, as well as not giving up in the face of danger, adversity, difficulty, or pain (Pearce, 2019). Furthermore, Pury et al. (2015) proposed that certain actions may appear as courageous or brave from the viewpoint of the actor but lead to non-virtuous and even negative outcomes from a different viewpoint, such as engaging in terrorism or

committing suicide. Thus, courage, including bravery, can have good or bad influences, depending on what the goal of the individual is (Pury et al., 2015).

In the current study, the relationship between perseverance and academic performance was deemed positive and significant, albeit not very strong. Thus, hypotheses 2b aligns with previous research. For example, it has been noted that perseverance positively influences school success (Peterson & Seligman, 2004; Ruch & Weber, 2011), as well as academic achievement in tertiary education (Fisher et al., 2009). Moreover, perseverance was found to be associated with academic engagement and thus also with academic performance (Oluremi, 2014). A more recent study demonstrated that perseverance predicts success above and beyond aptitude and raw talent (Schaffner, 2020). Therefore, this finding provides additional support to existing literature.

A study that examined the relationship between character strengths and grade point average (GPA) found zest to have a positive correlation with academic success (Fisher et al., 2009). Similarly, Ruch and Weber (2011) corroborated that individuals with the strength of zest were more awake and vigilant in class, enabling them to recall covered content more readily and this was assumed to lead to better academic performance. Conversely, the current study found the relationship to be non-significant. This study found that zest does not have a relationship with academic performance, therefore hypothesis 2c was not supported. It is postulated that zest entails leveraging the mind's tendency to attend to and exert energy on that which engages and stimulates (Paff, 2018). A possible reason for the outcome of this present study may therefore be that the participants of the study were not all interested in their course work at the time that they were assessed, since zest is argued to represent student interest and enthusiasm

Hypothesis 2d was not supported in this study since honesty did not indicate a relationship with academic performance. This finding was not completely unexpected, given that literature which reports such a relationship is limited. However, Fisher et al. (2009) found a positive correlation between a number of character strengths, including honesty, and academic performance (Fisher et al., 2009). Despite the limited research available on honesty and

academic performance, the decision was made to assess honesty as it forms part of the broader construct of courage, which was of interest in the present study. Although it was argued that individuals who have the strength of honesty may be truthful to their academic goals (VIA Institute on Character, n.d), this was not proven in the current study. A possible reason may be that honesty has an indirect relationship with academic performance since it would make sense to argue that honest students will likely complete their academic tasks by themselves (i.e., honestly) and thus learning can occur, which may influence overall academic performance.

Overall, research has shown evidence of a positive relationship between courage and academic performance (Martin, 2011), however, the findings of this study indicate that of the four character strengths encompassing courage, only perseverance yielded a significant positive relationship with academic performance. This outcome is a limitation in the present study.

Literature related to the influence of character strengths and academic performance indicates that individuals with a higher love of learning are more likely to attain academic success (Peterson & Seligman, 2004; Ruch & Weber, 2011), as well as future success (Butcher, 2022), for example, building a successful career above and beyond cognitive ability (Wagner et al., 2020). Since limited research has been conducted on the strength of love of learning, Peterson & Seligman (2004) argued that motivation orientation, competence, value, and well-developed individual interest are constructs that “tap into love of learning” (p. 164). In light of this argument, intrinsic motivation is more prevalent in love of learning than extrinsic motivation (Peterson & Seligman, 2004), and intrinsic motivation has been found to be related to high levels of effort and task performance and, consequently, to high overall academic achievement at school (Ables et al., 2016). Individuals with a love of learning are inclined to demonstrate a mastery orientation which means they are inclined to exert more effort in school to increase their knowledge, which could lead to academic success (Malmberg et al., 2008). Personal values in the choice of learning approaches were further found to have a direct influence on academic performance (Dehideniya et al., 2021) and well-developed interest was

also argued to be related to engagement in schoolwork and, in turn, to academic performance (Peterson & Seligman, 2004). It was therefore hypothesised that a positive relationship exists between love of learning and academic performance. The outcome of this study showed a significant positive relationship between love of learning and academic performance. Thus, hypothesis 3 was supported and this is in accordance with previous research findings. This finding contributes to existing literature and implies that a disadvantaged individual with a greater love of learning will achieve greater academic success.

It is commonly accepted that previous academic marks, such as matric average results, have an influence on future academic performance. This is especially clear since the majority of universities regard matric marks as indicators, not only of individuals' current knowledge, but also of their ability to progress successfully in their future studies (Hunt et al., 2010). As an example, a study that examined whether matric marks could be utilised as a predictor of the successful completion of a specific university undergraduate degree, found that students who had higher matric average results obtained higher university averages as well (Joubert et al., 2013). Similarly, another study found that individuals who attained good marks in Grade 12 also performed well academically at university (Joubert et al., 2013). In supporting existing research, hypothesis 4 was validated, thus indicating that a positive significant relationship between matric average results and academic performance was evident in this study. This study therefore supports the notion that individuals who achieve high average results in matric, will probably perform well academically at university level.

5.3 Reflecting on the Objectives

The overarching aim of this study was to empirically test the relationships between disadvantaged students' levels of hope, courage, and love of learning respectively with their academic performance at Stellenbosch University, whilst considering their matric results. The following objectives were formulated to achieve this aim:

- To theoretically investigate and understand the impact of character strengths as positive, non-cognitive predictors of academic performance.

- To investigate whether the specific strengths of hope, courage (i.e., bravery, perseverance, zest, and honesty) and love of learning of disadvantaged learners in South Africa show positive relationships with academic performance.
- To identify the levels of variance in academic performance that hope, courage, and love of learning accounts for, whilst controlling for previous academic marks.

The first objective was met since sufficient research evidence was found to support the supposition that character strengths have a positive influence on academic performance. The second objective was met in that the various relationships between the six strengths and academic performance were empirically tested, although not all results yielded the expected results (i.e., positive relationships). The third objective was met since there was an 18% variance in academic performance explained by the relevant variables.

5.4 Limitations of this Research

This section consists of a discussion concerning limitations evident in this study, the consequences of the limitations, and possible ways to mitigate the limitations. It is accepted that all research has certain limitations. The goal of accurately reporting research limitations is to remain transparent and to endorse the appropriate interpretation and validity of the outcomes (Bibler-Zaidi & Ross, 2019).

First, a study design limitation exists because of the choice to narrow the scope of the research by following a non-experimental, cross-sectional research design. The main weakness of this type of study is that it is not practicable in establishing in-depth consequential relationships, as it measures dependent and independent variables simultaneously but no longitudinal data is collected over the course of time (Solem, 2015). To explain, the participants of this study were only assessed at one specific point in time to establish their level of hope, courage, and love of learning. Thereafter, the results were analysed, and inferences were drawn. The study did not, therefore, account for any possible variance of the influence that the latent constructs may have on academic performance over the course of time. To illustrate, there is no guarantee that the students who obtained high scores on love

of learning will maintain high levels of love of learning throughout their remaining university years. An additional shortcoming prevalent in cross-sectional designs is that it is not possible to examine the relationship between the research results and relevant risk factors (Cheng & Wang, 2020), such as examining the participants' differing background history relating to their family background or learning environment. It is consequently advised that future research includes more informative, longitudinal studies.

Second, the element of social desirability could have been present in the study since a self-report measurement instrument was utilised to assess the relevant character strengths. Social desirability bias is an unintentional effect that occurs when participants respond in ways which they believe are favourable to the researcher, instead of answering the questions truthfully (Ross et al., 2019). This study attempted to combat this limitation since it refrained from requesting students to provide their names and surnames, however, student numbers were still required. Although requesting student numbers posed a risk to the participants' identities, a representative of the university assisted in keeping the participants' student numbers confidential to an acceptable extent.

Third, a possible limitation of the study is that although scientific evidence showed that the VIA-120 yielded satisfactory psychometric properties, the cross-cultural validity of this measurement instrument has caused some doubt amongst researchers (Saunders & Stichter, 2019). This is due to the fact that the meaning of latent constructs, such as hope, courage, and love of learning, may have different meanings in different cultures. It is therefore advised that future research be conducted to guarantee adequate modification of the VIA-120 in South Africa. While research by Khumalo et al. (2008) has demonstrated adequate reliability within the South African context, more research in this regard is required.

Fourth, this study poses certain limitations with regard to the sampling method and sample used. Since this study utilised a convenience sampling method, under-representation of the overall population might have occurred (Ross et al., 2019). A lack of generalisability of the results is a shortcoming of the study since the sample was drawn from one academic institution only (i.e., Stellenbosch University), and second-, third-, and fourth-year students

who attained a NSFAS bursary were argued to represent disadvantaged students. Although participants from different South African provinces were included in the present study, the majority were from the Western Cape, where Stellenbosch University is situated. It is recommended that future research include participants from multiple institutions to ensure that a broader representation of disadvantaged students all over South Africa is presented.

Fifth, the participants of this study might not provide an adequate depiction of the different faculties in the university. Any particular faculty, such as Theology (for example), might not have been represented at all in the year that this study was conducted. Thus, it is recommended that future studies take measures to avoid the range restriction which accompanies the preselection of participants.

Sixth, although this study intended to report on the relationship between academic performance and the virtue of courage as a whole, the character strengths making up courage (i.e., bravery, perseverance, zest, and honesty) had to be assessed independently with the VIA-120 measuring instrument. Therefore, four additional hypotheses had to be added which made it more difficult for the researcher to interpret the study findings. It is proposed that future research utilises a measuring instrument which can more accurately assess the complete virtue of courage, rather than using a measuring instrument that is intended to measure character strengths through subscales, as was the case in this study.

Finally, although biographical data were obtained from each participant, this information was merely used to discuss the composition of the sample, but not used for inferential statistics. More valuable conclusions could have been drawn by examining whether biographical factors played a role in the relationships tested.

Despite the noted limitations, the findings in this study still contribute to literature related to the effect of non-cognitive variables (i.e., character strengths) and cognitive variables on academic performance. More specifically, the findings show that high levels of love of learning, perseverance and good matric average results may lead to successful academic performance at university, whilst excessive bravery could hamper future academic performance.

5.4 Practical Implications

This study intended to provide an alternative university admission model including non-cognitive predictors of academic performance, in addition to cognitive predictors. This would mean that future academic potential, as influenced by certain character strengths, would be taken into consideration, and not only current academic merit. This study therefore proposes that universities should assess applicants on their levels of perseverance and love of learning, in addition to taking their school average results into account when admitting students. Specifically, it is proposed that perseverance and love of learning be included in the admission model, since this study presented evidence that these strengths positively and significantly influence academic performance. Whilst bravery was found to have a relationship with academic performance, the relationship was negative and thus it is not suggested that bravery be included. An admission model which provides more equal opportunities may hold various positive implications for South African universities, such as Stellenbosch University.

Adopting such an alternative admission model will probably enable universities to utilise more relevant selection criteria with higher value, since the consideration of non-cognitive strengths will provide additional information about each applicant. Moreover, since perseverance, love of learning and matric average results together account for variance in academic performance, albeit only to a limited extent, universities will be able to select students who may be more likely to attain sufficient academic marks, and ultimately graduate. This will further allow universities to avoid high drop-out rates and reduce the number of students who are required to repeat university courses. By utilising an alternative admission model, universities will be in a position to directly play a part in assisting disadvantaged students who may not have received quality basic education or support, but have, in fact, demonstrated the potential to succeed, to gain access to tertiary education.

If given the opportunity to study at prestigious universities across South Africa, disadvantaged students who encompass these positive strengths may attain academic success, despite their history of hardship. Consequently, over time, certain positive changes

may be introduced into a country presently hampered by major challenges. Therefore, if disadvantaged students possessing the qualities of perseverance and love of learning, in addition to good school academic results, are provided with the increased opportunity of being accepted to – and successfully graduating from – university, these students would likely have a greater chance of securing employment in South Africa's labour market. As a consequence of increasing numbers of young people securing suitable jobs and gaining skills, the inequality gap will inevitably decrease as the number of individuals living in poverty reduces.

5.5 Recommendations

It is primarily recommended that universities adapt their admissions models by including a non-cognitive survey to measure applicants' levels of perseverance and love of learning. The application of a streamlined, more structured and shorter instrument, such as the VIA-120, is recommended, rather than a longer instrument, for instance the VIA-IS. This will decrease the number of potential errors – for instance, missing data due to incomplete answers in a lengthy questionnaire and will lead to increasingly efficient management of the final results.

Since a limited number of studies have been undertaken in South Africa on the topic of character strengths, especially with a sample comprising disadvantaged individuals, it is recommended that the measuring instrument be tested for cross-cultural validity across different groups of disadvantaged students. The measurement instrument might have to be modified to accommodate languages other than English, and consequently, it is crucial to ensure that there is no unwanted variance between different cultural groups, but that cross-cultural reliability and validity are evident. In addition, test sophistication should be considered by ensuring that all of the participating students are given the opportunity to gain exposure to the specific materials and test formats (Foxcroft & Roodt, 2018). For instance, a short orientation or practice session could be arranged to avoid test bias for those students who may not have the necessary experience in working with computers due to their disadvantaged histories.

Another recommendation is for schools to provide training to primary and secondary school teachers on how to assist learners to develop character strengths. Prior research supports the theory that character strengths can be developed and that the incorporation of character strength education programmes have generated positive outcomes (Doman, 2020; Gander et al., 2019), in terms of, for example, desirable behaviours, positive attitudes and reduced dangerous actions (Lavy, 2020). It is recommended that schools thus adopt character strength interventions that encompass key elements of learning, such as: (1) providing theoretical knowledge by elaborating on what strengths are; (2) encouraging recognition of the presence of character strengths in learners; (3) inspiring action by providing examples of how learners can practice using their strengths; and (4) encouraging reflection on the use of strengths by oneself and others (Lavy, 2020).

Finally, steps should also be taken by universities to explore ways to increase their students' levels of perseverance and love of learning since these specific strengths appear to be advantageous in improving individuals' academic performance. As an example, universities could start a "Character Strengths Development" initiative in all faculties by adding an additional low-credit module to the students' course framework. The module should not be time-consuming or difficult, but rather a year-long model which provide interesting readings and quizzes with unrestricted and flexible times to complete. The purpose of such an initiative would be to enhance the students' knowledge about character strengths while building on those each student already has. A specific focus should, however, be placed on perseverance and love of learning. This would likely be beneficial to the universities since students' academic performance may improve substantively.

5.6 Summary and Concluding Remarks

As the four major challenges of poverty, inequality, unemployment among the youth, and skills deficiency continue to influence one another, South Africa remains trapped in a perpetuating cycle of poverty. The fact that most universities do not consider future academic potential, but only current academic results, is a significant hurdle for disadvantaged

individuals in gaining access to tertiary studies and ultimately in securing employment in the labour market. It has been argued that non-cognitive constructs may add additional predictive value to that of cognitive ability. In addition, prior research suggests that individuals who possess specific character strengths have been shown to achieve academic success, notwithstanding the struggles that they are faced with. This study found that hope and three character strengths encompassing the virtues of courage (bravery, zest and honesty) did not have positive relationships with academic performance, whereas perseverance, love of learning, and matric average results had significant positive relationships with academic performance. Therefore, it is recommended that universities in South Africa adapt their admissions models to include both cognitive (i.e., matric average results) and non-cognitive (perseverance and love of learning) constructs as this may be an effective way to ensure fair admissions practices. Not only would disadvantaged students gain more equal opportunities to build better futures for themselves, but universities themselves would also benefit from selecting students who demonstrate the likelihood of being able to perform well academically. As a result, disadvantaged students may secure better jobs and build relevant skills, which may lead directly to decreased levels of inequality and poverty. Above all, the alternative admissions model proposed in this study may offer positive forward movement in a constructive effort to reduce the poverty cycle in South Africa.

References

- Ables, A.Z., Augustyniak, R.A., Cortright, R.N., DiCarlo, S.E., Guilford, P., & Lujan, H.L. (2016). Intrinsic motivation: An overlooked component for student success. *Advances in Physiology Education*, 40, 465-466. <https://doi.org/10.1152/advan.00072.2016>
- Ackerman, C. E. (2020, April 16). What is positive psychology and why is it important. PositivePsychology.com. <https://positivepsychology.com/>
- Adams, V. H., Cheavens, J., Pulvers, K. M., Shorey, H. S., Snyder, C. R., & Wiklund, C. (2002). Hope and academic success in college. *Journal of Educational Psychology*, 94(4), 820-826. <https://doi.org/10.1037/0022-0663.94.4.820>
- Agarwal, M., Agarwal, N., & Kumar, S. (2021). Defining and measuring academic performance of he i students: A critical review. *Turkish Journal of Computer and Mathematics Education*, 12(6), 3091-3105.
- Alkassim, R. S., Etikan, I., & Musa, S. A. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Amann, L., Gander, F., Ruch, W., & Wagner, L. (2021). What are character strengths good for? A daily diary study on character strengths enactment. *The Journal of Positive Psychology*, 17(5), 718-728. <https://doi.org/10.1080/17439760.2021.1926532>
- Anesthesiol, K. J. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology*, 64(5), 402-406. <https://doi.org/10.4097/kjae.2013.64.5.402>
- Asai, D. J. (2020). Race matters. *Cell*, 181(4), 754–757. <https://doi.org/10.1016/j.cell.2020.03.044>
- Aud, S., Fox, M., & KewalRamani, A. (2010). *Status and trends in the education of racial and ethnic groups*. Government Printing Office.
- Azanedo, C. M., Barraca, J., & Fernández-Abascal, E. G. (2014). Character strengths in Spain: Validation of the Values in Action Inventory of Strengths (VIA-IS) in a Spanish sample. *Clínica y Salud*, 25(2), 123–130. <https://doi.org/10.1016/j.clysa.2014.06.002>
- Babbie, E., & Mouton, J. (2001). *The practice of social science research*. Wadsworth.

- Ball State University. (2020, October 13). *VIA character strength spotlight: Zest*. Retrieved October 16, 2022, from <https://commcenter.bsu.edu/message/via-character-strength-spotlight-zest/>
- Bandura, A. (1997). Self-efficacy: *The exercise of control*. Freeman.
- Bauer, N. (2021, July 14). *'Little to lose': Poverty and despair fuel South Africa's unrest*. Aljazeera. <https://www.aljazeera.com/news/2021/7/14/little-to-lose-poverty-and-despair-fuel-south-africas-unrest>
- Bentler, P., & Ullman, J. (2013). Structural equation modeling. In I. Weiner (Ed.), *Handbook of Psychology*, 661-690. John Wiley & Sons Inc.
- Bhatia, M. (2018, June 11). *A complete guide to quantitative research methods*. Retrieved August 21, 2020. Humans of data. <https://humansofdata.atlan.com/2018/06/quantitative-research-methods/>
- Bibler-Zaidi, N. L., & Ross, P. T. (2019). Limited by our limitations. *Perspectives on Medical Education*, 8(4), 261-264. <https://doi.org/10.1007/s40037-019-00530-x>
- Biswas-Diener, R. (2006). From the equator to the North Pole: A study of character strengths. *Journal of Happiness Studies*, 7, 293–310. <https://doi.org/10.1007/s10902-005-3646-8>
- Black, L., Bongar, B., Hausman, C., & Kugel, U. (2017). Psychology of physical bravery. *Oxford Handbook Topics in Psychology*. <https://doi.org/10.1093/oxfordhb/9780199935291.013.36>
- Brown, M., & McGrath, R. E. (2020). Using the VIA Classification to advance a psychological science of virtue. *Frontiers in Psychology*, 11, 1-11. <https://doi.org/10.3389/fpsyg.2020.565953>
- BusinessTech. (2022, July 18). *These are the biggest challenges facing South Africa right now: Ramaphosa*. Retrieved August 20, 2022, from <https://businesstech.co.za/news/government/607506/these-are-the-biggest-challenges-facing-south-africa-right-now-ramaphosa/>
- Butcher, M. (2022). Love teaching to inspire love of learning. *Childhood Education*, 98(4), 6-13, <https://doi.org/10.1080/00094056.2022.2103323>

- Cham, T. H., Cheah, J.H., Chuah, F., Memon, M. A., Thurasamy, R., & Ting, H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2). [https://doi.org/10.47263/jasem.4\(2\)01](https://doi.org/10.47263/jasem.4(2)01)
- Chen, J., Cheng, X., Huang, Y., Tian, M., Lei, W., Liao, X., Liu, K., Qin, C., Xiang, B., Xu, S., Zhou, X. (2022). Character strengths as protective factors against behaviour problems in early adolescent. *Psicologia: Reflexão e Crítica*, 35(1), 1-11. <https://doi.org/10.1186/s41155-022-00217-z>
- Chen, J., Fan, Y., John, R., Park, H., Shao, C., Shirkey, G., & Wu, S. R. (2016). Applications of structural equation modeling (SEM) in ecological studies: An updated review. *Ecological Processes*, 5(1), 1-12. <https://doi.org/10.1186/s13717-016-0063-3>
- Cheng, Z., & Wang, X. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1), 65-71. <https://doi.org/10.1016/j.chest.2020.03.012>
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cohen, R. J., & Swerdlik, M. E. (2005). *Psychological testing and assessment: An introduction to tests and measurement* (6th ed.). McGraw-Hill.
- Davies, N. (2020, January 6). *How to build your psychological courage*. WellBeing. <https://www.wellbeing.com.au/mind-spirit/mind/how-to-build-your-courage.html/>
- Day, L., Hanson, K., Maltby, J., Proctor, C., & Wood, A. (2010). Hope uniquely predicts objective academic achievement above intelligence, personality, and previous academic achievement. *Journal of Research in Personality*, 44(4), 550-553.
- Dekkers, O. M., & Groenwold, R. H. (2020). Missing data: The impact of what is not there. *European Society of Endocrinology*, 183(4), E7-E9. <https://doi.org/10.1530/EJE-20-0732>
- Dehideniya, D., Ekanayake, S. Y., & Gamage, K. A. (2021). The role of personal values in learning approaches and student achievements. *Behavioural Sciences Baseline*, 11(7), 102. <https://doi.org/10.3390/bs11070102>

- Deng, L., Marcoulides, K. M., & Yang, M. (2018). Structural equation modeling with many variables: A systematic review of issues and developments. *Frontiers in Psychology*, 9(580), <https://doi.org/10.3389/fpsyg.2018.00580>
- Department of Employment and Labour. (2022, June 21). "South Africa's world competitiveness improves amid the global geopolitical tensions. <https://www.labour.gov.za/Media-Desk/Media-Statements/Pages/South-Africa%E2%80%99s-world-competitiveness-improves-amid-the-global-geopolitical-tensions.aspx#:~:text=South%20Africa's%20international%20competitiveness%20ranking,years%20of%20decline%20since%202018/>
- Dixon, D. D. (2017). Hope across achievement: Examining psychometric properties of the children's hope scale across the range of achievement. *SAGE Open*, 7(3), 1-11.
- Doman, F. (2020, June 18). *How character strengths help us through trying times*. VIA Institute on Character. <https://www.viacharacter.org/topics/articles/how-character-strengths-help%20us-through-trying-times/>
- Downward, P., Hong, E., & Jeong, Y. (2019). Perceived organisational support, internal motivation, and work-family conflict among soccer referees. *Managing Sport and Leisure*, 24(1-3), 141-154. <https://doi.org/10.1080/23750472.2019.1593049>
- Duckworth, A. L. (2016). *Grit: The power of passion and perseverance*. Vermilion.
- Dweck, C. S. (2017). *Mindset: Changing the way you think to fulfil your potential*. (Revised edition). Robinson.
- Ellis, B., & Penman, J. (2009). Regional academics' perceptions of the love of learning and its importance for their students. *Australian Journal of Adult Learning*, 49(1), 148-168.
- Fayard, J. V., Roberts, B. W., Robins, R. W., & Watson, D. (2012). Uncovering the affective core of conscientiousness: The role of self-conscious emotions. *Journal of Personality*, 80(1), 1-32. <https://doi.org/10.1111/j.1467-6494.2011.00720>
- Feldman, D. B., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic achievement: Distinguishing constructs and levels of specificity in predicting college grade-point average. *Learning and Individual Differences*, 37, 210-216.

- Felten, P., & McGowan, S. (2021). On the necessity of hope in academic development. *International Journal for Academic Development*, 26(4), 473-476.
<https://doi.org/10.1080/1360144X.2021.1903902>
- Flanagan, J. (2021, June 7). *75% of youth in South Africa are unemployed*. The Times.
<https://www.thetimes.co.uk/article/75-of-youth-in-south-africa-are-unemployed-2krzpzvmx/>
- Fischer, I.C., Fortney, S.K., Rand, K.L., & Shanahan, M.L. (2020). Hope and optimism as predictors of academic performance and subjective well-being in college students. *Learning and Individual Differences*, 81. <https://doi.org/10.1016/j.lindif.2020.101906>
- Fisher, L., Levy, J., Lounsbury, J.W., & Welsh, D. (2009). An investigation of character strengths in relation to the academic success of college students. *Individual Differences Research*, 7(1), 52-69. <https://doi.org/10.1.1.453.9217>
- Foxcroft, C., & Roodt, G. (2018). *An introduction to psychological assessment in the South African context* (5th Revised Edition ed.). Oxford University Press Southern Africa.
- Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology*, 9, 103–110.
- Galal, S. (2022, December 16). "Number of people living in extreme poverty in South Africa 2016-2025". Statista. <https://www.statista.com/statistics/1263290/number-of-people-living-in-extreme-poverty-in-south-africa/#:~:text=As%20of%202022%2C%20around%2018.2,into%20poverty%20compared%20to%202021/>
- Gallagher, M. W., Lopez, S. J., & Marques, S. C. (2016). Hope and the academic trajectory of college students. *Journal of Happiness Studies*, 18, 341-352.
<https://doi.org/10.1007/s10902-016-9727-z>
- Gallagher, M. W., Lopez, S. J., & Marques, S. C. (2017). Hope- and academic-related outcomes: A meta-analysis. *School Mental Health*, 9, 250-262.
<https://doi.org/10.1007/s12310-017-9212-9>

- Gander, F., Hofmann, J., Proyer, R. T., & Ruch, W. (2020). Character strengths - Stability, change, and relationships with well-being changes. *Applied Research in Quality of Life*, 15, 349-367. <https://doi.org/10.1007/s11482-018-9690-4>.
- Gibson, C., Rankin, S., & York, T. T. (2015). Defining and measuring academic success. *Practical assessment, Research, and Evaluation*, 20(1), 5. <https://doi.org/10.7275/hz5x-tx03>
- Gordon, S. (2022, May 13). *What are the 24 character strengths?* Very Well Mind: <https://www.verywellmind.com/what-are-character-strengths-4843090/>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139-151. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J.F., Hopkins, L., Kuppelwieser, V.G., & Sarstedt, M. (2014). Partial least squares structural equation modelling (PLS-SEM). *European Business Review*, 26(2), 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hair, J. F., Ringle, C. M., Risher, J. J., & Sarstedt, M. (2018). When to use and how to report the results of PLS-SEM. *European Business Review*. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hale, R. L., & Worrell, F. C. (2001). The relationship of hope in the future and perceived school climate to school completion. *School Psychology Quarterly*, 16, 370-388. <https://doi.org/10.1521/scpq.16.4.370.19896>
- Harzer, C., Proyer, R. T., Ruch, W., Park, N., Peterson, C., & Seligman, M. E. P. (2010). Values in Action Inventory of Strengths (VIA-IS): Adaptation and validation of the German version and the development of a peer-rating form. *Journal of Individual Differences*, 31, 138–149. <https://doi.org/10.1027/1614-0001/a000022>
- Hausler, M., Hofer, S., Hoge, T., Huber, A., Renn, D., & Strecker, C. (2020). Psychometric characteristics of the German values in action inventory of strengths 120-item short form. *Applied Research in Quality of Life*, 15(2), 597-611. <https://doi.org/10.1007/s11482-018-9696-y>

- Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modelling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2-20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Hilman, H., Khalid, K., & Kumar, D. (2012). Get along with quantitative research process. *International Journal of Research in Management*, 2(2), 15-29. <https://www.researchgate.net/publication/282283745>
- Holenstein, M., Ruch, W., Wagner, L., & Wepf, H. (2020). Character strengths are related to students' achievement, flow experiences, and enjoyment in teacher-centred learning, individual, and group work beyond cognitive ability. *Frontiers in Psychology*. 11(1324). <https://doi.org/10.3389/fpsyg.2020.01324>
- Holleran, K. E. (2008). Meaningful matters: An autoethnography of hope for academically gifted high school achievers. Dissertation Abstracts International: Section A. *Humanities and Social Sciences*, 70(1-A). <https://doi.org/10.7939/r3-h39s-3465>
- Hunt, K., Ntuli, M., Sebastiao, C., & Schoer, V. (2010). A blurred signal? The usefulness of national senior certificate (NSC) mathematics marks as predictors of academic performance at university level. *Perspectives in Education*, 28(2), 9-18. <https://doi.org/10.10520/EJC87577>
- Israeli, O. A. (2007) A shapley-based decomposition of the R-Square of a linear regression. *J Econ Inequal*, 5, 199–212. <https://doi.org/10.1007/s10888-006-9036-6>
- Jaadi, Z. (2019, October 15). *Everything you need to know about interpreting correlations*. Towards data science. <https://towardsdatascience.com/eveything-you-need-to-know-about-interpreting-correlations-2c485841c0b8/>
- Jones, A. T. (2011). Comparing methods for item analysis: The impact of different item-selection statistics on test difficulty. *Applied Psychological Measurement*, 35(7), 566-571. <https://doi.org/10.1177/0146621611414406>

- Joubert, R. W., Motala, N., & Naidoo, P. (2013). Matriculation scores as an indicator of academic success in an occupational therapy education programme. *South African Journal of Occupational Therapy*, 43(1).
- Kaufman, S. B. (2011, December 26). *The will and ways of hope*. Psychology Today.
<https://www.psychologytoday.com/us/blog/beautiful-minds/201112/the-will-and-ways-hope/>
- Kaya, C. (2022). Adaptation and preliminary validation of a positive psychology assessment tool: Character strengths semantic differential scale. *Journal of Psychoeducational Assessment*, 40(4), 451-464. <https://doi.org/10.1177/07342829211070404>
- Kim, J.H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, 72(6), 558–569. <https://doi.org/10.4097/kja.19087>
- Khumalo, I. P., Temane, Q. M., & Wissing, M. P. (2008). Exploring the validity of the values-in-action inventory of strengths (VIA-IS) in an African context. *Journal of Psychology in Africa*, 18(1), 133–142. <https://doi.org/10.1080/14330237.2008.10820180>
- Kowalski, R. M., & Pury, C. L. (2007). Human strengths, courageous actions, and general and personal courage. *The Journal of Positive Psychology*, 2(2), 120-128.
<https://doi.org/10.1080/17439760701228813>
- Lackaye, T., & Margalit, M. (2008). Self-efficacy, loneliness, effort, and hope: Developmental differences in the experiences of students with learning disabilities and their non-learning disabled peers at two age groups. *Learning disabilities: A contemporary journal*, 6(2), 1-20.
- Lavy, S. (2020). A review of character strengths interventions in twenty-first-century schools: Their importance and how they can be fostered. *Applied Research in Quality of Life*, 15(2), 573–596. <https://doi.org/10.1007/s11482-018-9700-6>
- Lievore, C., dos Santos, C.B., Picinin, C.T., Pilatti, L.A., & Rubbo, P. (2021) Research ethics: A profile of retractions from world class universities. *Scientometrics*, 126, 6871–6889.
<https://doi.org/10.1007/s11192-021-03987-y>
- Littman-Ovadia, H. (2015). Short form of the VIA inventory of strengths: Construction and initial tests of reliability and validity. *International Journal of Humanities Social Sciences and Education*, 2(4), 229–237.

- Littman-Ovadia, H., & Niemiec, R. M. (2016). Character strengths and mindfulness as core pathways to meaning in life. *Clinical Perspectives on Meaning*, 383-405.
- Louw, G. P., Mouton, N., & Strydom, G. (2013). Critical challenges of the South African school system. *International Business and Economics Research Journal*, 12(1), 31-44.
<https://doi.org/10.19030/iber.v12i1.7510>
- Magnano, P., Paolillo, A., Platania, S., & Santisi, G. (2017). Courage as a potential mediator between personality and coping. *Personality and Individual Differences*, 111, 13-18.
<https://doi.org/10.1016/j.paid.2017.01.047>
- Martin, A. J. (2011). Courage in the classroom: Exploring a new framework predicting academic performance and engagement. *School Psychology Quarterly*, 26(2), 145-160.
<https://doi.org/10.1037/a0023020>
- Martinez-Marti, M. L. (2016). Character strengths predict resilience over and above positive affect, self-efficacy, optimism, social support, self-esteem, and life satisfaction. *The journal of positive psychology*, 110-119.
- Mashige, K. P., Rampersad, N., & Venkatas, I. S. (2014). Do national senior certificate results predict first-year optometry students' academic performance at university? *South Africa Journal of Higher Education*, 28(2), 550-563. <https://doi.org/10.20853/28-2-348>
- Malmberg, L.E., Marsh, H. W., & Martin, A. J. (2008). Performance and mastery orientation of high school and university / college students: A rasch perspective. *Educational and Psychological Measurement*, 68(3), 464-487. <https://doi.org/10.1177/0013164407308478>
- McGrath, R. E. (2014). Scale- and item-level factor analysis of the VIA Inventory of strengths. *Assessment*, 21(1), 4–14. <https://doi.org/10.1177/1073191112450612>
- McGrath, R. E. (2016). Measurement invariance in translations of the VIA Inventory of Strengths. *European Journal of Psychological Assessment*, 32(3), 187-194.
<https://doi.org/10.1027/1015-5759/a000248>
- McQuerrey, L. (2018, August 28). *Differences between academic and career goals*. Chron.
<https://work.chron.com/differences-between-academic-career-goals-6189.html/>

- Misselhorn, A. (2018, April 16). *Poverty deprives pupils of a proper education*. IOL News.
<https://www.iol.co.za/capeargus/opinion/poverty-deprives-pupils-of-a-proper-education-14471475/>
- Mohamed, S. (2020, February 11). *South Africa: Broken and unequal education perpetuating poverty and inequality*. Amnesty International.
<https://www.amnesty.org/en/latest/news/2020/02/south-africa-broken-and-unequal-education-perpetuating-poverty-and-inequality/>
- Morsch, L. (2007). *Does your GPA really matter?* CareerBuilder.
<http://www.careerbuilder.com/Article/CB-469-Getting-Hired-Does-Your-GPA-Really-Matter/>
- Mtywaku, P., & Pupil, N. (2020, August 13). Broken and unequal: The state of education in South Africa. Amnesty International.
<https://www.justice.gov/eoir/page/file/1247956/download/>
- Mubangizi, J. C. (2021). Poor lives matter: COVID-19 and the plight of vulnerable groups with specific reference to poverty and inequality in South Africa. *Journal of African Law*, 65(2), 237-258. <https://doi.org/10.1017/S0021855321000292>
- Niemiec, R. M. (2014). *Mindfulness and character strengths: A practical guide to flourishing*. Hogrefe Publishing.
- Niemiec, R. M. (2018a). *Character strengths interventions*. Hogrefe Publishing.
- Niemiec, R. M. (2018b). *Research-backed strategies to help you flourish*. Institute on Character. <https://www.viacharacter.org/topics/articles/research-backed-strategies-to-help-you-flourish/>
- Niemiec, R. M. (2019). Six functions of character strengths for thriving at times of adversity and opportunity: A theoretical perspective. *Applied research in quality of life*, 8(3).
- Niemiec, R. M. (2020). Six functions of character strengths for thriving at times of adversity and opportunity: A theoretical perspective. *Applied Research in Quality of Life*, 15(2), 551-572. <https://doi.org/10.1007/s11482-018-9692-2>
- Nillsen, R. (2004). Can the love of learning be taught?. *Journal of University Teaching & Learning Practice*, 1(1), 4-13. <https://doi.org/10.53761/1.1.1.2>

- Oluremi, O. A. (2014). Academic perseverance, class attendance and students' academic engagement: A correlational study. *European Journal of Educational Sciences*, 1(2), 133-140. <https://doi.org/10.19044/ejes.v1no2a11>
- Organisation for Economic Co-Operation and Development. (2022, August). "South Africa Economic Snapshot: Economic Forecast Summary. <https://www.oecd.org/economy/south-africa-economic-snapshot/>
- Paff, L. (2018, November 14). Enhancing learning through zest, grit, and sweat. Faculty Focus. <https://www.facultyfocus.com/articles/course-design-ideas/enhancing-learning-zest-grit/>
- Park, N. (2004). Character strengths and positive youth development. *The Annals of the American Academy of Political and Social Science*, 591(1), 40-54. <https://doi.org/10.1177/0002716203260079>
- Park, N., & Peterson, C. (2006). Moral competence and character strengths among adolescents: The development and validation of the Values in Action Inventory of strengths for youth. *Journal of Adolescence*, 29(6), 891-909
- Park, N., & Peterson, C. (2009). Character strengths: Research and practice. *Journal of College and Character*, 10(4).
- Park N., Peterson C., Seligman ME., & Steen TA. (2005) Positive psychology progress: Empirical validation of interventions. *American Psychology*, 60(5):410-421. <https://doi.org/10.1037/0003-066X.60.5.410>
- Pearce, R. (2019). *Bravery: The uncomfortable strength*. Wholebeing institute. <https://wholebeinginstitute.com/bravery-uncomfortable-strength/>
- Peterson, C., & Seligman, M. P. (2004). *Character strengths and virtues: A handbook and classification*. American Psychological Association and Oxford University Press.
- Piedmont, R.L. (2014). Inter-item Correlations. *Encyclopedia of Quality of Life and Well-Being Research*. https://doi.org/10.1007/978-94-007-0753-5_1493
- Ponterotto, J.G., & Ruckdeschel, D.E. (2007). An overview of coefficient alpha and a reliability matrix for estimating adequacy of internal consistency coefficients with psychological

research measures. *Perceptual and Motor Skills*, 105(3), 997-1014.

<https://doi.org/10.2466/pms.105.3.997-1014>

Proyer, R. T., & Ruch, W. (2015). Mapping strengths into virtues: The relation of the 24 VIA-strengths to six ubiquitous virtues. *Frontiers in Psychology*, 6, 1-12.

<https://doi.org/10.3389/fpsyg.2015.00460>

Pury, C. L., Kulik, R. E., Skjerning, K. L., Starkey, C. B., & Sullivan, E. A. (2015). Is courage always a virtue? Suicide, killing, and bad courage. *The Journal of Positive Psychology*, 10(5), 383-388. <https://doi.org/10.1080/17439760.2015.1004552>

Roberts, J. (2011). Bravery. *Antipodes*, 25(2), 168-170.

<http://ez.sun.ac.za/login?url=https://www.proquest.com/scholarly-journals/bravery/docview/917551539/se-2/>

Ruch, W., & Weber, M. (2011). The role of a good character in 12-year-old school children: Do character strengths matter in the classroom. *Child Indicators Research*, 5(2), 317-334.

<https://doi.org/10.1007/s12187-011-9128-0>

SA Base. (2020). *How to apply for financial assistance from NSFAS*. Retrieved August 18, 2020, from https://www.sabase.co.za/how-to-apply-for-financial-assistancefromnsfas/?gclid=Cj0KCQjwO35BRDVARIsAJU5mQWpbJTOEtIF771Qlj93qSWltkBXIO0-iB719-FvBeR1QAweMrE5f8YaAn7YEALw_wcB/

Schaffner, A. K. (2020, September 16). *Perseverance in psychology: Meaning, importance and activities*. PositivePsychology.com. <https://positivepsychology.com/perseverance/>

Scherer R. (2020) *Analysing PIAAC data with structural equation modelling in mplus*.

Methodology of Educational Measurement and Assessment. Springer, Cham.

https://doi.org/10.1007/978-3-030-47515-4_8

Schwab, K. (2019). *The global competitiveness report*. World economic forum.

https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf/

Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction.

American Psychologist, 55(1), 5-14. <https://doi.org/10.1037/0003-066X.55.1.5>

Seligman, M. E. P. (2002). *Authentic happiness*. Free Press.

- Setia, M. S. (2017). Methodology series module 3: Cross-sectional studies. *Indian J Dermatol*, 61(3). <https://doi.org/10.4103/0019-5154.182410>
- Sicetsha, A. (2018, October 24). *South Africa slips to 67th from the world's 140 largest economies*. The South African. <https://www.thesouthafrican.com/news/competitiveness-report-south-africa-slips-67th-worlds-140-largest-economies/>
- Snyder, C. R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counselling and Development*, 73, 355-360. <https://doi.org/10.1002/j.1556-6676.1995.tb01764.x>
- Solem, R. C. (2015). Limitations of cross-sectional study. *American Journal of Orthodontics and Dentofacial Orthopedics*, 148(2), 205. <https://doi.org/10.1016/j.ajodo.2015.05.006>
- Statistics South Africa. (2017, August 22). *Poverty on the rise in South Africa*. Retrieved February 15, 2020 from <http://www.statssa.gov.za/?p=10334/>
- Steinmayr, R., Meibner, A., Weidinger, A.F., & Wirthwein, L. (2017). *Academic achievement*. Oxford Bibliographies. <https://www.oxfordbibliographies.com/>
- Stellenbosch University. (2020, June 30). *2021 Admission requirements for undergraduate programmes*. Retrieved February 20, 2020 from <http://www.sun.ac.za/english/maties/Documents/Minimum%20Admission%20Requirement%20Booklet.pdf>.
- Saunders, L., & Stichter, M. (2019). Positive psychology and virtue: Values in action. *The Journal of Positive Psychology*, 14(1).
- Stoddard, E. (2022, March 13). *South Africa the world's most unequal country - World Bank Report*. Daily Maverick. <https://www.dailymaverick.co.za/article/2022-03-13-south-africa-the-worlds-most-unequal-country-world-bank-report/>
- Thattamparambil, N. (2020, February 17). *How to choose the research methodology best suited for your study*. e.sights. <https://www.editage.com/insights/how-to-choose-the-research-methodology-best-suited-for-your-study?refer=scroll-to-1-article&refer-type=article/>
- The World Bank. (2017, October). *The World Bank*. Retrieved February 12, 2020, from <https://www.worldbank.org/en/topic/skillsdevelopment/>

- The World Bank. (2019, October). *The World Bank*. Retrieved February 12, 2020, from <https://www.worldbank.org/en/country/southafrica/overview/>
- The World Bank. (2021, March 18). *The World Bank*. Retrieved September 14, 2021, from <https://www.worldbank.org/en/country/southafrica/overview/>
- Thomas, L. (2020, May 8). *What is a cross-sectional study?* from Scribbr. <https://www.scribbr.com/methodology/cross-sectional-study/#:~:text=A%20cross%2Dsectional%20study%20is,observe%20variables%20without%20influencing%20them/>
- Theron, C., & van Heerden, S. (2014). The elaboration and empirical evaluation of the de goede learning potential structural model. *South African Journal of Business Management*, 45(3), 1-29. <https://doi.org/10.4102/sajbm.v45i3.128>
- Unterhalter, E. (2010). Global inequalities and higher education: Whose interests are you serving? *Macmillan International Higher Education*.
- VIA Institute on Character. (n.d.). *Honesty*. Retrieved October 3, 2021, from <https://www.viacharacter.org/character-strengths/honesty>.
- VIA Institute on Character. (n.d.). *Hope*. Retrieved October 4, 2021, from <https://www.viacharacter.org/character-strengths/hope/>
- VIA Institute on Character. (n.d.). VIA-120. Retrieved October 27, 2022, from <https://www.viacharacter.org/researchers/assessments/via-120/>
- VIAStrengths. (2018, March 21). *Character strength of the month: Zest*. Retrieved October 16, 2022, from VIAStrengths. <https://www.youtube.com/watch?v=sy7ce38RrSs/>
- Webster, D. (2019, November 19). Why South Africa is the world's most unequal society. Mail & Guardian. <https://mg.co.za/article/2019-11-19-why-sa-is-the-worlds-most-unequal-society/>
- World Health Organisation. (n.d.). Ensuring ethical standards and procedures for research with human beings. Retrieved October 17, 2022, from <https://www.who.int/activities/ensuring-ethical-standards-and-procedures-for-research-with-human-beings/>
- Zezeza, P. (2021, July 6). Quality higher education "indispensable" for Africa's future. University World News. <https://www.universityworldnews.com/post.php?story=202107051145016/>

Yearley, L. H. (1990). *Mencius and Aquinas: Theories of virtue and conceptions of courage*.
State University of New York Press.

Addendum A

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CONFIRMATION OF RESEARCH ETHICS APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

10 June 2022

Project number: 24406

Project Title: Hope, Courage, and Love of Learning as Predictors of Academic Performance

Dear Ms C Klue

Identified supervisor(s) and/or co-investigator(s):

Ms SJ Goosen

Your response to stipulations submitted on 10/05/2022 14:13 was reviewed and approved by the Social, Behavioural and Education Research Ethics Committee (REC: SBE).

Your research ethics approval is valid for the following period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
21 April 2022	20 April 2023

Project documents approved by the REC:

Document Type	File Name	Date	Version
Proof of permission	VIA-120 Survey Permission	15/03/2022	
Proof of permission	Institutional Permission Request	23/03/2022	IG - 3311
Request for permission	Institutional Permission Request	23/03/2022	IG - 3311
Informed Consent Form	C_Klue_SU HUMANITIES Consent_online survey	28/03/2022	
Data collection tool	VIA 120 Assessment Tool	28/03/2022	
Default	Proof of correspondence with DIRP	28/03/2022	

Page 1 of 4

Research Protocol/Proposal	Klue C_Thesis	28/03/2022
Letter of support_counselling	Centre for Student Counselling and Development Letter C Klue 2022	09/05/2022 1

Addendum B**PARTICIPANT INFORMATION LEAFLET AND
CONSENT FORM FOR ONLINE
SURVEYS/QUESTIONNAIRES**

TITLE OF RESEARCH PROJECT: Hope, Courage, and Love of Learning as Predictors of Academic Performance

My name is Chevonne Klue, a Masters student in the Industrial Psychology Department of the Economic and Management Sciences Faculty of Stellenbosch University. I would like to invite you to take part in a research project which involves the completion of a survey. Your participation is **entirely voluntary**, and you are free to decline to participate or to stop completing the questionnaire at any time, even if you have agreed to take part initially. Once you have submitted your completed questionnaire online, you will still be able to withdraw your responses via your student number.

1. Aim of Study

South Africa is impacted immensely by the four major challenges of poverty, inequality, unemployment among the youth, and skills deficiency. Although many individuals undergo traumatic events, some show specific character strengths that help them to still function optimally. The possession of non-cognitive variables such as hope, courage, and love of learning may be the reason why certain learners perform well academically, despite living with these major issues. However, most universities' admission models primarily consider academic merit. Therefore, this study aims to investigate whether specific non-cognitive strengths positively influence the academic performance of disadvantaged individuals, over and above the impact of a cognitive variable. It is proposed that non-cognitive constructs be taken into consideration as supplementarily to academic results to ensure the fair treatment of all prospective students.

2. Reason Why Asked to Participate

You are being asked to participate in this study because you qualified for- and obtained- a National Student Financial Aid Scheme (NSFAS) bursary in your previous year of study at Stellenbosch University. Therefore, it is accepted that you meet the following requirements to qualify for financial aid, as set out by NSFAS, specifically that your joint annual household income does not exceed R350 000 per annum. This is relevant since this study is rooted within the context of South Africa and considers disadvantaged individuals. The Institute of Data Governance of Stellenbosch University loaded your email address onto the SunSurvey platform in order to send you this survey.

3. Details Pertaining to Agreement of Participation

The survey will take approximately 20 minutes to complete and consist of items which will evaluate your levels of hope, courage, and love of learning. Furthermore, the items will take the form of a Likert type scale, for instance, strongly disagree = 1 or strongly agree = 5. It will be completed electronically. Please take note, this is not an anonymous survey as your student number will be asked for the sole purpose of linking the outcome of this survey with your respective matric and university average results. A third-party representative from the university will download the responses on behalf of the researcher, link your results with your academic performance data and de-identify it before it is sent back to the researcher. The data of the survey will be stored in a password protected file on a password protected computer as well as on a cloud based / online platform (i.e., OneDrive), and as such your confidentiality will be maintained.

4. Potential Benefits and Risks

The main benefit of the study is that it proposes a new university admissions model which takes both academic merit as well as non-cognitive strengths into account, since all South African learners have not received equal basic education. A foreseeable risk of the study is that your anonymity will not be maintained when completing the survey since your student number is required. Although the survey will not cause you psychological harm, you might experience some discomfort in the fact that your academic

performance results will be utilised in the study. Please do not commence with the survey if this makes you feel uncomfortable.

You can phone the Principal Investigator of this study, Chevonne Klue at 083 857 1498 / 20107323@sun.ac.za if you have any questions about this study or encounter any problems.

This study has been approved by the **Research Ethics Committee: Social, Behavioural and Education Research at Stellenbosch University (Project ID#24406)**. The study will be conducted according to the ethical guidelines and principles of South Africa's Department of Health Ethics in Health Research: Principles, Processes and Studies (2015).

RIGHTS OF RESEARCH PARTICIPANTS:

You have the right to decline answering any questions and you can exit the survey at any time without giving a reason. If you have questions, concerns or complaints regarding your rights as a research participant, please contact Mrs Clarissa Robertson [cgraham@sun.ac.za; 021 808 9183] at the Division for Research Development at Stellenbosch University.

You will receive a copy of this information and consent form for you to keep safe

By clicking START SURVEY

You are confirming that you are:

- over 18 years old;
- have read and understood the above explanation about the study; and
- you agree to participate.
- you also understand that your participation in this study is strictly voluntary.
- you agree that your performance data may be accessed on the university system and linked with your responses on this survey.
- you agree that the data obtained in the study may be used for future research studies (such a study will go through its own unique ethical process).

Addendum C



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
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INSTITUTIONAL PERMISSION:**AGREEMENT ON USE OF PERSONAL INFORMATION IN RESEARCH**

Name of Researcher: Chevonne Klue

Name of Research Project: Hope, Courage, and Love of Learning as Predictors of Academic Performance

Service Desk ID: IG- 3311

Date of Issue: 24 May 2022

The researcher has received institutional permission to proceed with this project as stipulated in the institutional permission application and within the conditions set out in this agreement.

1 WHAT THIS AGREEMENT IS ABOUT	
What is POPI?	<p>1.1 POPI is the Protection of Personal Information Act 4 of 2013.</p> <p>1.2 POPI regulates the entire information life cycle from collection, through use and storage and even the destruction of personal information.</p>
Why is this important to us?	<p>1.3 Even though POPI is important, it is not the primary motivation for this agreement. The privacy of our students and employees are important to us. We want to ensure that no research project poses any risks to their privacy.</p> <p>1.4 However, you are required to familiarise yourself with, and comply with POPI in its entirety.</p>
What is considered to be personal information?	<p>1.5 'Personal information' means information relating to an identifiable, living, individual or company, including, but not limited to:</p> <p>1.5.1 information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, colour, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;</p> <p>1.5.2 information relating to the education or the medical, financial, criminal or employment history of the person;</p> <p>1.5.3 any identifying number, symbol, e-mail address, physical address, telephone</p>

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	<p>number, location information, online identifier or other particular assignment to the person;</p> <p>1.5.4 the biometric information of the person;</p> <p>1.5.5 the personal opinions, views or preferences of the person;</p> <p>1.5.6 correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;</p> <p>1.5.7 the views or opinions of another individual about the person; and</p> <p>1.5.8 the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.</p>
Some personal information is more sensitive.	<p>1.6 Some personal information is considered to be sensitive either because:</p> <p>1.6.1 POPI has classified it as sensitive;</p> <p>1.6.2 if the information is disclosed it can be used to defraud someone; or</p> <p>1.6.3 the disclosure of the information will be embarrassing for the research subject.</p> <p>1.7 The following personal information is considered particularly sensitive:</p> <p>1.7.1 Religious or philosophical beliefs;</p> <p>1.7.2 race or ethnic origin;</p> <p>1.7.3 trade union membership;</p> <p>1.7.4 political persuasion;</p> <p>1.7.5 health and health related documentation such as medical scheme documentation;</p> <p>1.7.6 sex life;</p> <p>1.7.7 biometric information;</p> <p>1.7.8 criminal behaviour;</p> <p>1.7.9 personal information of children under the age of 18;</p> <p>1.7.10 financial information such as banking details, details relating to financial products such as insurance, pension funds or other investments.</p> <p>1.8 You may make use of this type of information, but must take extra care to ensure</p>

	that you comply with the rest of the rules in this document.
2 COMMITMENT TO ETHICAL AND LEGAL RESEARCH PRACTICES	
You must commit to the use of ethical and legal research practices.	2.1 You must obtain ethical clearance before commencing with this study. 2.2 You commit to only employing ethical and legal research practices.
You must protect the privacy of your research subjects.	2.3 You undertake to protect the privacy of the research subjects throughout the project.
3 RESEARCH SUBJECT PARTICIPATION	
Personal information of identifiable research subjects must not be used without their consent.	3.1 Unless you have obtained a specific exemption for your research project, consent must be obtained in writing from the research subject, before their personal information is gathered.
Research subjects must be able to withdraw from the research project.	3.2 Research subjects must always be able to withdraw from the research project (without any negative consequences) and to insist that you destroy their personal information.
Consent must be specific and informed.	3.3 Unless you have obtained a specific exemption for your research project, the consent must be specific and informed. Before giving consent, the research subject must be informed in writing of: <ul style="list-style-type: none"> 3.3.1 The purpose of the research, 3.3.2 what personal information about them will be collected (particularly sensitive personal information), 3.3.3 how the personal information will be collected (if not directly from them), 3.3.4 the specific purposes for which the personal information will be used, 3.3.5 what participation will entail (i.e. what the research subject will have to do), 3.3.6 whether the supply of the personal information is voluntary or mandatory for purposes of the research project, 3.3.7 who the personal information will be shared with, 3.3.8 how the personal information will be published,

	<p>3.3.9 the risks to participation (if any),</p> <p>3.3.10 their rights to access, correct or object to the use of their personal information,</p> <p>3.3.11 their right to withdraw from the research project, and</p> <p>3.3.12 how these rights can be exercised.</p>
Consent must be voluntary.	3.4 Participation in the research project must always be voluntary. You must never pressure or coerce research subjects into participating and persons who choose not to participate must not be penalised.
Using the personal information of children?	<p>3.5 A child is anybody under the age of 18.</p> <p>3.6 Unless you have obtained a specific exemption in writing for your research project, you must obtain</p> <p>3.6.1 the consent of the child's parent or guardian, and</p> <p>3.6.2 if the child is over the age of 7, the assent of the child, before collecting the child's information.</p>
Research subjects have a right to access.	3.7 Research subjects have the right to access their personal information, obtain confirmation of what information is in your possession and who had access to the information. It is strongly recommended that you keep detailed records of access to the information.
Research subjects have a right to object.	<p>3.8 Research subjects have the right to object to the use of their personal information.</p> <p>3.9 Once they have objected, you are not permitted to use the personal information until the dispute has been resolved.</p>
4 COLLECTING PERSONAL INFORMATION	
Only collect what is necessary.	4.1 You must not collect unnecessary or irrelevant personal information from research subjects.
Only collect accurate personal information.	<p>4.2 You have an obligation to ensure that the personal information you collect is accurate. Particularly when you are collecting it from a source other than the research subject.</p> <p>4.3 If you have any reason to doubt the quality of the personal information you must verify or validate the personal information before you use it.</p>

5 USING PERSONAL INFORMATION	
Only use the personal information for the purpose for which you collected it.	<p>5.1 Only use the personal information for the purpose for which you collected it.</p> <p>5.2 If your research project requires you to use the personal information for a materially different purpose than the one communicated to the research subject, you must inform the research subjects and Stellenbosch University of this and give participants the option to withdraw from the research project.</p>
Be careful when you share personal information.	<p>5.3 Never share personal information with third parties without making sure that they will also follow these rules.</p> <p>5.4 Always conclude a non-disclosure agreement with the third parties.</p> <p>5.5 Ensure that you transfer the personal information securely.</p>
Personal information must be anonymous whenever possible.	5.6 If the research subject's identity is not relevant for the aims of the research project, the personal information must not be identifiable. In other words, the personal information must be anonymous (de-identified).
Pseudonyms must be used whenever possible.	5.7 If the research subject's identity is relevant for the aims of the research project or is required to co-ordinate, for example, interviews, names and other identifiers such as ID or student numbers must be collected and stored separately from the rest of the research data and research publications. In other words, only you must be able to identify the research subject.
Publication of research	<p>5.8 The identity of your research subjects should not be revealed in any publication.</p> <p>5.9 In the event that your research project requires that the identity of your research subjects must be revealed, you must apply for an exemption from this rule.</p>
6 SECURING PERSONAL INFORMATION	
You are responsible for the confidentiality and security of the personal information	<p>6.1 Information must always be handled in the strictest confidence.</p> <p>6.2 You must ensure the integrity and security of the information in your possession or under your control by taking appropriate and reasonable technical and organisational measures to prevent:</p> <p>6.2.1 Loss of, damage to or unauthorised destruction of information; and</p> <p>6.2.2 unlawful access to or processing of information.</p> <p>6.3 This means that you must take reasonable measures to:</p>

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	<p>6.3.1 Identify all reasonably foreseeable internal and external risks to personal information in your possession or under your control;</p> <p>6.3.2 establish and maintain appropriate safeguards against the risks identified;</p> <p>6.3.3 regularly verify that the safeguards are effectively implemented; and</p> <p>6.3.4 ensure that the safeguards are continually updated in response to new risks or deficiencies in previously implemented safeguards.</p>
Sensitive personal information requires extra care.	6.4 You will be expected to implement additional controls in order to secure sensitive personal information.
Are you sending any personal information overseas?	<p>6.5 If you are sending personal information overseas, you have to make sure that:</p> <p>6.5.1 The information will be protected by the laws of that country;</p> <p>6.5.2 the company or institution to who you are sending have agreed to keep the information confidential, secure and to not use it for any other purpose; or</p> <p>6.5.3 get the specific and informed consent of the research subject to send the information to a country which does not have data protection laws.</p>
Be careful when you use cloud storage.	<p>6.6 Be careful when storing personal information in a cloud. Many clouds are hosted on servers outside of South Africa in countries that do not protect personal information to the same extent as South Africa. The primary example of this is the United States.</p> <p>6.7 It is strongly recommended that you use hosting companies who house their servers in South Africa.</p> <p>6.8 If this is not possible, you must ensure that the hosting company agrees to protect the personal information to the same extent as South Africa.</p>
7 RETENTION AND DESTRUCTION OF PERSONAL INFORMATION	
You are not entitled to retain personal information when you no longer need it for the purposes of the research project.	7.1 Personal information must not be retained beyond the purpose of the research project, unless you have a legal or other justification for retaining the information.
If personal information is retained, you must	<p>7.2 If you do need to retain the personal information, you must assess whether:</p> <p>7.2.1 The records can be de-identified; and/or whether</p>

make sure it remains confidential.	<p>7.2.2 you have to keep all the personal information.</p> <p>7.3 You must ensure that the personal information which you retain remains confidential, secure and is only used for the purposes for which it was collected.</p>
8 INFORMATION BREACH PROCEDURE	
In the event of an information breach you must notify us immediately.	<p>8.1 If there are reasonable grounds to believe that the personal information in your possession or under your control has been accessed by any unauthorised person or has been disclosed, you must notify us immediately.</p> <p>8.2 We will notify the research subjects in order to enable them to take measures to contain the impact of the breach.</p>
This is the procedure you must follow.	<p>8.3 You must follow the following procedure:</p> <p>8.3.1 Contact the Division for Institutional Research and Planning at 021 808 9385 and permission@sun.ac.za;</p> <p>8.3.2 you will then be required to complete the information breach report form which is attached as Annexure A.</p> <p>8.4 You are required to inform us of a information breach within 24 hours. Ensure that you have access to the required information.</p>
9 MONITORING	
You may be audited.	<p>9.1 We reserve the right to audit your research practices to assess whether you are complying with this agreement.</p> <p>9.2 You are required to give your full co-operation during the auditing process.</p> <p>9.3 We may also request to review:</p> <p>9.3.1 Forms (or other information gathering methods) and notifications to research subjects, as referred to in clause 3;</p> <p>9.3.2 non-disclosure agreements with third parties with whom the personal information is being shared, as referred to in clause 5.4;</p> <p>9.3.3 agreements with foreign companies or institutes with whom the personal information is being shared, as referred to in clause 6.5.</p>

10 CHANGES TO RESEARCH	
You need to notify us if any aspect of your collection or use of personal information changes.	<p>10.1 You must notify us in writing if any aspect of your collection or use of personal information changes (e.g. such as your research methodology, recruitment strategy or the purpose for which you use the research).</p> <p>10.2 We may review and require amendments to the proposed changes to ensure compliance with this agreement.</p> <p>10.3 The notification must be sent to permission@sun.ac.za.</p>
11 CONSEQUENCES OF BREACH	
What are the consequences of breaching this agreement?	<p>11.1 If you do not comply with this agreement, we may take disciplinary action or report such a breach to your home institute.</p> <p>11.2 You may be found guilty of research misconduct and may be censured in accordance with Stellenbosch University or your home institute's disciplinary code.</p>
You may have to compensate us in the event of any legal action.	<p>11.3 Non-compliance with this agreement could also lead to claims against Stellenbosch University in terms of POPI and/or other laws.</p> <p>11.4 Unless you are employed by or studying at Stellenbosch University, you indemnify Stellenbosch University against any claims (including all legal fees) from research subjects or any regulatory authority which are the result of your research project. You may also be held liable for the harm to our reputation should there be an information breach as a result of your non-compliance with this agreement.</p>
12 CONTACT US	
Please contact us if you have any questions.	Should you have any questions relating to this agreement you should contact permission@sun.ac.za .