Understanding psychological and contextual influences on Self-Regulatory Learning among At-Risk undergraduate students:

A mixed-methods study

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DECLARATION

I, Ayanda Nosipho Sotshongaye declare that:

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ABSTRACT

Background: Slow academic progression rates among undergraduate students is an increasing concern in South African Higher Education and Training Institutions. The aim of the study was to understand the psychological and contextual barriers to success of undergraduate students identified as At Risk of academic failure in a public South African university. Equally important, to examine how Self-Regulated Learning (SRL) abilities and or lack thereof facilitated learning experience and attainment of personal goals in the academic context. **Methodology:** Using a case study mixed methods research design, the study adopted a sequential exploratory strategy. In phase one, the qualitative approach conveniently selected 23 academically At Risk undergraduate students, post first year. Data collection process through the sociodemographic information sheet and in-depth individual interviews explored the experiences and challenges of the At Risk students as they navigate the system following academic failure, which were thematically analysed. In phase two, the quantitative approach administered questionnaires to a relatively larger sample of 452 conveniently selected At Risk students. Data collection process using the sociodemographic information sheet, 81-item Motivated Strategies for Learning Questionnaire (MSLQ) and the 16-item procrastination scale investigated the aspects of SRL that influenced performance. The MSLQ was subjected to factor analysis. Data were analysed using the Statistical Package for Social Sciences (SPSS 25) techniques (descriptive tests, Independent samples t-test, ANOVA, Pearson's correlation, hierarchical regression). **Results:** Qualitative findings revealed high feelings of psychological distress, despondency, fear of failure and procrastination tendencies. Participants found the practices of the early warning (Robot) system as stigmatising and intensified their feelings of shame and despondency. Participants expressed difficulties in maintaining motivation due to experiencing academic failure and exclusions. Academic exclusion often led to degree changes, lateral transfers within and across colleges while financial exclusion impacted negatively on their housing conditions. Fear of failure, lack of self-confidence in approaching assessments increased maladaptive procrastination that inhibited optimal academic functioning. Furthermore, the vast majority had never consulted with their lecturers and preferred approaching their peers for academic support despite being less effective. At Risk students further attributed poor engagement with the University's intervention programmes to the lack of clarity regarding the nature of support offered and how these services would be of benefit to their academic success. Quantitative results revealed that At Risk students differ significantly in their motivational goal for their academics, execution of learning strategies and levels of procrastination tendencies in relation to the four distinct sociodemographic factors (degree programmes, colleges, funding and residential groups). In particular, very strong significant differences were found between the four-year degree and three-year degree programme groups in relation to MSLQ constructs. The four-year degree programme group reported the task value as a motivating factor to engage and the good management of time and study environment, peer learning and help seeking behaviours as important learning resources for success as compared to three-year

degree programme group. Also, the college groups differed significantly in levels of procrastination tendencies. The College of Humanities (CHUM) group reported higher academic procrastination tendencies as compared to the College of Agriculture, Engineering and Sciences (CAES) and the College of Law and Management Studies (CLMS). Pearson correlation results showed significant positive correlations between the MSLQ constructs, in terms of participants' motivational beliefs (extrinsic goals, task value, control of learning beliefs, self-efficacy for learning and performance), learning strategies (elaboration, critical thinking, organisation, metacognitive SR) and the management of learning resources (time and study environment, effort regulation, peer learning and help seeking). The procrastination scale correlated negatively with most MSLQ, except for the insignificant result in control of learning beliefs and peer learning subscales. The higher procrastination tendencies were associated with the participants' lower levels of motivational beliefs for the degree, inability to effectively employ various learning strategies and resources that promote performance. **Conclusion**: The study provided valuable descriptions of the students' experiences and barriers to success, indicating the broader ramifications of failing and becoming At Risk that led to degree changes by lateral transfers within/ another college and financial exclusions. The psychological effects identified were shame, guilt, despondency, reduced self-efficacy beliefs for learning and performance, maladaptive procrastination. These constructs persistently and perpetually challenged their efforts to engage effectively with academic activities, and ultimately increased their vulnerability to academic failure and hence the pattern of At-Risk status.

Keywords: Self-regulated learning, academic failure, academic motivation, learning strategies, procrastination, Undergraduate At Risk students, mixed methods.

ACRONYMS

ADO	Academic Development Officer
AMS	Academic Monitoring and Support
ANAs	Annual National Assessments
BE	Basic Education
CAES	College of Agriculture, Engineering and Science
CAPS	Curriculum Assessment Policy Statement
CHE	Council on Higher Education
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DVC	Deputy Vice-Chancellor
HE	Higher Education
HEIs	Higher Education Institutions
HET	Higher Education and Training
CHS	College of Health Sciences
HSSREC	Humanities and Social Science Research Ethics Committee
CHUM	College of Humanities
CLMS	College of Law and Management Studies
MSLQ	Motivated Strategies for Learning Questionnaires
NSC	National Senior Certificate
NSFAS	National Student Financial Aid System
QEP	Quality Enhancement Project
UKZN	University of KwaZulu-Natal
USAf	Universities South Africa

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CHAPTER ONE
1. INTRODUCTION

This chapter introduces the study, commencing with its background before introducing the problem statement, and then detailing the rationale for the study, its research aims and its objectives, and listing the research questions. The chapter also introduce briefly, the ethical considerations and concludes with an outline of the thesis structure.

1.1 Background to the study

Globally, it is evident that the demand for education in the Higher Education (HE) landscape has increased, and that institutes of higher learning have recognised the transformation objectives for equity in access, participation and success (Margison, 2016; Teferra, 2016). It has in the same way, generated much interest and considerably research attention within the academic context (UNESCO, 2020).

The HE landscape is recognised as compounded by complex interrelated factors surrounding students' academic successes and failures. Studies show that many students across the board can and do experience academic failure in HE (Ajjawi et al., 2020; Tinto, 2017). International literature on the subject acknowledges the effects of transformation challenges, particularly where they relate to the governance and progression of equitable access and success in HE (Altbach et al., 2009, Margison, 2016, Scott, 2018). The higher failure patterns that influence low retention and completion rates constitutes the historically marginalised students from low socioeconomic and disadvantaged educational backgrounds, globally (HESA, 2018). In the United States, for example, high dropout rates and the imbalance between access, participation and throughput rates have been reported among the minority Black American students (Margison, 2016). These intersecting structural and social factors are also pervasive in higher education institutions (HEIs) in African countries (Teferra, 2014) although informed by different dynamics.

In South Africa (SA), where this study is located, the demand for HE has been characterised by the effects of apartheid—in particular, the post-apartheid transformation policies focused on addressing equity and access to education, as well as improving academic success (Council on Higher Education-CHE, 2016; Scott, 2018). Equity in students' access and throughput rates is an important transformation agenda for an education system aimed at building the country's economic growth and alleviating poverty. The National Plan for Higher Education outlines the specific implementation and operationalisation process of these key HE transformation policies (Department of Education, 2001). These methods, among others, have been the primary transformational focus of SA's Institutions of Higher Education and Training (SAIHET) (CHE, 2016). In addition, the CHE publications (2010, 2013, 2016, 2019) that particularly refer to the interrelated issues of access, equity, success, etc. are pertinent.

In addition the University of KwaZulu Natal's (UKZN's) 2015 *Alternation* research journal, focused on similar aspects that are related to this study. These research publications hold evidence to suggest that, given the implications for further funding/subsidy from the Ministry of Higher Education (CHE, 2016), institutions of HET have been relentless in considering options to increase throughput rates and lower dropout rates, and to meet the transformation goals (CHE, 2013). These concerns are evident in the challenges of undergraduate retention, throughput and dropout rates, against the background for greater demand in accessing HE and intervention initiatives established to increase success rates as CHE report has acknowledged.

According to Manik (2015), the ideal academic success in HE would be "good throughput levels and reduced dropout" (p. 226). Likewise, the Department of Higher Education and Training (DHET) report acknowledges enrolment and throughput rates as "the key measures of access and success" (DHET, 2020, p. iii). However, evidence of slow progression patterns is characterised by racially skewed performance outcomes, and success rates that underlie low throughput rates and high dropout rates in public universities, and this is seen at a national scale (CHE, 2013, 2016). In 2017, a slight improvement in the distribution of 2016 undergraduate students' success rates by racial group was acknowledged in the DHET (2017) report. However, the success patterns continue to be racially disproportionate, with under 30% of the undergraduates graduating within the regulation time, under two-thirds graduating within six years, and one third reported not to have graduated after ten years (DHET, 2017).

Swartz et al. (2018) book *Studying While Black* provides a concise overview of the transformative agenda within South African universities. Swartz et al. (2018, p. viii) acknowledge that "students' ability to succeed at university remains mediated by the legacies of colonialism and apartheid". South African institutions of HET have held true to post-apartheid transformation goals and challenges on redressing equity and increasing access and success rates while rectifying financial barriers against eligible underprivileged students (CHE, 2016; Motala, 2017; Swartz et al., 2018), the latter of which, for example, is often achieved through the National Student Financial Aid System (NSFAS). Nonetheless, the implementation of these legislative interventions continues to be challenged at an institutional level due to inextricably linked systemic factors (CHE, 2016; Motala, 2017; Scott, 2018).

The broader societal factors such as inequalities in students' socioeconomic status (Southall, 2016) and Basic Education (BE) backgrounds have implications for HE engagement and success (CHE, 2013; Scott, 2017. Various reports have captured systemic factors relating to the transitioning challenges faced by students as they enter higher learning point. Some concerns in the literature relates to the quality of prior learning and skills acquired in BE systems (Spaull, 2013), and their power to either enable or hinder students' level of preparedness for HE expectations, social integration, and academic adjustment and success (Tinto, 2017). Hence, the BE system is an essential aspect of this study.

Spaull's executive summary report (2013) and the National Senior Certificate (NSC) diagnostic reports (Department of Basic Education, 2017 & 2021) provide the foundational structure for discussion on the key issues of the BE systems that most strongly affect a student entering Institutions of Higher Learning (IHL). In these reports that are discussed further in Chapter Two, Spaull's (2013) findings are supported to some extent by the NSC diagnostic reports. From 2013 to 2021, the timelines demonstrate negligible progress. The challenges of BE are acknowledged, and similar recommendations are made across both the 2017 and 2021 NSC diagnostic reports.

The CHE (2016, p. 10-11) report posits: "In tackling the challenges of both improving the rates of participation and enrolment to match the development needs of South Africa and drastically refining the quality and equity of academic success across the system, several interventions may have to be implemented in order to go forward." Likewise, the DHET National Strategic Articulation Policy (2017, p. 1) reiterates its commitment to address such inconsistencies by suggesting that "education and training must be situated within the framework and value systems of lifelong learning, quality education and training, education for democracy and social justice, personal development, and active, innovative participation in the economy". This national policy is laudable as a guideline that recognises the existing interrelated systemic factors found in South Africa.

In addition, the establishment of intervention programmes in the education landscape, such as the early warning system that identifies those at risk of academic failure as a facilitative process to promote success is globally recognised (Sosibo & Katiya, 2015; Zhang et al., 2014). Nevertheless, the challenges of slow progression patterns, low retention and equitable completion rates within the prescribed three-year and four-year degree programmes and high dropout rates remain (CHE, 2016; Scott, 2018). In particular, the persistence of racially skewed low academic performance patterns that negatively impact on retention and throughput rates and dropout rates in South African HEIs has become an obstacle to the HE transformation agenda on the gains of equitable access and equitable completion / success for the country's labour market and socioeconomic growth (CHE, 2010, 2013, 2016).

The UKZN, within which this study is located, acknowledges pertinent contextual concerns, and offers various systemic intervention techniques to address the issues identified in UKZN's strategic plans: 2007-2016, 2017-2021 and 2023-2032 which was released recently. In these documents, UKZN's vision and mission declared a 'student-centred' ethos as the university's focus; this connotes a vital empowering dynamic that recognises student agency within the teaching and learning environment. UKZN is acutely aware of the challenges that students face prior to admission, and how these issues continue to impact students after registration (UKZN, 2017b). These common general issues allude to the wider macro challenges of the HE context in SA.

Although several policies govern the university, for the purposes of this study only those policies and annual reports directly relevant to the research question are referenced. The study's central policy

document is therefore the Academic Monitoring Support and Exclusion Policy (UKZN, 2009)—also known as the 'Robot System'—and the latest published AMS reports (2015, 2016, 2017a) as these contain summaries pivotal to understanding the student in context. Reference is also made to the Language Policy of the University of KwaZulu-Natal (UKZN, 2006), which promotes the official languages in the KZN province (English and isiZulu), and which particularly recognises "isiZulu as a language of learning, instruction, research and administration" (p. 2). In addition, the study uses the Quality Promotion and Assurance Policy (UKZN, 2013)—the mechanism utilised by UKZN to evaluate the provision of teaching and learning activities, professional services, and to promote provision of quality service delivery, among other uses.

1.2 Understanding the context of At-Risk students within the UKZN Robot System

The dynamics mentioned above relate to student patterns of access, progression and success, and provide the context for students classified as 'At-Risk'. The At-Risk category depicted in Table 1 describes the sample population as defined by the UKZN Academic Monitoring and Exclusion Policy (UKZN, 2009). It offers a summary of the policy, which illustrates the early warning (Robot) system and how it works. It describes the criteria used to categorise students as At-Risk and the support programmes to which this group is frequently referred. It also demonstrates the minimum credit requirements of acceptable progression and their associated colour codes.

Table 1

Undergraduate Academic Progression Term Decisions, Colour Codes, Description, and Support Interventions.

Academic Progression Term Decision	Colour Code	Description	Supportive Intervention
Outstanding Academic Performance (since 2017)	Blue	Student is on track to pass the degree Cum Laude or Summa Cum Laude (first-class passes)	Acceptable performance levels; however, optional counselling and support offered as required.
Good Academic Standing	Green	A student remains coded green provided they have passed at least 75% of the maximum expected credit load to date, and have passed 70% or more of the normal credit load this semester.	Acceptable performance levels; however, optional counselling and support offered as required.

Risk *RSK2	Orange	Above minimum progression requirements, but the student has not passed the 75% maximum expected, and has passed less than 70% credit load in one semester. *Performance below minimum requirement, remains at-risk.	Compulsory Support Academic Development Officers (ADOs); Mentorship Programme. *Recommended:* Personal counselling (Student Support Services); additional support (e.g. Writing Place).
Underperforming	Red	If registered for two or more semesters, performs below progression requirements, re-admitted on probation. Still not met probation requirements, academic exclusion, to appeal for re-admission.	Compulsory Support ADOs; Mentorship Programme. *Recommended:* Personal counselling (Student Support Services); additional support (e.g. Writing Place).

Note. Adapted from the UKZN *Academic Exclusion Policy* by UKZN, 2020, p. 7.

The UKZN Academic Monitoring and Exclusion Policy - the Robot System is applied after end-of-semester examinations when, based on their academic performance, students are categorised as follows: Blue ('Outstanding Academic Performance'); Green ('Good Academic Standing'); Orange ('Risk' and 'RSK2'); or Red ('Underperforming'). The Blue colour-coded category for students with outstanding academic results was introduced in 2017, following the policy's evaluation. When data was initially collected for this study in 2016, the Blue category was not included. The study focused primarily on At-Risk students coded Orange and Red.

This policy does not exclude underperforming students who are still in their first year. The university offers two appeals processes: The College Exclusion Appeals Committee (CEACOM), and the Academic Exclusion Appeals Committee (AEACOM). As acknowledged in the policy, a college-level student can appeal for re-admission to the same or a different college after failing to obtain the minimum module credits requirement stipulated after three semesters at university. Following re-admission, if the student continues to underperform and their appeal is unsuccessful, they are then referred to the AEACOM, where the decision to exclude or not is ultimately decided. In certain circumstances, as per university regulations, the student can return. The intentions behind UKZN's responsive intervention programmes include supporting, monitoring, and developing students' ability to manage the challenges as they navigate through the system, as well as providing both academic and psychosocial lifelong learning skills. In 2016, voluntary dropout rates reduced by 6%, with an 18% graduation rate (UKZN Teaching and Learning Office, 2017a). The AMS reports (2015, 2016, 2017) acknowledge that the number of students identified with negative term decision—that is, the number of students categorised

as academically At-Risk—remains unchanged. The At-Risk students persist to probation, despite the early warning systems designed to provide academic monitoring, support and development to promote success.

1.3 Rationale for the study

It is within the abovementioned contextual factors that the study's sample—namely, academically At-Risk students—were identified as an area of interest. While the institution's efforts to embrace the transformative agenda are noteworthy, the multifaceted contextual disparities between BE and HE remain. Evidently, students' challenges are compounded by the prevailing deficits within the BE system (Scott, 2017), as learners are not adequately equipped with fundamental learning skills or the psychological capital to engage effectively with the HE systems. Evidence on continuous research and investments in various intervention programmes mentioned earlier suggest that HE institutions have not been fully successful in attaining equitable access and throughput rates (Scott, 2022, Tinto, 2017).

Despite the UKZN intervention programmes acknowledged above (Table 1), the number of students identified as academically At-Risk at the end of each semester examination continue to burden the system. Slow progress increases the number of years spent earning a degree (i.e. three-year or four-year programmes are not completed within the specified timeframe) and this has repercussions for not only on the university's retention and throughput rate, but on student's financial status and psychosocial wellbeing. Koivuniemi et al. (2017) posit that students who have been failing for longer ultimately begin to perceive themselves as failures. From a Self-Regulated Learning (SRL) perspective, this psychological reaction is likely to impact students' academic motivational beliefs, self-efficacy for success, and their learning strategies used. The failure to self-regulate learning has been associated with academic procrastination behaviours which negatively impact on performance and thus, perpetuating a cycle of failure and At Risk status. Evidently, the impact is broad and complex within the contextual ecological levels of the education landscape.

It is pertinent to this study to understand the dysfunctional pattern of the At-Risk status that continues post-first year, and which impacts on what Ramrathan and Pillay (2015) aptly refer to as "increased-time-to-completion trends" (p. 7), consequently adding to the challenges set for the entire system. This research area was developed from my own observation as an insider within the UKZN system, where for the past 19 years I occupied a role in the Student Support Services (Student Counselling) office as a psychologist/student counsellor. Working intimately within this system for such a length of time allowed me the insight to the Robot system's benefits as a facilitative system to promote success and its potential limitations that have implications for the students who underperform and remain at risk. For example, while this system provides At-Risk students opportunities to reregister for the same degree

or in another College, financial exclusions, that is, the discontinuation of financial aid support systems (NSFAS; bursary and scholarships) causes registration challenges particularly among those who rely on external funders. The registration uncertainty tends to cause emotional turmoil that has negative consequences on their academic motivational beliefs to engage and perform. This systemic situation has repercussions for the dropout rates and consequently impact on their psychological wellbeing.

SRL research suggests that many university students lack SRL skills, though these skills are critical to navigating the system and enhancing positive learning and academic success (Zimmerman, 2000). The role of SRL in students' success and its relationship with academic procrastination has had limited research focus in South Africa's higher learning institutions. Much is still unknown about the experiences and challenges of academically At-Risk students post-first year, particularly concerning their perceptions of failing and persisting as At-Risk students, their motivational beliefs, their learning strategies, and procrastination behaviours and how these aspects relate to the presence or the lack of SRL abilities. Bronfenbrenner (1979) bio-ecological systems of influence (namely; micro, meso, exo, macro and chrono) which are elaborated upon in the next Chapter two, offer a conceptual framework to explore and understand various contextual and psychological factors in the context of an at-risk student that influence their capacity to effectively navigate their academic commitments and achievement.

Hence, there is a need to better understand the diverse challenges of students from their perspective, explore their reasons for slow progress and how their experiences after being identified as an At-Risk student facilitated and/or hampered their success using an exploratory mixed method research design. This research will provide valuable insights on the gaps to be filled in the existing intervention systems, that aim at promoting students' positive learning experience and success.

In light of the above the following problem statement is made:

It is globally acceptable that many students who enter HE are inadequately equipped with the necessary skills and learning strategies to manage rigorous curricular to achieve the standard of quality and excellence required (CHE, 2013, 2016; Tinto, 2017). Whilst there has been acknowledgement, of the facilitative support systems and intervention programmes directed at influencing learning positively and promoting academic success in the global education landscape (Mayet, 2016; Zhang et al., 2014) the slow progression patterns in South African (SA) universities persist. It is therefore critical to understand the factors that influence the quality, coherence and outcomes of existing intervention programmes to improve At Risk students' academic performance. This area seems to be under researched.

Additionally, evidence suggest that SRL is an important contributor to students' achievement. However, the development and the application of SRL within the SA education landscape has had limited research focus. In particular, there is dearth in literature on the role of SRL strategy use in mediating At Risk

students' academic performances and levels of achievement at university in SA context. SRL have been studied extensively in the United States (Zimmerman, 1986; Zimmerman & Schunk, 2011), and has been gaining momentum in Europe (Koivuniemi, et al., 2017), Asia (Li et al., 2018), and in South Africa (Keyser, 2013; Papageorgiou, 2022; Venter, 2011). The recent meta-analysis conducted by Hayer (2022) on 65 studies on SRL strategies and academic achievement, as well as the review of six cyclical models of SRL by Panadero (2017), including Zimmerman and Moylan's (2009) cyclical model of SRL, which is discussed further in Chapter Two, each suggest and support a similar effect. This SRL skill is a process that begins during formal education, and is mastered over time (Núñez et al., 2013). Once mastered, self-regulated students have the capability to effectively select and apply SRL strategies that are essential to academic achievement and to the attainment of personal goals.

Moreover, the failure to implement SRL processes and strategies has been associated with academic procrastination behaviours and poor performance outcomes (Abdi Zarrin et al., 2020; Rozental and Carlbring, 2014). Although academic procrastination has been recognized as common behaviour among HE students (Hen, & Goroshit, 2020), there is dearth of SA literature on the role of academic procrastination on performance of academically At Risk students. Akpur's (2020) meta-analysis on 22 studies confirmed the negative effects of procrastination on students' academic performance and success. Grunschel et al., (2018) utilized the cyclical phases of Zimmerman's SRL model (i.e. forethought, performance and self-reflection phases) to consider ways to improve SRL skill and reduce academic procrastination behaviours. It is evident that there is little research within the SA context hence the necessity for the present study.

1.4 Aim and objectives of the study

The study aims to understand the psychological and contextual barriers to success of undergraduate students identified as At Risk of academic failure in a public South African university and to examine how Self-Regulated Learning (SRL) abilities and or lack thereof facilitated learning experience and attainment of personal goals in the academic context. Furthermore, it will consider what best practices need to be implemented to strengthen the quality of the existing support structures. The study will approach its overall aim via three broad objectives. The research questions and objectives for the different research phases are outlined hereunder.

To examine the psychological and contextual factors that influence the self-regulated learning (SRL) strategies used by at-risk undergraduate students during their academic learning process.

To gain an insight into how SRL and Academic Procrastination (AP) may be influential contributing factors to the academic performance of university students with At-Risk status.

To explore the influential role of UKZN student support initiatives in enhancing the SRL skills that are critical for optimising students' efforts to achieve their desired academic outcomes.

1.5 Research questions

Phase 1: Qualitative Study Research Questions

1. What are the psychological and contextual factors that influence the SRL strategies used by UKZN's At-Risk students post-first year? What are the experiences of students classified as At-Risk?
2. How does academic procrastination contribute to the ability or inability of UKZN's At-Risk students to employ SRL strategies when engaging with their academic tasks?
3. How do UKZN student support initiatives influence the enhancement of SRL skills among At-Risk students and influence academic outcomes?

Phase 2: Quantitative Study Research Questions

1. What are the SRL processes and strategies that UKZN's At-Risk students use during their learning process?
2. What are the sociodemographic background influences in the engagement of SRL and AP?
3. What are the relationships between SRL and AP among UKZN's At-Risk students? What are the predictors of AP among UKZN's At-Risk students?

This study will contribute to the body of knowledge on SRL in HE by qualitatively exploring and quantitatively investigating the factors that hinder students' success at university, where access and success rates continue to be a challenge that impacts on the country's transformation agenda for economic development and poverty alleviation.

1.6 Ethical considerations

Permission to conduct the study was attained from the UKZN Registrar and received the ethical clearance from the Humanities and Social Science Research Ethics Committee (HSSREC, reference number HSS/03575/016M) (Appendix 2). The specific guidelines on ethical protocols that were adhered to and guided the research process are addressed in Chapter Three (Methodology).

This study is limited to undergraduate students identified as academically At-Risk, and who are listed in the Orange and Red colour-coded progression categories described in Table 1 above. It adopted a sequential, exploratory, case study mixed-methods design that utilises both qualitative and quantitative

methods to address the objectives of the study. Phase one was a qualitative inquiry among 23 At-Risk students, while phase two comprised of a self-administered survey completed by 452 students who had been identified as At-Risk.

1.7 Outline of the thesis

This research study is presented in six main chapters, namely:

Chapter One (Introduction). This chapter will introduce the background context of the study. The research aim, objectives, and research questions are presented and the significant value of this research justified. The ethical considerations are briefly introduced and further detailed in Chapter Three. This chapter concludes with an outline of the thesis chapters.

Chapter Two (Literature review and theoretical framework). This chapter will have two sections. Section one will commence with the review of the existing literature on education landscape (HE and BE) within the context of students' academic performance followed by the studies on SRL theory and AP. This section ends with the studies on UKZN academic and psychosocial support systems and resources available to facilitate students' learning and success. Section two will discuss the theoretical framework of the study: Bronfenbrenner's (1979) bioecological systems theory, the synthesis and synergies of the Bronfenbrenner's bioecological systems and SRL and potential critiques.

Chapter Three (Research methodology). This chapter will present a description of the study's location (i.e. UKZN), the relevant ethical considerations, and the researcher's positionality as an insider. The chapter will also cover the research paradigm and the research design, and will justify the adoption of a sequential, exploratory case study mixed-methods approach (qualitative and quantitative). It will also discuss the methodological approaches of the qualitative and quantitative studies, namely, the research design, sampling, research instruments, and data collection and analysis, as well as data integration and interpretation.

Chapter Four (Qualitative data and discussion of the findings). This chapter will be presented in two sections, commencing in the first section with the findings as organised into the main and sub-themes which emerged in the data analysis, and followed in the second section by a discussion on the findings.

Chapter Five (Quantitative data and discussion of the results). Section one of this chapter will present the quantitative results as analysed using SPSS version 25.0, and these will include the Confirmatory Factor Analysis Test performed for the 81-item Motivated Strategies for Learning Questionnaire (MSLQ) and psychometric properties, and the descriptive and inferential statistic results for all the measures of the study, namely sociodemographic characteristics, MSLQ, and AP scale. Section two will follow with the discussion of these results.

Chapter Six (Integrated discussion of qualitative and quantitative results, recommendations, and conclusion): This chapter will commence with an integrated discussion of the qualitative and quantitative data, followed by associated recommendations which address the study's research questions, along with limitations of the present study and recommendations for future studies and conclusion.

CHAPTER TWO
LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter is divided into two sections: the literature review, and the theoretical framework of this study. The literature reviewed section opens with an overview of the education landscape, regarding the contextual factors affecting students' performance. This section also provides literature reviewed within the contexts of South African education on Basic Education (BE) and Higher Education (HE) systems, relating to the systemic factors implicated in student performance, providing the contextual background insight into SRL, as a key to success in HE. Literature reviewed on Self-Regulated Learning (SRL) theory, the cyclical model of SRL and academic procrastination as critical factors to university success follows. Thereafter, the section presents literature reviewed on UKZN, particularly focusing on the various support systems and resources available to facilitate students' learning and success.

Section two presents the study's theoretical framework, i.e. the Bronfenbrenner bioecological model (1979). It discusses the bioecological model as a framework for understanding various systems present in the context of a student in a university environment interact to promote or hinder their academic performance. It also offers the synthesis and synergies of the bioecological systems and SRL theories and the potential critiques that impact on challenges to their applicability.

SECTION ONE: LITERATURE REVIEWED

2.2 Contextual overview of the education landscape

The context of the education landscape commences with an overview of the broad, contextual pre-university/societal factors that impact the baseline ability of students to prepare for maximum productive engagement with various systems within HE spaces. The literature available on students' academic performance and success is vast. The demand for HE is evident through massive increases in student numbers in higher education institutions globally, and in South Africa as a specific response to the transformation agenda (see: Altbach et al., 2009; CHE, 2010; Tinto, 2007). This 'massification' is described by Teferra (2016) as "a hallmark of the African higher education system" (p. 84). Particularly in third-world countries, such as those in African regions, the provision and acquisition of tertiary education is notably advantageous in terms of positively influencing the country's socioeconomic growth by increasing access to employment opportunities and, in turn, constituting a vital factor in alleviating poverty (Bloom et al., 2014; Darvas et al., 2014; CHE, 2013).

In the South African context, the government's constitutional commitment to HE transformation goals has been marked over the past two decades. Massification in education in post-apartheid South Africa was a response to the country's constitutional obligation, which dictated that education transformation policies redress past inequalities and social injustices (CHE, 2016; Department of Education, 1997; Department of Education, 2001). However, the systemic disparities extant between the two South African educational landscapes—Higher Education (HE) and Basic Education (BE)—which were alluded to in Chapter One continue to create implications for students' success in HE. South Africa's BE system is recognised as in "acute crisis" (Southall, 2016, p. 102). The quality of education in SA has been noted as dysfunctional (Dreyer 2017; Spaull, 2013) and persistently fails to equip learners with the appropriate skills necessary to navigate HE demands and expectations for success (CHE, 2016). Studies claim that the challenges originate in the BE foundation phase, according to Spaull (2013), who alludes to the school system's failure to inculcate the necessary numeracy and literacy skills at the primary school level. A number of studies (CHE, 2013, 2016; Scott, 2018; Visser & van Zyl, 2013) contend that many students enter university underprepared for the challenges, demands, and expectations of the autonomous HE system. Scott (2014) alludes to "major causal factors external to HE, including poverty and entrenched problems in the school system, and many in HE look for improvements in these conditions as the only solution" (p. 30). The study recognises Scott's declaration further in Section two, where bioecological systems are discussed. This bears reference to the ramifications of South Africa's "deep-seated historical and structural inequalities" (Badat & Sayed, 2014, p. 12), where the majority of academically underperforming students belong to low-income family and community systems, and where unemployment and poverty have an eco-systemic impact (CHE, 2013).

It has become increasingly important and necessary for HEIs "to redress inequalities in the formal educational system to address the under-preparedness of students through supportive mechanisms" (Roman et al., 2016, p. 32) in order to enhance throughput rates and minimise dropout rates among undergraduates (CHE, 2013; Tinto, 2014). Various studies have identified multiple interrelated contextual influencing factors and offer several specific suggestions to minimise the impact on students' throughput rates, as these ultimately impact the institution as well as the country's transformation goals. Successful throughput outcomes generally lead to employment, which is beneficial to a country's socioeconomic growth (CHE 2016; Letseka & Maile, 2008). This is particularly pertinent in South Africa, a nation which remains socioeconomically divided (CHE, 2016; Ramrathan & Pillay, 2015).

2.2.1 Basic education (BE) and Higher Education (HE) interdependency

The discussion on the BE section is framed by Spaull's 2013 executive summary, and the NSC diagnostic reports (Department of Basic Education, 2017, 2021). Where appropriate, it also includes relevant publications which provide comprehensive, insightful points of interest and make specific

suggestions that ultimately impact on learner success. The findings in Spaull (2013) and the NSC diagnostic reports (Department of Basic Education, 2017 2021) allude to the inherent challenges that manifest negatively in learner performance, and they make suggestions to improve the forms of teaching and learning to promote lifelong learning and success.

The Department of Basic Education (DBE) provides a number of policies, and these are also alluded to in Spaull's (2013) report. These policies include the Curriculum Assessment Statement Policy Statement (CAPS), the Action Plan for 2030, and the Annual National Assessments (ANAs), and are established as effective and noteworthy documents created specifically to address the challenges learners face. However, despite its efforts, the BE system is still widely criticised for failing to equip learners with the appropriate skills required to promote positive learning and success once they enter HE (CHE, 2013; Scott, 2018). The BE system has been acknowledged for its teacher-driven teaching and learning methods—methods which hardly promote the development of effective SRL skills, as they require learners to play the passive role of knowledge acquisition.

2.2.2 Contextual factors within BE system that influence learners' readiness for HE

Previous literature has criticised the quality of the BE system as not adequately preparing students for HE demands (CHE, 2013; Darvas et al., 2014). It emerged that, as much as the National Senior Certificate (NSC) diagnostic reports (Department of Basic Education, 2017, 2021) shows a gradual uptick in pass rates, in the past years it can be argued that these improvements are not an accurate reflection of the quality of education.

The learning challenges which learners inherit and which later impact the quality of their engagement with HE are noted in the Minister of Basic Education, Mrs. Motshekga's NSC diagnostic reports (Department of Basic Education, 2017, 2021). Salient concerns emphasised in both reports (2017 and 2021) are similar, and these include the following learning areas critical for HE engagement drawn from the 2017 NSC report, p 5-6: learner challenges in "a) analytical, evaluative or problem-solving questions; b) poor language and poor reading skills [which] have been flagged as stumbling blocks in learner performance; c) cumulative deficit of subject content knowledge," (Department of Basic Education, 2017). The lack of competency in these skills can impact students' efficacy to navigate the content of modules in HE and compromise their quality of engagement and success in HE.

Spaull's (2013) concerns are similar to the NSC reports above, and are described as factors that underpin the poor quality of the BE teaching and learning system. Spaull (2013) suggests that the vast inequalities of educational outcomes can be viewed according to wealth, school location, language, and province. In particular, underdeveloped numeracy and literacy skills are given special mention by Spaull (2013) and Spaull and Kotze (2015) as systemic issues, as learners from disadvantaged socioeconomic backgrounds and in less resourced rural and townships schools are significantly affected in these aspects

of education. The concerning factor is that these learners lack such foundational skills, which naturally would have direct implications if such a student were to enrol in HE. This deficit becomes a focal point for HEI support structures, which in turn places a significant burden on their finances.

The quality of mathematics teachers is a significant concern noted in Spaull (2013) report. He finds that the South African education system, alarmingly, has the least knowledgeable primary school mathematics teachers in the entire sub-Saharan Africa region, and many of these teachers—specifically those in rural communities—possess below-basic levels of content knowledge. He argues that this inferior quality of education and training at primary and secondary levels in South Africa is limiting, as it impacts the capacity of students to engage with further training opportunities—and this is especially true of students from underperforming schools. Ultimately, if such a situation persists, it has long-term ramifications for the job market and the country's transformation agenda on socioeconomic development and the alleviation of poverty (White Paper 3, 1997).

Spaull (2013) also affirms that passing the NSC exam and the quality of the learner's performance bear necessary influence on their options for attaining some form of tertiary education qualification. Addressing the critical aspects raised in the sections above would comprehensively improve the BE structure as it exists in South Africa at present. As a guide, the salient recommendations in 2017 NSC diagnostic reports (Department of Basic Education, 2017, p. 6-7) that are also acknowledged in the 2021 NSC report included:

- The use of *past question papers* as a significant "resource for revision"; the report also emphasised that CAPS and the examination guidelines for each subject must be followed to ensure that all topics are covered.
- The use of *language in teaching:* the report suggests that teachers need to focus on aspects of language competence and examination technique; develop language and comprehension skills in each classroom across all subjects; ensure that learners gain clear understanding of subject terminology and definitions; and promote a solid understanding of action verbs that are used in the phrasing of questions and their specific meanings in the context.
- *Integrated intervention strategies*: the report suggest that learners be encouraged to form study groups (peer learning) to enhance their understanding of subject content; collaboration among teachers from different schools in a given circuit district should be promoted to create a support system in mediating challenging topics. The 2021 report further acknowledged the use of online study groups as beneficial for revision activities and examination preparations, recommending the continuation and expansion of this learning resource using online learning platforms such as Microsoft Teams, Zoom and Google Classroom and YouTube videos to enhance their understanding of challenging topics (DBE, 2021, p. 8).

The findings from these reports, therefore, cannot be ignored if HE is to improve the quality of the potential student they wish to attract. Until all these concomitant factors are resolved, the BE system is setting HE students up for potential failure.

2.2.3 Higher Education (HE) context

The discussion above emphasises how issues at BE level directly impact on the way learners enter into and navigate the HE system, and how these issues leave them academically unprepared for the demands and expectations found at the higher education level. The school system predominantly construes learners as "dependent learners", which contradicts a HE system that expects those same learners to engage with the system as "independent learners" (Manik, 2015b, p. 233). This significant shift from dependent learners to independent learners implicates itself to the transition challenges that first-year students experience, and impacts on the quality of engagement. This idea is conceptualised as the 'articulation gap' (Lewin & Mawoyo, 2014; Sosibo & Katiya, 2015) and is frequently cited by scholars as a pivotal problem relating to the under-preparedness of students, which forms part of the inherited deficiencies students bring to HE (Manik, 2015). In other words, HEIs expect students to transition "from the traditionally passive form of education to an active learning environment" (Davis & Maistry, 2017, p. 51), a constant challenge which invariably creates pressure for students themselves. From a self-regulated learning perspective, which is discussed above, Volet (1997) also notes that the school system perpetuates this dependency, as teachers play a huge role in regulating the learners' engagement and are largely responsible for inculcating learners' competency in the SRL skills expected for a positive learning experience in the HE context. The lack of SRL skills may result in low-effort engagement with academic activities, which reinforces the other consequences of students' levels of under-preparedness. In the South African HE context, under-preparedness is understood by Mdepa and Tshiwula (2012) as not only related to "knowledge and skills in subjects such as mathematics and science, but also to language competency, that is, the ability to speak and understand the languages of instruction in the country's higher education institutions" (p. 26). Siyepu and Ralarala (2014) also cite students' challenges with HE mathematical language and application skills as factors associated with under-preparedness that impact on the quality of HE engagement and performance outcomes. Roman et al. (2016) further cite multilingual needs within an English-medium setting as immediately influencing success. Proficiency in the language of instruction (Arbee & Samuels, 2015), including the development of reading skills (Dukhan et al., 2016), significantly impacts the quality of students' engagement and success.

Other associated factors impacting on HE performance, and which are inherently embedded in the BE system, include challenges with academic literacy competency (Sosibo & Katiya, 2015); constructive critical learning skills; higher-level reading skill (Dukhan et al., 2016) and abstract and logical reasoning skills (Woollacott & Snell, 2012). Other concomitant factors are discussed below.

2.2.3.1 Systemic Factors: CHE (2016) Report and Other Relevant Publications

The 2016 CHE report specifically pertains to: funding; academic staffing; governance of support structures; and governance of the teaching and learning support roles in academic development. These factors are necessary to consider, although one must be aware that the capacity to uniquely address diverse individual learning preferences and needs remains a challenge, particularly in under-resourced and under-prepared HEIs (Dhunpath & Vithal, 2014).

Funding

The increasing contextual challenge in South Africa is that, socioeconomically, it is a divided nation (CHE, 2013, 2016; Ramrathan & Pillay, 2015). Studies suggest that the majority of the South African student population come from low-income families, and are therefore disadvantaged socioeconomically, demonstrating the intersection of an education background where unemployment and poverty eco-systemically impact (CHE, 2016). This has continued to negatively impact retention and throughput rates, which are racially skewed towards Black African students, who are 50% more At-Risk of academic failure than White students (CHE, 2016; Ramrathan & Pillay, 2015). According to Letseka and Maile (2008), 70% of South African university dropouts fall into the "low economic status" category (p. 25). As a result, the South African Government recognised the need to redress the 'economic constraints' of the majority of its student population, who are from low-income households and disadvantaged educational backgrounds (i.e. quintiles 1-3); this was intended to narrow the articulation gap (CHE, 2013) and was achieved through its funding initiative (NSFAS) in collaboration with the HEIs. The NSFAS is a South African government funding initiative created to redress socioeconomic inequalities and promote access to university and success (CHE, 2016). However, Wilbur and Roscigno (2016) note that the challenges for first-generation students "persist even when socioeconomic status is accounted for" (p. 9).

In addition, Southall (2016) notes that, although there are attempts to redress the discrepancies in "facilitating funding and student intake … the traditional universities … continue to enjoy the highest prestige based upon their markedly superior performances, in terms of both research and teaching" (p. 117). This author alludes to how the recursive nature of factors continues to affect student throughput at historically Black universities, since poor throughput affects funding and available resources (Southall, 2016). This situation sustains itself, mainly because previously Black universities usually attract scholastically poor and disadvantaged students who require more structured and comprehensive support, thus impacting the limited existing resources. This contextual issue illustrates the importance of being cognisant of the current macro situation and the challenges of attempting to correct the cycle of resource allocation. If this macro situation continues, the formula of resource allocation needs to be revisited to better account for the contextual variables.

The CHE report goes on to discuss the distribution of government funds to institutions to enable equal opportunity in HE (CHE, 2016), detailing the complexity of this undertaking in serving its intended goals, which include not only funding students but also ensuring a return on investment for both the institution and the country. The inherent disparity that exists across institutions exacerbates the situation, especially within the subsidy incomes. Within such an intricate and complex funding process, the CHE report suggests that—in terms of the NSFAS system, for example— "demand far outstrips supply" (2016, p. 29). A huge concern cited in this report is that 48% of those students funded later dropped out. This affects the recovery of funds, which is at 26%. This is a complex situation, as affirmed in Mngomezulu et al.'s (2017) study stating that even those funded by NSFAS drop out, suggesting that other mitigating factors perpetuate low academic progression and student decisions to drop out.

Scott (2017) comments that the factors that indicate students' success rates, such as degree completion or dropping out, cannot be attributed to financial issues alone. He maintains that, if physical access is not accompanied by epistemic access, then the status quo of a faulty education system will be maintained (Scott, 2017). Wilbur and Roscigno (2016) also argue that low-income families and parents experience "limited emotional, and financial resources available to assist children, coupled with distinct class-based cultural beliefs about the role of the family in education" (p. 2).

In 2013, the CHE report acknowledged that South African HEIs continue to be confronted by low throughput rates and high dropout rates, which negatively impact budget subsidies, and that subsequent cuts affect marginalised student groups even further. This occurs despite the fact that the bulk of the country's national budget is usually allocated to the Department of Education (Motala, 2017). In recent years, South African universities have also been characterised by increasingly violent student protest. In 2015, the ever-increasing fees contributed to the emergence of the #feesmustfall movement (Badat, 2015; CHE, 2016; Boughey & McKenna, 2016). These protests have often turned violent, reflecting negatively on the perception of universities.

The UKZN vice-chancellor (VC) also acknowledges the long-term repercussions of such violent acts (UKZN, 2020), and at the national level, the Minister of the Department of Higher Education and Training, Dr B. E. Nzimande, was under significant pressure to succumb to student demands to wipe out historical debt. This was communicated as recently as February 2020, in a ministerial response which alluded to the impact of protests on HEIs by creating financial pressure, given the policies and regulations governing student debt and exclusion. These are linked to HEIs' budget management, particularly in allocating resources for each new academic year. It therefore impacts on the financial viability of HEIs and can potentially lead to bankruptcy. There are other interrelated factors beyond finances that contribute to the protests; the intersectionality of class, gender, and race has great impact on "other social structures such as disciplinary norms and institutional culture" (Boughey & McKenna, 2016, p. 3).

In a 2019 press release, Professor A. Bawa, chief executive of Universities South Africa (USAf), which represents university heads and vice-chancellors, reiterated the need to address the chronic issues recurrent in HE. In particular, he cites that issues of "institutional governance remained a challenge and the Department of HET, along with USAF and universities, had a role to play in improving governance" (Naidu, 2019, p. 6). In his conversation with the vice chancellors (Naidu, 2019, p. 6), Professor Bawa reiterates the systemic challenges and degree of complexity: "The key issue is that of bringing stability to the system through ensuring strong policy stability, a consolidation of the Department of Higher Education and Training (DHET) bursary system, and a solution to the student accommodation challenge." The vice chancellor of Wits University, Professor A. Habib, identifies the following key challenges: differentiation; financing the fees of the missing middle; and governance (Naidu, 2019, p. 6). In terms of governance issues and the weakening of governance, Habib suggests that "resources do not get spent in appropriate ways that enhance education" (Naidu, 2019, p. 6). The vice chancellor of North West University, Professor D. Kgwadi, mentions the funding model for needy students in general, stating that this model should be maintained. This is also acknowledged by Professor H. de Jager, the vice chancellor of the Central University of Technology, who suggests that the next major challenge is the need for more student accommodation. Professor D. Kgwadi maintains that ensuring that programmes respond to society's pressing needs, strengthening the relationship between universities, technical colleges and industries, and addressing the social problems experienced by staff and students, should all be points of action. Professor W. de Villiers, the vice chancellor of Stellenbosch University, also expresses concerns around "infrastructure development" (Naidu, 2019, p. 6). The logical question is how the HE sector will continue to develop existing infrastructure in light of diminishing resource allocation (Naidu, 2019, p. 6).

Academic staffing

Despite a commitment to maintaining quality support, a critical challenge for universities is staffing. The CHE report (2016) posits that the pressure institutions face relates to massive enrolments that increase the student-lecturer ratio, limiting staff capacity to effectively meet teaching and learning demands and expectations. This report recognises the detrimental impact of under-funding on academic staff capacity to maximise the quality of services they provide (CHE, 2016). Teferra (2016) likewise names this issue, observing that although increasing access is commendable, it has resulted in overstretched resources where the number of academics remains the same while the number of students continues to increase. These systemic challenges negatively impact on the quality of service that this diverse student cohort may require in order to facilitate positive learning and success.

Governance of support structures

The transformation developments in HE in Africa "carr[y] a solid promise in situating Africa as a significant, even critical role player in the global knowledge society", states Teferra (2014), before

clarifying that this holds true only "if expansion is concurrently augmented with quality support" (Teferra, 2014, p. 1). Many researchers share this sentiment, including Tinto (2014), who contends in his second lecture organised by the CHE (2013) that in South Africa, "access without quality support is not opportunity" (p. 13). In a seminar organised by UTLO in March 2022, Scott, highlighted in his seminar abstract that HEIs have been establishing intervention programmes intended to enhance students' academic performances and psychosocial development from as far back as the 1980s, (Scott, 2022). In 2006, Tinto and Pusser identify the required support programmes as "academic, social, and financial" (p. 7). They propose academic support "in the form of developmental education courses, tutoring, study groups, and academic support programmes such as supplemental instruction, and social support included counselling, mentoring, and ethnic student centres" (Tinto & Pusser, 2006, p. 7).

Some of the HE developments to address access and support are observed by Sosibo and Katiya (2015), such as the establishment of early warning systems that track and monitor academic progress, as discussed in Chapter One. They posit that "early identification of At-Risk students is at the heart of improving student success, especially for those who enter higher education with gaps in their knowledge" (Sosibo & Katiya, 2015, p. 271). To address such diversity, a more inclusive and less alienated approach is suggested by Bazana and Mogotsi (2017).

The CHE report (2016) specifically suggests that academic advice and counselling should be professionalised to advance three interrelated factors within institutional budgets:

- Increase reliable data to influence institutional responses to enhance student success
- Better integrate students into institutional culture, including peer-group interaction, staff-student relationships
- Promote greater inter-institutional cooperation.

These three enabling factors are significant for the present study, as they potentially facilitate a more conducive learning environment for South Africa's HE students. Ultimately, though, the financial constraints experienced by institutions dictate how finances are prioritised.

Governance of teaching and learning

Given the increasing access rates in HE, the 2016 CHE report established that institutions have responded to this transformation objective using one of the three approaches mentioned in this report (p. 76):

1. Increasing the size of the class in contact teaching to improve financial efficiency. However, in such large classes, effective communication between a single lecturer and a large student group is compromised.

2. Dispensing contact-based, small tutorial-type modalities for electronic or blended learning strategies that are more financially viable and may not require the necessary academic support or pedagogical expertise.
3. Employing short-term contract teaching staff to alleviate financial demands. This has resulted in a chronic state of employing contract staff only, which has long-term implications for the sustainability and quality of teaching.

These approaches have become the norm and, as such, do not augur well for a comprehensive teaching and learning environment, particularly where the challenges of slow academic progress and poor retention persist. As suggested in the 2016 CHE report (p. 146), there is a need to address the impact of massification on teaching and learning, which to date has not been adequately examined. The creative pedagogical methods for continued student support and a flexible curriculum possess the potential to address high dropout and low throughput rates. Any ad hoc, uncoordinated and under-theorised effort will be less impactful (Bailey, 2014).

Sosibo and Katiya (2015) acknowledge the extensive literature on second-language students' poor academic literacy and its link to poor throughput and high dropout rates. They maintain that there is a need for HEIs to share intervention strategies that enhance students' academic literacy skills. Badat (2010) asserts that funds need to be spent in HE to provide academic development programmes to address under-preparedness, which can target the promotion of linguistic ability, conceptual knowledge, or academic literacy and numeracy skills. This is to ensure that expanding diversity within the student population leads to academic success for all students involved.

Recommended interventions to enhance quality and equity

The 2016 CHE report (pp. 10-11) declares that in order to address the challenges of both improving rates of participation and enrolment to match the development needs of South Africa, and drastically refining the quality and equity of academic success across the system, several interventions may have to be implemented:

- A nationally coherent system of student academic development to cope with diverse learning communities, supported equitably across the system with high-quality teaching, learning, and social support.
- A properly funded NSFAS system underpinned by competent and optimally resourced student support services and infrastructure at institutional levels, particularly for student accommodation, transport, and the provision of social services.
- The construction of a wider and more diversified public-private funding system to drastically boost gross funding for student financial aid by engaging the Public Investment Corporation,

the Development Bank of South Africa, the Unemployment Insurance Fund, and commercial banks in raising the current levels of investment.

- Active investment in decreasing unacceptably high student-lecturer ratios within benchmarked norms across the sector via dedicated remedial interventions using the subsidy formula, and providing targeted support for improvements in the teaching and learning infrastructure's scope and quality, especially at historically disadvantaged universities and campuses.
- Consideration for the CHE-mooted idea of developing a four-year undergraduate degree structure, taking into account the complexities and challenges this will bring; however, this should provide a more flexible and realistic basic undergraduate degree framework which responds better to differentiated learning communities.
- A means of ensuring all universities recognise, promote, and support teaching and learning as critical to the core functions of the academic system, drawing on the best policy, systems, and intellectual and technical support from within the university system.

2.3 Theory and the cyclical model of SRL

This section commences with the SRL literature, followed by the literature on academic procrastination and the cyclical model of SRL is presented last.

2.3.2 SRL theory and processes

SRL is one of the key focus areas of the study, and the cyclical model is used to demonstrate how SRL informs the ways by which At-Risk students regulate their academic space to meet their set goals. This model also affords an explanation on how the factors which influence the academic development of At-Risk students manifest cyclically; how they influence students' capacity for meaningful learning, optimised social functioning, and the ultimate attainment of personal goals; and how these phases feed one another to repair, impair, or modify those relationships, facilitating or hindering the development of sustainable lifelong skills.

The principles underlying the SRL theory are largely drawn from Zimmerman's (1986, 2000, 2002) research as it continues to expand on studies where he has collaborated with other researchers (Zimmerman & Kitsantas, 2005; Zimmerman & Schunk, 2008; Zimmerman & Schunk, 2011). The SRL theory itself cannot be contained within a specific definition, but offers a descriptive understanding of the key principles that govern SRL. Various studies have reported the positive correlation between SRL and academic achievement, and the attainment of students' personal goals (Ben-Eliyahu & Linnenbrink-Garcia, 2015; Kovács, 2012; Pintrich, 2000; Schunk, 2008; Zimmerman, 1989, 1990, 2000, 2002, 2008, 2013).

The holistic view of the SRL process is drawn from Zimmerman (2013), who postulates that "students who set superior goals proactively, monitor their learning intentionally, use strategies effectively, and respond to personal feedback adaptively not only attain mastery more quickly, but also are more motivated to sustain their efforts to learn" (p. 135). Theoretically, Zimmerman (1989) conceptualises SRL as a process where students are metacognitively, motivationally, and behaviourally active in their own learning process. He asserts that SRL should not be viewed as a complete state of human functioning (Zimmerman, 1989), nor as "a mental ability or an academic skill" (Zimmerman, 2002, p. 65), but rather as the self-directive process through which learners transform their mental abilities into learning skills that serve the best purpose for the task in which they are currently engaged.

SRL entails an interactive and reciprocal cyclical process, whereby one phase affects the activities within the next phase or 'cycle'. Jakesov and Kalenda (2015) describe the cyclical process as operating by connecting the phases "such that the processes are structurally interrelated and cyclically permanent" (p. 180). For example, as SRL students engage with a task, they activate the cognitive processes (such as planning and decision-making thought processes) to afford effort regulation, self-monitoring, and self-reflection on how they have performed. From this perspective, the logical query that follows is: How can the university systems engage students differently, better enabling them to be proactive and to maximise the resources afforded to them within the HE environment?

The concept of SRL suggests that students are responsible for their own learning, and for the development of SRL skills and the attainment of desirable learning behaviours and outcomes, which in turn help them to successfully meet their personal goals. It also emphasises the role of the context in shaping learners' behaviours and outcomes. Zimmerman (2013) distinguishes between proactive and reactive students, where effective self-regulated learners are proactive in their use of goal-setting, task analysis, and awareness of their motivational beliefs and expectations, as well as in their task strategies such as time management and organisation. Reactive learners tend to self-regulate less effectively, as they rely only on self-reflection and self-evaluation processes following work on a task to improve their performance. When a student is proactive, they self-direct their own learning and orientate their mental capabilities towards the acquisition of the academic skills required (Zimmerman, 2013). The literature further reveals that the development of SRL is a continuous process that requires years to be mastered (Zimmerman & Schunk, 2011). The ability to self-regulate is recognised as a lifelong learning skill necessary for optimal human functioning in general (Bandura, 2001, 2008; Zimmerman & Schunk, 2011). To become competent in SRL, Zimmerman and Kitsantas (2005) propose a four-stage process comprised of *observation*, where learners observe and imitate what is being modelled; *emulation*, where learners engage academically or model from their observations and experiences; *self-control*; and *self-regulation*. However, many students enter university with underdeveloped SRL skills that would otherwise fundamentally increase their learning skills, performance, and aid in the attainment of their personal goals (Zimmerman, 2002; Zimmerman & Schunk, 2011). Used effectively, studies claim that

SRL can be instrumental in achieving desirable academic outcomes (Zimmerman, 2000; Zimmerman & Schunk, 2011).

Related to SRL the core competencies which either facilitate or hinder effective learning is the factor of academic procrastination (AP), a behaviour commonly observed among students.

2.3.2 Understanding Academic Procrastination (AP) among students

Several studies have revealed a negative relationship between academic procrastination and the students' academic achievement (Abdi Zarrin et al., 2020; Balkıs & Duru, 2017; Limone, Sinatra, Ceglie, & Monacis, 2020; Kyndt, Berghmans, Dochy, & Bulckens, 2014; Solomon & Rothblum, 1984; Tuckman, 1991; Wodraschke, et al., 2014). A recent meta-analysis on 22 studies conducted by Akpur, (2020) further confirmed the negative effects of academic procrastination on students' academic achievement.

Academic procrastination is cited by Richardson et al. (2012) as "a central facet of conscientiousness (in a negative direction) and is indicative of self-regulatory limitations" (p. 355). Consequently, students with a tendency to procrastinate are likely to achieve less because "like those low in conscientiousness, they are less likely to persist with challenging work" (Rozental & Carlbring, 2014, p. 359). Studies have associated the high levels of academic procrastination with the failure to self-regulate learning (Park & Sperlin, 2012; Rozental & Carlbring, 2014). From a SRL perspective, SRL students self-initiate learning, and activate their thoughts and feelings to direct their course of action towards a task or an activity (Zimmerman, 2000).

Studies have described academic procrastination as characterised by voluntary, unrealistic study habits where students intentionally put off getting started, and where they exhibit avoidance tendencies when faced with a cognitively challenging academic task that requires a course of action within a certain timeframe (Rozental & Carlbring 2014; Solomon & Rothblum, 1984; Tuckman, 1991). AP is described by Senécal, Julian, and Guay (2003) "as an irrational tendency to delay at the beginning or completion of an academic task" (p. 135). This practice of delaying, postponing and even avoiding getting started on academic tasks is common among procrastinators. Rabin et al. (2011) assert that it is "the accompanying internal subjective discomfort" (p. 345) which moderates between procrastination tendencies and the mere postponement of engagement to a later stage.

The influential cornerstones of higher levels of AP behaviours which undermine productive learning and achievement among students include: the irrational academic beliefs (or lower levels of rational academic beliefs) that tends to negatively affect their ability to effectively manage the time to prepare for exams, consequently affecting their achievement (Balkis et al., 2012); poor time management also negatively affects the ability to handle the academic workload (Hussain & Sultan, 2010); challenges in

managing time was also noted in Brooker et al., (2017) study as a contributing factor in academic performance challenges of first year students. Another AP factor that waste academic time and negatively affect achievement is: perfectionism, which is particularly motivated by fear of incompetence and failure (Ronningtam & Baskin-Sommer, 2013); fear of failure and responsibility (Abdi-Zarrin, et al., 2020); fear of failure also leads to avoidance to engage in decision-making processes and to commit to deadlines (Rozental & Carlbring, 2014); delays in getting started leads to pressure, anxiety and discontent with studies (Grunschel et al., 2013); boredom and low motivation (Kandemir, 2014), particularly as a consequence of the failure to self-regulate thoughts, emotions, and actions surrounding academic activities (Park & Sperlin, 2012); fear associated with decision-making (Ronningtam & Baskin-Sommers, 2013); fear and anxiety (Kandemir, 2014); and excessive stress, particularly as related to a preoccupation with financial constraints and with feelings of guilt (Rozental & Carlbring, 2014). The cyclical process explains how students' capability to exercise SRL enables or deters their degree of effort and motivation, ultimately influencing their academic performance and outcomes.

2.3.3 Zimmerman and Moylan's (2009) cyclical model of Self-Regulated Learning (SRL)

The cyclical model of SRL affords the study a theoretical perspective that explains self-regulated learning (SRL). This theory offers some understanding of the various factors at play among students in the university context which influence their capacity to engage effectively in learning activities.

2.3.3.1 Description of the Cyclical Model

Zimmerman and Moylan's (2009) cyclical model of SRL is comprised of three phases: forethought, performance, and self-reaction (see Figure 1 below). Each of these phases contains interdependent sub-processes which influence each other (Zimmerman, 2000). The model illustrates the transactional interplay among these phases during the process of learning and explains how each process and sub-process influences the others in a cyclical manner. It further demonstrates the impact these SRL phases have on students as they engage with them, and to what extent, as well as the processes and sub-processes required to effectively master SRL skills and learning outcomes, with the ultimate outcome being success and the attainment of personal goals (Zimmerman, 2000). Further, Kitsantas and Dabbagh (2010) note that "the cycle of learning promotes individual empowerment, in part because it reinforces the beliefs of the individual in their ability to effectively control aspects of the learning experience toward a desired outcome" (p. 11).

All SRL models are based on assumptions, as highlighted by Kovács (2012, p. 346): "Theorists assume that students who self-regulate their learning are engaged actively and constructively in a process of meaning generation and that they adapt their thoughts, feelings, and actions as needed to affect their

learning and motivation." The models also assume that biological, developmental, contextual and individual difference constraints may all interfere with or support efforts at regulation. Therefore, during the SRL process, students activate their cognitive self-knowledge and skills, and they select, modify and sustain specific learning strategies in order to attain their personal goals. Zimmerman (2000) states that students' motivational belief systems and set goals influence the quality of their effort exerted on a task, and their capacity to sustain interest; students need to be self-motivated to perform a task and be competent in self-directed learning during their learning process (Rotgans & Schmidt, 2012). Self-motivation helps maintain thoughts, feelings and behaviours with the intention of achieving personal goals (Ramdass & Zimmerman, 2011). Pajares (2008) maintains that students who are motivated and have positive self-efficacy beliefs have the capacity to implement effective learning skills.

SRL students self-initiate learning and activate their thoughts and feelings to direct their course of action towards a task or an activity (Zimmerman, 2000). The cyclical process explains how students' capability to exercise SRL enables or deters their effort motivation, ultimately influencing their academic performance and outcomes.

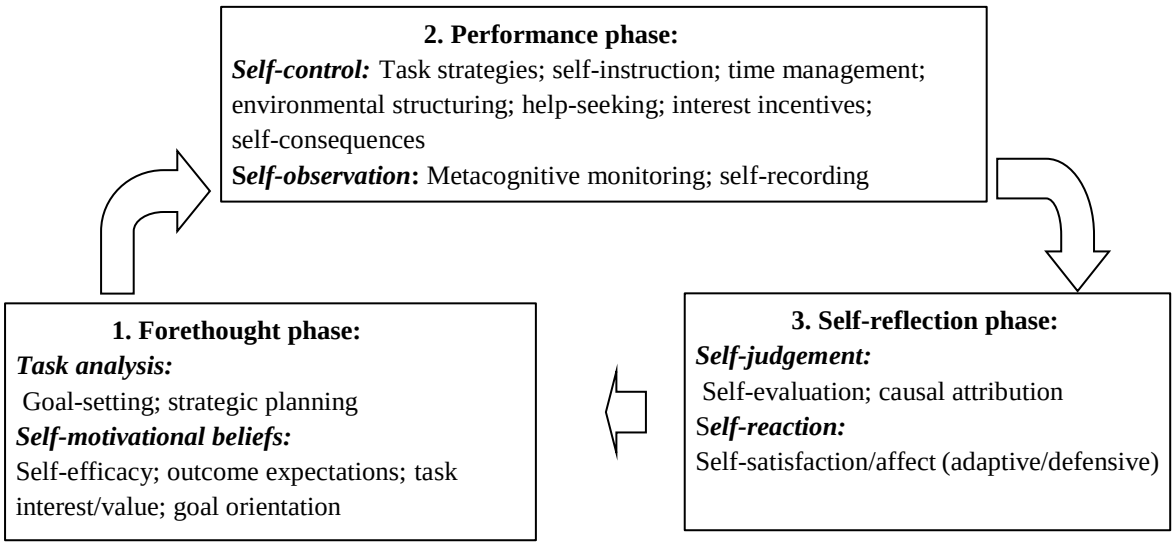

Figure 1

Phases and sub-processes of the cyclical model of self-regulated learning.

The cycle begins as a new skill is identified for acquisition. As noted, most SRL models are grounded in social cognitive theory, where individuals are considered to be active agents of social change (Bandura, 1986). In the beginning, through continuous reciprocal interaction with their social sources, individuals acquire new knowledge. With practice, self-reflection, self-evaluation and modification, they ultimately master the learning skill. This process is described in the phases below.

The forethought phase (pre-performance)

This phase consists of self-regulatory learning processes which set a stage for action when students are provided with a task. It comprises an individual's personal cognitive and metacognitive decision-making processes of learning, as well as the sub-processes that facilitate an ideal learning environment for an optimal learning experience and the attainment of personal goals. In this phase, SRL students prepare the course of action they will take, thereby strategically selecting various learning strategies appropriate for the activity/given task. The processes and sub-processes are:

- **Task analysis**, which comprises a realistic goal-setting strategy (short and long-term goals), and strategic planning, which SRL learners activate to begin the learning process.
- **Self-motivational beliefs**, which include notions of self-efficacy, outcome expectations, task interest/value, and goal orientation.

During task analysis, SRL students assume personal control of the task and activate their cognitive strategies of planning and goal-setting to modify the aspects of the task or activity that require their attention (Schunk & Zimmerman, 2008). They activate and engage with their intrapersonal resources (i.e. cognitive and metacognitive decision-making processes and self-efficacy belief system). They are expected to have self-awareness regarding their strengths and weaknesses in guiding their thoughts and feelings towards the course of action. This affects the type of SRL strategies which they select and the degree of value/effort exerted, and this in turn enables or inhibits a meaningful learning experience and the attainment of desired personal goals.

Although the overall process of SRL involves the self-regulation of cognition, metacognition, affect, motivation, and behaviour, the cyclical phases emphasise the specific constructs of SRL. The forethought phase highlights the activation of the cognitive and metacognitive processes (Panadero & Alonso-Taapia, 2014). Moreover, Azevedo and Strain (2011) emphasise the importance of moderating students' affective realities and utilising emotion-regulation skills as a strategy to facilitate the monitoring and regulation of feelings, attitudes, and emotions that may hinder progress or hamper academic behaviour. However, according to Zimmerman (2013), "various aspects of self-regulation are mentally and physically demanding activities, and people may decide to forego their use if they feel tired, disinterested or uncommitted" (p. 141).

Effective emotional regulation is a significant factor among At-Risk students who may enter the cycle with a fragile psyche. A concern shared in a study by Panadero and Alonso-Tapia (2014) is that the absence of emotional regulation in the forethought/initial phase may have negative effects on students' capability to successfully self-regulate and attain their goals. This emphasises that the regulation of emotions at the beginning of the cycle is fundamental to enabling goal-directed learning behaviour for success. To illustrate, some At-Risk students may lack the capacity to self-regulate their thoughts about having underperformed. When this state is transformed into thoughts and feelings of being a failure, for example, these negative feelings may inhibit other metacognitive decision-making processes and

prompt the formation of unrealistic goals. This further hampers the student's capacity to successfully and meaningfully complete the cycle.

A lack of interest or motivation for a task, whether or not this is due to past experiences of failure, may decrease the student's confidence and lead to avoidance tendencies. Academic procrastination contributes to the build-up of an unmanageable workload. Ultimately, any self-fulfilling prophecies regarding incompetence and lack of ability will prevail, and the cycle of failure begins again. Importantly, self-regulators are also influenced by their beliefs of self-efficacy around their ability to achieve their personal goals. From the outset, the metacognitive decision-making processes and self-efficacy belief systems need to be activated to enable self-regulated students to plan for and analyse the task ahead, set goals, and then put their plans into action, guiding their efforts towards the achievement of those goals (Schunk, 2008; Zimmerman & Schunk, 2011).

The metacognitive strategies of self-efficacy, intrinsic interest, and outcome expectancy are important motivational beliefs that affect all phases of self-regulation (Zimmerman, 2000). Ultimately, with practice and mastery of learning goals, SRL learners arrive at a point where they may exercise learning strategies automatically "without close metacognitive monitoring" (Kovács, 2012, p. 346). Also, students may not be aware of their emotional self-regulation, as these emotions arise automatically in response to specific triggers during the learning process. In this regard, Kovács (2012) suggests that students would still need assistance in being made "aware of those negative automatic processes [that] could have the potential to enhance self-regulation that is oriented toward learning" (p. 346).

The performance phase (processes that affect attention and action)

This phase describes the various SRL processes and strategies that students employ when executing a task, specifically:

Self-control: Task strategies; self-instruction; time management; environmental structuring; help-seeking; interest incentives; and self-consequences.
Self-observation: Metacognitive monitoring; and self-recording.

Self-regulated students act on the plans and goals that they set for themselves in the forethought phase. The ability to self-regulate guides them to exercise self-control over their thoughts, emotions, behaviour, and the contextual influences in their environment that may inhibit the successful execution of the task at hand. This requires the student not only to be attentive but also to sustain their focus, and this ability may be aided by their degree of motivation and interest, along with their values, purpose, and goals for the task/activity. SRL students select specific strategies according to their perceptions of the task and its characteristics. For example, learning strategies such as environment structuring (i.e. removing distractions and creating a space conducive to learning) enhance a degree of focus in the

reading material. When engaging with the reading material, SRL learners may choose to use strategies such as paraphrasing/underlining significant ideas and seeking clarity to improve comprehension.

Interestingly, underperforming students are described by Neuman (2008) as those who seem to purposefully not seek help, often as a result of previous experiences where their capabilities were judged as lacking. The failure to self-regulate over past experiences of failure may impact their capability to increase their efforts to complete the task and attain their learning goals (Panadero & Alonso-Tapia, 2014). However, SRL learners who proactively activate the metacognitive monitoring strategy when performing the task are able to self-regulate behaviours that inhibit their learning goals. They self-monitor their actions (such as avoidance tendencies and procrastination) and employ self-recording strategies (including time management) to direct their actions towards achieving their aims. At-Risk students' commitment to attending lectures and engaging with the content presented therefore proves vital, as this effort—if appropriately self-regulated—demonstrates a level of commitment to knowledge acquisition, the construction of meaning, and the attainment of personal goals. This is an ongoing interaction between the self and the required academic tasks that facilitate learning and goal attainment.

The self-reflection phase (post-performance)

This final phase demonstrates students' responses to their actions and is comprised of:

Self-judgement: Self-evaluation; causal attribution.
Self-reaction: Self-satisfaction or affect (as either adaptive or defensive).

Self-regulated learners use cognitive self-judgement processes to self-evaluate their performance of the task. They use the goals which they set in the planning stages of a task to self-reflect and gauge an overall impression of their own performance and progress. Self-judgement is a cognitive judgement likely to generate a variety of personal and behavioural reactions. As these learners self-evaluate their performance of the task, they also employ a causal attribution strategy to substantiate the quality of their performance, whether it resulted in success or in failure (Zimmerman, 2002). The process of self-reflection also allows SRL learners to reflect on their efforts and provide their interpretation of the level of satisfaction or dissatisfaction they feel regarding their performance. This feedback from the self-reflection strategy completes the cycle, and is used to equip the learner with insights on the adjustments they will make in the next cycle until the SRL skill is mastered (Bembenutty & Zimmerman, 2003).

The learner's reaction to and interpretations of their own efforts, task experiences, and ultimate current and previous performance outcomes, may influence their future decisions on whether to assume either an adaptive strategy (i.e. perform the cycle, alter the strategies, or employ the same) or a defensive strategy (not to perform the task again after failing to attain their learning goals) (Zimmerman, 2011). Learners who employ defensive decision strategies exhibit a reduced capacity to self-motivate and are

prone to avoidance tendencies as a result of the fear of failure, as noted by Panadero and Alonso-Tapia (2014).

The discussion that follows focuses on UKZN and utilises the key related aspects discussed above in the 2016 CHE report to demonstrate how UKZN operates and attends to the needs of its students and student groups as a public university.

2.4 UKZN context

This section presents the UKZN policies introduced in Chapter One in more detail, before offering an overview of the funding system and its governance. The section on teaching and learning support systems concentrates on academic staffing, and on roles and responsibilities (student-lecturer relationship). The section concludes with a discussion of governance support structures (AMS and Student Support Services' roles and responsibilities).

2.4.1 UKZN policies

As mentioned in Chapter One, UKZN is governed by several policies; however, only those directly relevant to the study are discussed. These are the Language Planning and Development Policy (UKZN 2006) and the Academic Monitoring Support and Exclusion Policy (UKZN, 2009) relating to the early identification Robot System.

The vision of the language policy (2006) which was revised in 2014, is to remove language as a barrier to access and success (Khumalo, 2017, p. 7). The policy recognises the prominent role that language plays in teaching and learning, with English and isiZulu as the two official languages of UKZN. The policy aims to "provide facilities to enable the use of isiZulu as a language of learning, [and] instruction" (UKZN, 2014, p. 2). The director of Teaching and Learning, Dr R. Dhunpath (2017), noted the need to "interrogate the importance of multilingual teaching and learning environments and how language policies enable and disable the work of academics and students" (p. 4). He argues that one must "understand how to interpret and interrupt the syndrome of chronic dropout and unsustainable success rate while elevating the quality of graduates" (Dhunpath, 2017, p. 5). To that end, bilingual tutors are equipped with the skills and knowledge to deliver teaching content in both isiZulu and English (Dhunpath, 2017).

As noted in Chapter One, the Academic Monitoring Support and Exclusion Policy (UKZN, 2012, p. 3) is based on a system of classifying student academic performance under the following categories: Outstanding Academic Performance; Good Academic Standing; At-Risk; or Underperforming. Every undergraduate student's performance is assessed at the end of each semester, and appropriate interventions and actions are assigned for each given category. Each student's status, based on their academic performance at the end of the semester or subsequent supplementary exams, is determined

and reflected on the student administration system as colour-coded category Blue, Green, Orange, or Red. The implementation of this policy does not exclude underperforming students in their first year (UKZN, 2009). The university's two appeals processes—the College Exclusion Appeals Committee (CEACOM), and the Academic Exclusion Appeals Committee (AEACOM)—acknowledge in the policy and demonstrate that at college level, after failing to obtain the minimum module credits requirement stipulated after three semesters at university, a student can appeal for re-admission to the same or a different college. If on re-admission they continue to underperform and the appeal is unsuccessful, they are referred to the AEACOM, where final decisions on whether to exclude or not are concluded. In certain circumstances per university regulations, the student can return. Sometimes the student is excluded after four semesters, with no further appeals allowed. The latest available published AMS (UKZN Teaching and Learning Office report (UTLO), 2017, p. 5-6) reported an 18% increase in graduation rates while 6% of students voluntarily dropped out in 2016. This trend is significant for understanding the context of the At-Risk student. Figure 2 below is a visual depiction of the pathways.

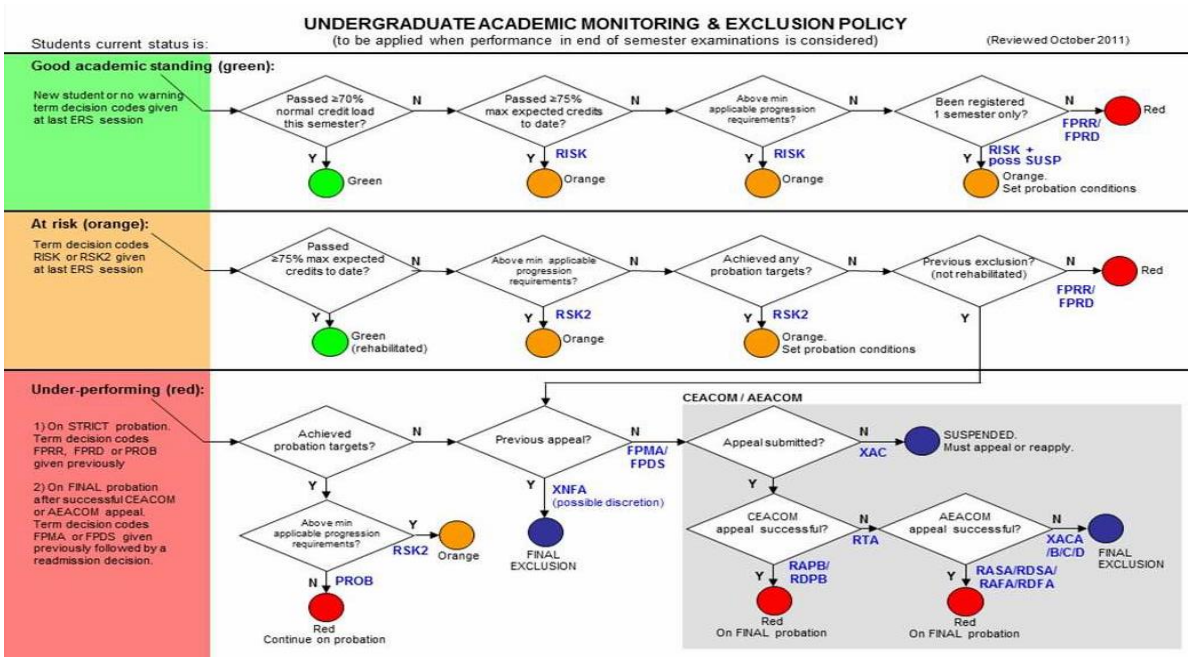

Figure 2

Visual Depiction of the UKZN Robot System (UKZN, 2012, p. 12).

2.4.2. Governance of funding at UKZN

The AMS report (UTLO, 2015) describes the performance of students who receive NSFAS as being "at the same rate or slightly better than those that are not funded, particularly in the 2009 and 2010 cohorts" (p. 8). Thus, despite funding being a massive factor at all HEIs, at UKZN it would seem that there is a negligible impact on the pass rates between those who receive funding and those who do not. However,

the funding formula discontinues access to financial aid for those who fail to meet the academic performance requirements of, among other stipulations, a 50% average pass for registered modules attached to their contract (UKZN, 2017). This presents a dire situation for financially needy students, who may have to drop out due to lack of funds (Ramrathan & Pillay, 2015).

The financial vulnerability of the institution has also been acknowledged (UKZN Corporate Affairs Division and Finance Division, 2019). This report recognises the student protests which took place during the registration period in the first semester. Protests of this nature are usually associated with "financial clearance, registration and students' accommodation" (UKZN Corporate Affairs Division and Finance Division, 2017, p. 6). During the 2017 student protests (the #feesmustfall campaign), the vice chancellor repeatedly cautioned students in light of historical debt; this is a continuous challenge for the university, which recorded an increase of approximately R300 million (from R1,4 billion in 2016 to R1,7 billion in 2017) in unpaid debt in students' fees and loans (UKZN, 2017a, p. 111). The most recent published annual report (2019) cited a "historical debt of R1.1 billion to be collected during registration and that those students from families with an annual income of up to R350 000 be exempted from settling 100% of their historical debt" (p. 6). This financial liability places the institution in a compromised financial state, and it must adapt away from this and become more solution-focused if it is to ensure that the academic programme is not compromised.

Another concomitant systemic factor, noted in a UKZN study by Mngomezulu et al. (2017), reveals that some students—particularly those from low-income households—tend to share their NSFAS allowance with family, as a contribution to alleviate other financial constraints. The interrelatedness of limited financial assistance, weak or negligible throughput rates, and the need to increase participation, all continue to challenge higher education in South Africa. In light of this, Mngomezulu et al. (2017) argue that students need to be taught financial management skills. Linked to funding is the student's given residence situation, which the 2019 Annual report recognises as a significant factor in promoting success.

2.4.2 Teaching and learning support

At UKZN, the Teaching and Learning Office is the central body responsible for support mechanisms to improve student progression and graduation, and ultimately to "promote and support student success" (UTLO, 2012, p. 26). Its mandate is to provide "strategic leadership on teaching and learning, developing university teaching and learning policies and monitoring their consistent university-wide implementation". Other areas of focus include "curriculum transformation, quality promotion and assurance, promoting student access, throughput and success, and implementation of the university language policy in relation to teaching and learning" (UTLO, 2012, p. 4).

The UKZN Quality Enhancement Project (QEP) Phase II Report, submitted in 2017, is another source of information related to this study (UTLO, 2017b). It acknowledged:

> "…little systematic attention accorded to determining whether generic evaluation tools (such as anonymous student module evaluations) do measure learning outcomes, and whether these tools are free of methodological bias, and whether these tools continue to exclude certain groups (women and the disabled) from being recognised as intellectuals."

The goals of the QEP can be summarised as "improving the quality of undergraduate educational provision; improving the number of quality graduates; developing a higher education system that is improving continuously as members of the higher education community collaborate to share good practices and solve shared problems" (UTLO, 2017b, p. 21). Moreover, the Teaching and Learning Conference is a site for disseminating and discussing such initiatives, not only for the UKZN community but nationally and internationally. These contribute to the *Alternation* publication, which is an in-house journal at UKZN. As noted earlier in this study, various support mechanisms are in place that structurally attend to students and meet their general needs within HEIs. The specific UKZN practice is explained below.

In 2017, in the UTLO 11th Annual Higher Education Conference Proceedings, *Higher Education Today: Crises, Contestations, Contemplations and Futures* (pp. 8-9), the four deans of teaching and learning from the UKZN colleges each communicated similar AMS services, albeit with slightly different areas of focus. The dean of the College of Agriculture, Engineering and Science, Professor N. Chetty, reported the significance of incorporating non-standard academic monitoring and support systems, coupled with innovative teaching and learning techniques to address student attrition and graduation times. The dean of the College of Health Sciences, Professor S. Duma, noted that decentralised teaching and learning practice beyond campus to clinical sites ensures that students can access knowledge and learn remotely across the province. The College of Humanities dean, Professor R. Hoskins, suggested that technological innovations have helped improve access to information for students. Indeed, the humanities continue to graduate the highest number of quality students, and have steadily improved their graduation rate over the years. Their access programme in particular has the best throughput rates. Finally, the dean of the College of Law and Management Studies, Professor B. Mubangizi, offered that their approach was about improving students' access and success rates and providing academic training that engenders critical and analytical thinking, stating: "An important tenet of this is ensuring that the curriculum content, processes, and practice are informed by an episteme that speaks to a diverse group of students" (in UTLO, 2017, p. 9).

These deans communicated their commitment to addressing the issue of diversity experienced within the teaching and learning environment, given the unique challenges in their respective colleges. Some

of these challenges are investigated in the results chapter of this study, particularly concerning those with At-Risk status.

2.4.3 Resources: Learning and staffing

As described in the 2013 CHE report (p. 19), there are a wide variety of learning resources that may be available to different extents, supported and maintained. These resources, which are also evidently established in the UKZN context, include libraries, computer facilities, internet access, online learning environments and resources, teaching spaces, lecture theatres and laboratories, as well as physical spaces where individual students can study or groups of students can work together.

As part of the teaching portfolio, lecturers should support students either individually or by referring them to the appropriate support structures. The generic job description for lecturers (adapted from the UKZN Teaching and Learning portfolio, 2014) includes:

1. Developing teaching and learning materials, such as course content and assessment instruments
2. Using different teaching methodologies to facilitate learning
3. Assessing student performance
4. Planning, implementing and evaluating the offering of modules and programmes
5. Providing opportunities for individual student interaction, and dealing with student concerns, problems, and challenges
6. Reflecting on one's own teaching practice, teaching design, and delivery
7. Being involved in continuing professional development

In particular, point five expects the lecturer to ensure student interaction when addressing student concerns and challenges, emphasising the necessity for support. Subbaye and Dhunpath (2016) also note this as a "clear" (p. 5) expectation of academic staff.

As suggested above, another way of delivering teaching and learning objectives within limited financial resources has been to employ short-term contract staff. Such a situation is not unusual at UKZN, and has been observed at other HEIs. However, the CHE report (2016) commented that hiring temporary contract staff compromises the sustainability and quality of teaching and learning.

In terms of the lecturer-student support system, the university's annual report (UKZN Corporate Affairs Division and Finance Division, 2019) acknowledged the "high student to lecturer ratio" (p. 89), which seems a challenge that institutions face nationally; this issue is also noted in the CHE report (2016) above. Kioko et al. (2014) allude to background differences in the inter-relational space of the lecturer-student dynamic, which "[are] very pronounced within the SA context" (p. 173). Boughey (2002) is of the opinion that, in order to address this, academic access should involve "more than introducing students to a set of a-cultural, a-social skills and strategies to cope with academic learning and its

products" (p. 296). In addition, Kioko et al. (2014) recommend a solution of "systemic curriculum reform in order to match the universities with the reality of the students joining them" (p. 174). Such a disjuncture's impact on student performance and throughput are elaborated upon in the discussion chapter of the thesis.

In the context of UKZN, part of minimising the articulation gap for its diverse undergraduate cohort includes curriculum transformation. The UKZN foundation programmes are college-based, and cater for students from disadvantaged schools who failed to meet the entrance requirements and specific selection criteria to enter the mainstream degrees. These include the BSS4 degree for humanities students; AES (Unite Programme for engineering students, BSc4 for sciences); and LMS (BComm4), as detailed in the *College Handbook* (UKZN, 2020).

Innovative teaching initiatives are encouraged by UKZN in order to enhance efficacy and efficiency (UTLO, 2017b). In the Teaching and Learning Office, this manifests as supporting academics to explore innovative teaching styles, address specific curriculum-based intervention methods, and facilitate students' positive engagement with their degree programmes (UTLO, 2017b). This report also describes the academic support services offered by postgraduate students in the role of undergraduate tutors for "specific module content which is defined by academic staff" (p. 67).

The university also offers a first year module called Academic Learning in English (ACLE) for mainstream students; this module consists of lessons on academic literacy and academic writing skills (UKZN *College Handbook,* 2019). In addition, the Writing Place, which currently services the Colleges of Humanities and Law and Management Studies, further augments this effort by offering essay writing and academic writing skills. These are not mandatory, with a few exceptions; these include the four-year professional degree programmes, like in the School of Law, which expects all LLB first-year students to register for the ACLE/English module. In addition, it became mandatory from 2018 for social work first-year students to register for the ACLE module (UKZN, 2019). Furthermore, the established supplementary instruction classes for AES undergraduates are an academic learning initiative to facilitate positive learning and promote success. This will be elaborated on next.

Paideya and Bengasai (2017) from the School of Engineering report on curriculum-based programmes in their systematic review of the academic support intervention programmes at UKZN. They make a clear distinction between programmes that are for "co-curricular" interventions and "intra-curricular" interventions, of which are for "redesigning the curriculum, use of innovative teaching methods or profiling students within the curriculum" (Paideya & Bengasai, 2017, p.71). These programmes are summarised in the following paragraphs.

The *co-curricular* programme relating to supplementary instruction (SI) is currently offered in the College of Agriculture, Engineering and Sciences. It is a facilitative programme (Bengesai, 2011; Paideya & Sookrajh, 2014) that utilises a group work modality to enable better understanding and

comprehension of challenging areas in relation to the module content covered in lectures. It consists of peer-directed, voluntary sessions with non-directive facilitation, integrating content with learning skills and study strategies, as well as interaction within small groups. These informal sessions are guided by an SI leader (a member of staff), and occur outside the formal lecture space. The programme seeks to enhance various learning skills, such as critical thinking and problem-solving, and ultimately, as the evidence suggests, improve performance and achievement. As acknowledged by Harding et al. (2011), the programme's strength lies in the educational principles followed. Harding et al. (2011) assert that these sessions carry a wide range of tasks, and the challenge of undertaking these "should not be underestimated, and the responsibility of the administrative component needs to be clarified before embarking on such an SI programme" (p. 856). Paideya (2011) and Paideya and Sookraj (2011) focused on first-year students in chemistry, while Bengasai's (2011) study focused on engineering students. These studies revealed that this intervention effectively enhances content comprehension, problem-solving skills, critical thinking skills, the ability to ask questions, and improves participation. A study conducted by Hakazimana and Jürgens (2013) on a peer-teaching/learning experience programme in the same college revealed that this method had a positive effect on students' attendance rates, engagement, and overall motivation, ultimately enhancing their performance.

Studies concerning co-curricular academic and psychosocial support for At-Risk students were also conducted by Kalenga and Mngomezulu (2015); Mngomezulu and Ramrathan (2015) and Bulbulia and Wassermann (2015). The early identification of At-Risk students that Higgins-Opitz and Tufts (2014) conducted in the College of Health Sciences revealed that this support system is useful for identifying and then monitoring students who are struggling academically, particularly when the tracking is considered from the first tests written by students.

The *intra-curricular* interventions include the services provided in the Writing Place centres, located in the College of Humanities and the College of Law and Management Studies (Arbee & Samuels, 2015). The UKZN first-year prospectus (2019) conceptualised the Writing Place as a supportive initiative that aims to assist students with academic writing skills development, such as essay writing and referencing, in order to promote desirable academic outcomes. Arbee and Samuels' study focused on the Writing Place's impact on students' academic writing in management studies, where an undergraduate unit focused on enhancing the students' academic literacy and essay-writing skills. The 2015 AMS report describes the Writing Place as a service that "provides developmental guided academic writing skills especially for speakers of English as a second language" (p. 47).

There is an acknowledgment of the articulation gap, which is addressed above. The tutors (postgraduate students) who facilitate these services for undergraduate students (individual consultations) help in the enhancement of their academic writing (essay/assignment) ability, which often requires critical thinking skills. Students are assisted with essay structure, referencing techniques, and citing literature. Group

workshops on essay-writing skills are also provided. The Writing Place services are mentioned in Arbee and Samuels' (2015) study; these authors report that the centre "is not simply about producing writing, it is about producing graduates with the requisite discursive practices of disciplines: from the world of work, the world of academia and the world of academic literacy practices" (p. 66). Boughey (2012) also alludes to the significance of "ongoing capacitation and support (including administrative) of staff and student tutors" (pp. 62-63).

Beyond the Robot System—which is currently used to determine academic standing—a new venture called 'Advisor Autopilot' was piloted to improve the "efficacy of the academic monitoring and support system" (UKZN, p. 98). This was designed by Professor R. Rawatlal from the College of Agriculture, Engineering and Sciences, in order to improve UKZN's AMS; it included a commitment to reporting progress to the university senate, reasserting the commitment to improving AMS.

2.4.4 Governance of support systems

The University Teaching and Learning Office coordinates an initiative that offers a comprehensive first-year orientation programme, where the total supportive network is explained, as demonstrated earlier in Chapter One (Figure 2). This network includes the AMS programme (mentorship, ADOs, Writing Place); college professional services and college support departments (student counsellors; campus health clinic; Risk Management Services [RMS]; student housing; funding, etc.). The orientation programme also explains the Robot System, as this is intended to support students as an early intervention initiative. Zhang et al. (2014) argue that "an early intervention programme based on developmental advising can have a positive impact on the academic success of students in participating courses" (p. 7). As noted in Chapter One, the Robot System exists not only for At-Risk and Underperforming students, but also for those with excellent performance, acknowledging their excellence through receipt of the Dean's Commendation (UTLO, 2017b). At UKZN, Academic Development Officers (ADOs) and mentors who provide AMS services to undergraduate students have shared portfolios. Some of these are adopted individually by different colleges, as dictated by their needs. These intervention offices are discussed below.

2.4.4.1 Roles and responsibilities of support services

These roles and responsibilities are sometimes distinct and other times conflated depending on budgetary constraints, as noted in the AMS report (UKZN, 2017a). The ADO service exists in all four colleges at UKZN, and is offered by postgraduate students whose role is largely to provide academic and curriculum advice for undergraduate students. The ADO service in particular is acknowledged in the QEP report (UTLO, 2017b) as a means to "offer support related to students' overall module/curriculum choices within degree structures, and guide students towards degree throughput" (p.

67). Ramrathan and Pillay's (2015) study emphasises the importance of adequately equipping ADOs with "expertise and knowledge to guide and support students, to ensure successful social and academic integration" (p. 21). Without this, such support can be construed as merely "superficial counselling to student(s)" (Ramrathan & Pillay, 2015, p. 20). This service is pivotal, since the suggestions and recommendations made by ADOs for module selections affect the students completing their degrees. Sound advice will prevent a situation of 'degree not complete', which is a significant source of stress and anxiety for students. This also affects the university's throughput rates, and leaves students despondent without completing their degrees or due to dropping out.

UKZN also offers a student mentorship programme for undergraduate students in the Colleges of Humanities and Law and Management Studies. In simplest terms, mentoring is established between "a less experienced mentee and a more experienced mentor" (Gimbel & Kefir, 2018, p. 25) to support students further. Gershenfeld (2014) also emphasises the importance of clarifying the mentor's roles and responsibilities, arguing for a clear "structure for accountability, and that studies need to address the training and other support components available to mentors and mentees" (p. 386). At UKZN, a considerable component of the mentor role offered by senior students is monitoring and supporting not only first-year students, but also students with At-Risk status (UKZN, 2019). Its facilitative intention, to promote success, is also acknowledged in Pillay's study (2011) from another SA university; this cites the purpose of the mentoring service, particularly for those at high risk of academic failure, as a supportive programme to enhance academic success. Mentors are trained to assist undergraduate students with a range of social and other skills, such as first-year orientation, navigating the system, and offering time management and examination preparation workshops (UKZN, 2019). Gershenfeld (2014) recommends continuous developments and improvements in the mentorship programmes offered to undergraduate students, given the cost implications for providing the mentors who conduct these programmes.

At UKZN, AMS reports from 2015 and 2017 emphasise operational challenges that impact the ADOs and mentors, and hinder the effective delivery of this service. Other impacted areas include the staff-student ratio and contract-based appointments, which affect the sustainability of such student support services. Arbee and Samuels (2015) also see these challenges as "limit[ing] writing centres" (p. 50).

The quality of student support services has an incremental effect on every aspect of student support. Kalenga and Mngomezulu (2015) confirm the increasing prevalence of psychological distress among At-Risk students. The role of a student counsellor/psychologist revolves around the overall psychological wellbeing of students. This is mostly a self-initiated, help-seeking space, though sometimes students may also seek counsel through referrals. It offers a voluntary, contractual, confidential service for students to self-reflect on various pervasive psychological issues and challenges that interfere with an optimal learning experience and their attainment of personal goals. Advice and

guidance concerning career counselling; mental health and self-care, including awareness of depression; gender-based concerns; and academic-related workshops, such as stress and time management, exam preparation, presentation skills, study skills and learning strategies, are also offered by counsellors to students. However, the Student Support Services division is underutilised (UTLO 2016). Norodien-Fataar and Daniel's (2016) study establishes that, while students had an awareness of the services offered to facilitate their academic and personal development—including the voluntary, confidential services offered by the student counsellors/psychologists—they reported a "lack of engagement with student counselling" (pp. 99-100). Skinner and Pitzer (2012) acknowledge the challenges that relate to poor engagement and participation by students in academic support programmes, and Drake (2011) comments that "attendance is not always an easy task" (p. 140) for students whose academic performance is compromised.

In terms of collaboration, particularly between ADOs, mentors, and student counsellors, a referral system acknowledged in the Academic Monitoring Support and Exclusion Policy (UKZN, 2009, 2012) and outlined earlier in Table 1 provides additional support options for students, some of which are external to the university and dictated by expertise. For example, student counsellors occasionally refer students to hospitals for further psychological evaluation and treatment.

In conclusion, this literature review chapter discussed the interactional complexities within the macro systemic realities of students in the South African educational landscape. In addition, it contextualised the dynamics that inform the UKZN context. The next chapter presents the theoretical framework for the study: Bronfenbrenner's (1979) bioecological model of human development, and the aspects of self-regulated learning (SRL) theory that have been integrated into the model to demonstrate how the transactional relationship between students and their related environmental factors may negatively affect the quality of their learning efforts and performance outcomes, and ultimately lead to them reaching an At-Risk status.

SECTION TWO: THEORETICAL FRAMEWORK

2.5 Introduction

This section begins with an overview of Bronfenbrenner's bioecological systems framework, followed by a discussion on the synthesis and synergies of the Bronfenbrenner's bioecological systems and SRL theories, with a review of the potential critiques that impact on challenges to their applicability.

2.5.1 Bioecological system's theory

In the study, Bronfenbrenner's (1979, 1995, 2005) bioecological systems framework is utilised as a conceptual framework to understand the At-Risk student in context. This framework was deemed most appropriate for this study, as it accommodates the analysis of various systems of influence on the HE

context in South Africa. Its ultimate impact on individual students is also acknowledged by Swartz et al. (2018). The framework allows the examination of multiple contextual factors that impact and affect the academic development, success, and social skills of students with At-Risk status, as well as how At-Risk students' transactional and reciprocal interactions with other systems in their immediate academic and social environments impact and influence their learning processes and outcomes.

Bronfenbrenner's (1979) philosophical perspective of human development sees that development is the product of interrelated nested systems and layers of influence, demonstrating the complexity of the interrelated and interdependent nature of the bi-directional transactions between an individual and their surrounding context (Bronfenbrenner & Morris, 1998; 2006). This framework focuses on the nature of the relationships that students have with their self-systems, their immediate university environment, and their broader societal environment. It directs understanding of how their circumstances impact their learning activities, academic behaviour, and their psychosocial skills within and across multiple layers of interrelated systems. Within the bioecological systems theory schema, these layers consist of the: i) microsystem; ii) mesosystem; iii) exosystem; iv) macrosystem; and v) chronosystem (Bronfenbrenner & Morris, 1998). These five interrelated environmental systems influence and frame the lens of an individual's development and social functioning (see Figure 3).

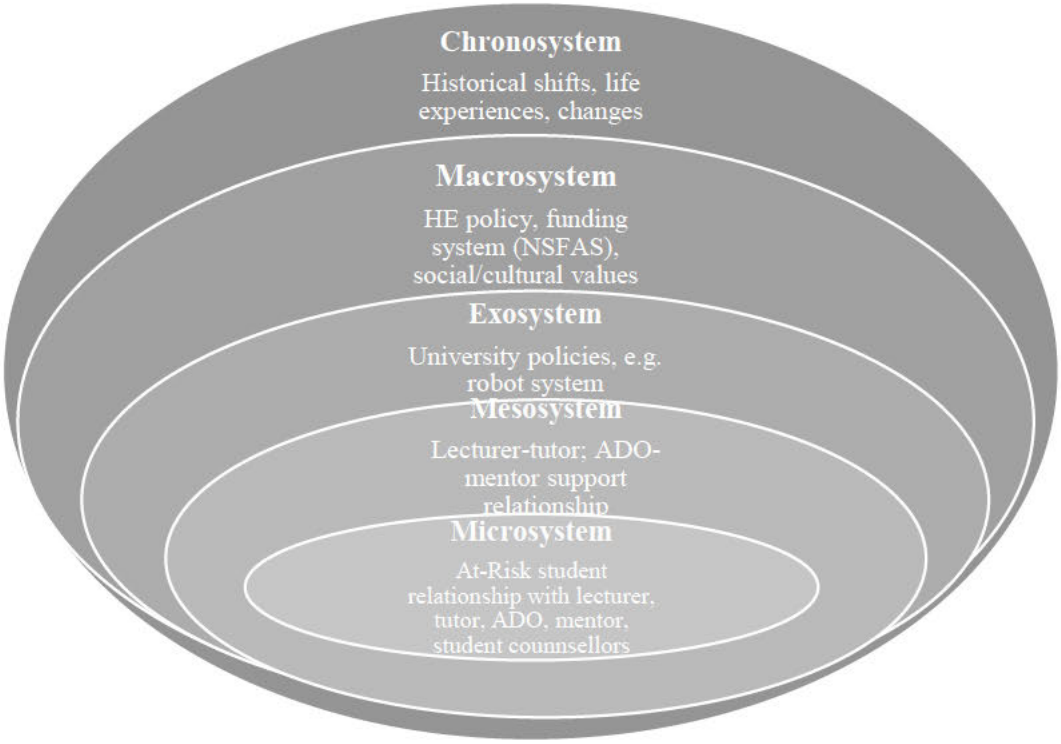

Figure 3

The five concentric layers of Bronfenbrenner's Bio-ecological Systems Theory as applied to the At-Risk student

2.5.1.1 Microsystem

Bronfenbrenner and Morris (1998) describe this pivotal entry level where the individual resides as the "centre of gravity" (p. 1013). At this level, the individual has the most direct dynamic personal interactions with multiple social systems of influence in their immediate surroundings. This level encompasses the student's i) intrapersonal characteristics; and ii) the interpersonal relationships that have the utmost impact on the student's intellectual development, belief systems, and values, and which influence the quality of that student's social interactions, academic behaviour, and general psychological wellbeing (Bronfenbrenner, 1979). At the intrapersonal level, the person is understood to have unique genetic, biological characteristics that influence their personality traits (Bronfenbrenner & Morris, 1998, 2006). This model describes how humans learn certain behaviours and acquire skills (such as cognitive skills, self-knowledge, and social skills) through the interactions that occur between themselves and the influences within this context (their immediate surroundings). The quality and nature of this reciprocal transaction between the individual and their immediate systems has an influence on their quality of growth and social skills development.

The interpersonal social systems in the immediate environment of At-Risk students include the presence and nature of their relationships with others, such as peers, teachers, lecturers, tutors, mentors, and ADOs. It may also include parents and neighbours, given that academic activities occur beyond the university. These systems of support impact students' academic experiences by influencing, for example, the degree of (dis)engagement with academic activities, and their belief systems. The degree and quality of support provided by such social factors and relations influence, for example, a student's sense of self-worth and resilience (their intrapersonal reality), as well as providing sufficient space for them to develop deep critical learning skills. This has significant influence on their degree of engagement at the level beyond it (the meso-level), as indicated in the examples below:

- The values and belief systems instilled by and observed in the parent-student relationship (Alvi et al., 2018) shape students' perceptions and attitudes concerning various life situations. In a university context, the parental role may include promoting a conducive home environment, and financial/emotional support to enhance the student's motivational beliefs and interest in their studies. However, other factors such as parents' lack of knowledge about the university context (Wilbur & Roscigno, 2016) regarding, for instance, degree structure, volume of work, and academic expectations, may inhibit their capacity to adequately support their children.
- The nature and quality of the student-lecturer relationship influences academic development, such as the student's expectations and perceptions of the module content, which in turn may affect their level of commitment and effort to enhance the quality of their performance and outcomes.

Thus, the model provides a framework through which it becomes possible to examine the factors that shape the skills (academic, social) of At-Risk students, and which influence their overall levels of engagement or disengagement with, for example, AMS personnel and support intervention programmes, as well as the subsequent degree of impact on academic activities.

In general, the quality of student interpersonal relationships affects decision-making capacities, self-efficacy and belief systems, and the social interactions which affect academic performance by influencing behaviours and general psychological wellbeing (Bronfenbrenner, 1979). Following this, and in relation to this study, it is imperative to consider how society celebrates success and perceives failure, and how these social environments as a result may sometimes create conflicting messages which confuse students experiencing different degrees of academic failure. Essentially, this refers to how the microsystem is affected by wider societal realities in the mesosystem and beyond.

2.5.1.2 Mesosystem

This level refers to relations between two or more microsystems or connections between contexts (Bronfenbrenner, 1979). It is described by Bronfenbrenner (1977) as "the interrelations among major settings containing the developing person at a particular point in his or her life (p. 515), beyond their immediate individual level. Thus, this meso-level is comprised of a "set of microsystems constituting the individual's developmental niche within a given period of development" (Bronfenbrenner, 2005, p. xiii). In the study, the meso-level demonstrates the dynamic interplay that occurs between the facets of the microsystem, and how these components interact to influence and shape student academic development and social skills. At UKZN, the Teaching and Learning portfolios consist of a number of support systems that facilitate student academic development through various intervention programmes geared toward promoting positive participation, retention, and throughput, thereby minimising dropout rates—as highlighted in the literature in Chapter One. These portfolios consider the nature and quality of the relationship between the students and the academic support programmes available to them (e.g. lecturers, tutorials, ADOs), and the quality of their engagement with the module content. This degree of influence will either encourage or deter their learning experiences, and promote or inhibit deeper understanding of the content. Another example is the influence of university infrastructure and the resources, such as the library and access to internet and lecture venues, on the students' quality of learning and social development. A lack of clear communication or integration between these systems, whether to do with quality and differences in teaching styles and teaching aids, or operational challenges (such as class size), measures out a consequent impact on the quality of students' learning. How students perceive these differences may also promote or hinder their engagement within these systems.

2.5.1.3 Exosystem

This level is characterised by the systems which influence individuals indirectly, and which are used to govern and regulate their academic development and behaviour. According to Bronfenbrenner (1979), this system comprises "specific social structures, both formal and informal, that do not themselves contain the developing person but impinge upon or encompasses the immediate setting in which the person is found, and thereby delimit, influence, or even determine what goes on there (p. 515). In the context of the current study, such systems include the university's policies and rules that regulate the governance of the institution and the academic behaviour of students at academic risk. Although students do not have a direct contact on this exo-level (besides, for example, through formal engagement mediated by the Student Representative Council), these policies directly influence their academic performance. For example, the teaching and learning policy for AMS (the Robot System) as a tracking mechanism identifies those who are challenged academically, and refers such students to appropriate systems of support situated within the level of the mesosystem. These policies and monitoring and support systems are systems of influence that demonstrate the university's commitment to supporting student development and success, as well as its capacity to improve retention and throughput rates, as expected by the DHET. This is further detailed in the macrosystem discussion below. The effects of these policies, as actuated within the university, are evident in the earlier discussion of the mesosystem. The university's funding policy further offers, for example, the NSFAS, financial aid, bursaries, and scholarships. However, for students at academic risk, their underperformance has huge ramifications in the area of financial support, which may be withdrawn and potentially lead to these students dropping out of the university. At UKZN, the Robot System is intended to mitigate the effects of students' academic underperformance. As part of its early identification system, it operates on the basis of each semester's proximal periods to monitor students' academic progress. This process is intended to allow students time to self-reflect on their development. Following this, the available resources and support systems offered afford them guidance and support to identify their challenges, modify their academic activities, and set new goals towards success.

2.5.1.4 Macrosystem

Bronfenbrenner (2005) describes the macrosystem as the "superordinate level of the ecology of human development; it is the level involving culture, macro-institutions (such as the federal government) and public policy" (p. xiv). He further posits that this system "influences the nature of interaction within all other levels of the ecology of human development" (Bronfenbrenner, 2005, p. xiv). This broad level is comprised of the various systems that manage and coordinate education in the country, as guided by the South African Constitution (1996). These macrosystems are constantly interacting in response to the realities of the country's educational landscape and the lived experiences of its inhabitants. The DHET, for example, regulates its activities by attending to the demands and requirements of its student

population, thus indirectly facilitating students' opportunities to access higher education (Bloom et al., 2014). Moreover, the influence of societal factors—such as one's access to infrastructural resources, socioeconomic status, and educational background—either enables or inhibits students' opportunities. As discussed earlier, for example, the extent of student unpreparedness for HE as a result of coming through the BE system has a major detrimental impact on student performance.

This system demonstrates the interactional nature of how the institutional and student levels work to either promote or hinder SRL in higher education. Both the students and these macro-institution systems have the capacity to self-regulate. Thus, within this wider interactional environment, both students and institutions can influence their own practices, make appropriate adjustments, and logically effect the necessary changes. However, this requires mechanisms of monitoring and evaluation, reflection, reflexivity, and accountability, and subsequent supportive processes to actuate necessary change. It is detrimental if the different systems at various levels fail to appropriately reflect on outcomes and experiences, and are unable to facilitate the necessary changes independently or align themselves in order to ensure coherence and in turn facilitate the wider interdependency in the HE landscape. This could occur due to the shortcomings of one system, or the impacts of some systems that hinder the actions of others. Hence, the necessary and logical inquiry becomes: How are these systems regulated?

When students drop out, the recovery (or lack thereof) of NSFAS funding immediately affects the pool of finances available for allocation to future students. Poverty and the concomitant deprivation of other crucial resources continue to prevail in South Africa. To date, the constitutional right to access education is undermined and affected by the lack of resources in the majority of South African schools (Southall, 2016). Previously well-resourced schools in South Africa continue to be well resourced, which invariably affords those privileged learners the best education experiences. Those who do not possess such an education remain trapped in the cycle of poverty, perpetuating the status quo of poorly resourced institutions, which in turn impacts the students' ability to even qualify to enter the HE system (CHE, 2016). This 'poverty trap' holds students in their inherited contextual circumstances of deprivation. Given the socioeconomic challenges of the majority of its citizens, the South African government provides NSFAS to facilitate much-needed assistance to financially needy students.

2.5.1.5 Chronosystem

In the South African education landscape, the chronosystem speaks to the post-1994 political and historical shifts which were enacted in the attempt to increase equity and access to HE, as discussed in Chapter One. The South African education landscape has witnessed a seismic shift, both politically and economically, identified by Swartz et al. (2018) as "the end of apartheid, the emergence of neo-liberal economic thinking and protest against colonial modes of being" (p. 92), the latter experienced through the most recent #feesmustfall student protects discussed earlier.

Ecological changes over time due to political and economic shifts are shown through the chronosystem to have provided access to HE and adjusted university systems and policies to respond to the transformation agenda. These changes are reflected in the ever-evolving calibre of students accessing HEIs, and in the curriculum changes made to accommodate at-risk students. Over time, HE has seen massive shifts in access and equity.

The chronosystem level describes life events that facilitate and influence the nature of knowledge instilled, skills developed, and behavioural outcomes over a period of time. It explains an individual's life experiences in the context of time and as influenced by the various systems in their environment, as well as how life events and education experiences at each developmental phase influenced the student's perceptions, attitudes, belief systems, behaviour, and social skills. It also considers changes in the environmental social systems of support over the lifecycle, for example, parents' retrenchment, divorce or death, and how this impact on the student's financial support system. Changes in living arrangements (such as a student moving out of home to stay at university residences during the term) also impact on the student's capability to manage themselves autonomously.

2.6 The Synergy of the Bioecological Systems Framework with SRL

The bioecological model provides the conceptual framework for the study, emphasising the various reciprocal relationships within and between systems of influence on students. The context in bioecological systems theory plays a fundamental role in influencing the development of skills that shape an individual's behaviour (Bronfenbrenner, 1979; Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 1998).

The SRL cyclical model, on the other hand, provides insight into the influences of these systems on students' SRL capabilities for academic progression in terms of levels of engagement and participation, retention, which in turn impact university throughput and dropout rates. SRL cyclical processes acknowledge the influences of the context in which learning occurs in determining the effort that students exert, which in turn facilitates the nature of the self-regulatory skills they develop and employ (Ben-Eliyahu & Linnenbrink-Garcia, 2015; Jakešová et al., 2015; Karabenick & Zusho, 2015; Panadero, 2017; Zimmerman, 2013). This also explains how prior learning experiences manifest and reflect differences in students' self-knowledge, values, learning approaches, and motivational belief systems regarding their capabilities to self-regulate within the university system.

In accordance with the SRL model, a student plays an active role as an agent for the self-regulating and self-monitoring of their academic development, success, and the attainment of their personal goals. Similarly, from the bioecological system's perspective, the degree and quality of support provided by social systems influence students' learning capabilities. For example, some learners may be socialised

with an ethos which implicitly suggests that help-seeking is indicative of weakness or deficiency, as noted by Volet (1997), or they might come from schools where teachers regulate the learners rather than encouraging critical engagement with the content. This engenders co-dependency, which, when perpetuated beyond BE, becomes a challenge for students transitioning to HEIs where learning is expected to be self-directed.

Other concomitant factors are the underlying environmental-contextual factors assumed accountable for inculcating prior knowledge, belief systems, attitudes and perceptions among At-Risk students. These are influenced by the dynamic transactional interplay between the individual and their social-environmental systems. The quality, value, and effort invested in development during the inter-relational process of knowledge acquisition, for example, impacts the quality, strength, and sustainability of the student's academic and social skills. Various studies (Karabenick & Zusho, 2015; Lichtinger & Kaplan, 2015) have found this iterative transaction between an individual and their related social-environmental systems to be complex, impacting on the individual's "psychological growth" (Bronfenbrenner, 1979, p. 8).

Ben-Eliyahu and Bernacki's (2015) study on an integrated SRL further recognises the nature of the impact an individual's interpersonal relations (such as family pressure/stressors or peer pressure) has on their capability to effectively apply various SRL strategies directed at achieving learning goals and success. The broader societal factors (Ben-Eliyahu & Bernacki 2015), such as inequalities in socioeconomic status, unemployment, and the different education systems that students come from (disadvantaged, advantaged/well-resourced school systems) may enable or hinder a student's level of preparation for HE expectations, social integration, and academic adjustment, as noted in the literature review earlier. Dent and Hoyle (2015) also acknowledge that the degree to which an individual exercises SRL processes may be influenced by factors across and within the multi-systems of influence that impact and "manifest in the task, sample, and setting" (Dent & Hoyle, 2015, p. 166). Against this background, integrating aspects of the SRL model into the conceptual framework (i.e. bioecological system) provides an understanding of the factors that influence the progress of At-Risk students.

As argued above, when provided with a task in HE, students are expected to self-regulate their academic activities and their metacognitive processes of self-regulation, such as planning and goal-setting. Their degree of motivation to engage or disengage with an academic activity in a given timeframe will ultimately influence their performance outcomes. The SRL model demonstrates how the inability to self-regulate in a learning environment increases the likelihood that the student will acquire an At-Risk status for academic progression.

By considering the SRL process in conjunction with the bioecological systems theory, as discussed above, a more in-depth understanding of the factors influencing students' academic performance can be found. This suggests that these two theories inform each other, together effectively demonstrating

the factors and causal processes that impact on students classified as At-Risk. For example, as noted by Volet (1997) in the discussion above, 'reactive learners' may not view help-seeking positively. It may not have been an ethos inculcated by their BE experiences, or encouraged in the various social sources in their ecosystem. The connotation of deficiency attached to help-seeking may thus undermine their independently motivated desire to seek assistance when it is needed.

Further, given the general lack of preparation among students due to the shortcomings of BE, the mechanisms provided by the exosystem (such as the AMS Robot System), which are meant to be facilitative, need to acknowledge the large numbers of students in this situation and the intensiveness that is therefore required of the service. If the student is proactive, they will look at their academic expectations and tasks, and maximise their available resources. However, distracted and reactive students who prioritise other activities and underutilise these resources will be unable to actuate SRL. Bioecological system theory importantly reveals that the complex interactions of the various systems may give rise to unfavourable influences which are not conducive to instilling or supporting the SRL capacities of students. Multifarious factors may ultimately impact on whether a student is proactive or reactive in SRL. A central line of inquiry must then question the extent to which these produced realities cohere with the expectation of what could become an effective and supportive experience for At-Risk students.

These theories demonstrate that the theoretical assumption of SRL processes and social skills is contextually embedded in the bioecological systems model. They operate in a continuous, reciprocal, transactional interplay between the students' learning context and social support systems (Ben-Eliyahu & Bernacki, 2015; Vauras & Volet, 2013). Such influential intrapersonal, interpersonal, and contextual factors are interconnected hierarchically, from Bronfenbrenner's perspective (from the microsystem through to the macrosystem, including societal factors); in addition, they are cyclically interrelated (Zimmerman & Moylan, 2009), which directly influences SRL from forethought to the self-reflective phase. Both models suggest that any dysfunctionality in one system or phase will result in a higher chance of dysfunctionality in the proximal systems or phases that follow.

Together, these theories provide a broader and more thorough framework to demonstrate the degree to which students who are academically At-Risk engage with their micro-intrapersonal factors during learning, including the metacognitive, motivational belief systems for SRL, which are necessary to function autonomously and promote the attainment of personal goals. Both theories afford the exploration of these complexities, methodologically and analytically, and demonstrate how each complex bioecological system, within its limitations, either promotes SRL or creates challenges for students to regulate themselves in and across various contexts. This underlines the lifecycle of academic phenomena, an interpretation also addressed by Ben-Eliyahu and Bernacki (2015).

At the microsystem level, the goals of academically At-Risk students are often directed at performance, successful degree completion, and employability for the goal of financial independence and to contribute to family financial needs for better living standards. The systems beyond the level of the microsystem—that is, from the meso-level (such as the Teaching and Learning portfolio, student academic support and personal development), the exo-level (such as the university's policies like the Robot System), and all the way up to macro-level (the constitutionally defined imperatives of the DHET)—share similar goals directed at promoting students' access, academic performance, and degree completion within the regulated time, and to create a space for the next generation of students.

2.7 Critique

Several studies have critiqued these models. The discussion below presents various limitations and assessments offered by several researchers in the literature. By interrogating such limitations, it becomes clear that they are obviated in the context of the present study. By and large, after integrating aspects of SRL into the bioecological systems model of influence, the existing limitations may not burden this study but instead will facilitate a more comprehensive analytical frame of the complex causal relations which affect At-Risk students' academic performance. To that end, the following section summarises some of the salient limitations acknowledged by other researchers regarding the bioecological framework and SRL. Each acknowledged critique in turn is supplied with a counter-response. More importantly, the bioecological model is used as a broad conceptual framework, in which it is not used in causality, but rather as a broad construct to emphasise the different spheres of influence on the individual.

2.7.1 Critiques of the Bioecological Systems Framework

2.7.1.1 Complexity and lack of a single definition

Despite its extensive use and the ongoing studies framed by the theory that relate to broad, complex and ever-changing social realities, the model's complexity and the lack of a single definition for the bioecological system (Bronfenbrenner & Morris, 1998, 2006; Elvi et al., 2018; Paquette & Ryan, 2001) nevertheless open it up to criticisms that demand more precise and complete explanations of the various systems which comprise the overall schema. However, the model is described according to the different domains that make up the framework, and thus does not need to rely on a single definition. Further, given that the framework is meant to facilitate the analysis of diverse environmental systems, providing a more precise or overly specific explication of each system would undermine the framework's capacity to produce analyses related to each study's particular specificities.

Although the model in its entirety is largely accepted as beneficial in understanding human development (Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 1998, 2006; Christensen, 2010, 2016; Elvi

et al., 2018), it is nevertheless challenging to evaluate each component empirically (Kail & Cavanaugh, 2010; Paquette & Ryan, 2001). To mitigate this more difficult aspect, the study concentrated on how each component is interrelated and effectuates students' capacities for SRL, as per the study's scope, and therefore did not need to intensively evaluate each component.

It is a challenging explanatory model to apply, given that everything in an individual's environment needs to be taken into account. It requires an extensive scope of ecological system detail with which to build up meaning (Christensen, 2010, 2016). Although this study acknowledges this limitation, it specifically considered the HE environment's scope and context concerning the problem of SRL in academically At-Risk students. This provided a focal point through which to apply the model, in turn facilitating a more in-depth understanding of At-Risk students' educational realities within the context of the study problem.

2.7.1.2 The agency and autonomy of the subject

There is a general failure to acknowledge that individuals may positively cross boundaries and develop complex identities (Woodside, 2006). This conceptual limitation does not burden this study. It is, in fact, obviated, given that SRL deals specifically with students' motivations and goal orientation as critical factors in academic success. Further, the systems around individuals are not always linear (Woodside, 2006). Although the model may be interpreted this way, this study views students holistically and contextually as they intersect with their diverse systemic realities. Given the focus of the study, and that successful SRL depends on the agency of the individual, the combination of the two frameworks avoids these reductive assumptions. Although students may indeed be conceived of as products of their environments, they are also understood to be capable of affecting change within their own lives and in the broader systems of which they are a part. This study holds as a fundamental premise that, despite the interrelatedness of various systems, individuals have the capacity to self-master. The study questions how HE environments can facilitate or burden such autonomy, and further queries how students themselves can facilitate or burden their autonomy and agency.

There is a lack of recognition that an individual's constructions of family (or other relevant support structures) are more complex than traditional theories may account for, with a preoccupation with achieving 'normalcy' without a common understanding or consensus of what is 'normal' (Kail & Cavanaugh, 2010; Paquette & Ryan, 2001). This study was acutely aware of the complexity of the South African definition of family and the associated prevailing dynamics. Moreover, the traditional or stereotypical familial roles and responsibilities may or may not impact a young adult. Add to this, existing sociocultural and economic complexities mean that this stereotypical view of 'normal' is not shared across all families. It misses the tension between control and self-realisation in hierarchical relationships, such as between student and parent, and student and lecturer. This study acknowledges that, despite the hierarchical relationships within societies, young people can and do shape culture. The

study was cognisant of this limitation. To some extent, by incorporating SRL, the tension between control and self-realisation is addressed, as made clear in the analysis chapter.

2.7.1.3 Conceptual poverty

The framework does not give adequate attention to the biological and cognitive factors of an individual's development (Ben-Eliyahu & Bernacki, 2015). However, in this study, the biological and cognitive capacities of students are not in question. Given that students have already been granted access to HE, this implicitly suggests that such students do at least have the potential to succeed academically. The university has the mandate to provide an enabling learning environment to aid the development of students from diverse backgrounds who are at different stages of academic development. Instead of needing to account for biological and cognitive factors and deficits, which are implicitly acknowledged, the model allows for emphasis on the importance of the inherited flaws which, in the case of this study, exist specifically in the landscape of the BE system.

2.7.2 Critique of the SRL

SRL models are recognised as both comprehensive and complex (Ben-Eliyahu & Bernacki, 2015; Dent & Hoyle, 2015; Panadero, 2017), which gives rise to some of their main critiques, including definitions and the ability to render validity and reliability.

2.7.2.1 Definition

The first significant conceptual confusion relates to the definition of SRL, which has been described as a process that "lacks unified definition", specifically in the "conceptualisation and operationalisation of self-regulatory capacity" (Kovács, 2012, p. 345). However, Jakešová and Kalenda (2015) argue that the various SRL models available are developed from "theoretical definitions of SRL and validated in practice based on empirical research" (p. 179). Bidjerano and Dai (2007) also acknowledge the overlapping processes.

2.7.2.2 Validity and reliability issues

Jakešová and Kalenda (2015) posit that "there is no basic model of SRL demonstrating adequate validity and reliability" (p. 179). The study accepts the SRL model's comprehensiveness and complexity, and how this makes validity and reliability issues challenging to resolve when it is employed as a modality purely on its own—particularly in the South African context, as noted in the earlier literature review. Panadero (2017) suggests two possible options to address this issue for future research: "a) conducting one study with very large variables; b) conducting a number of studies with the narrow approach" (p. 23). The current study attempted to address this methodologically by adopting a mixed methods design,

where SRL processes and strategies were investigated using both qualitative and quantitative research methods.

2.7.2.3 SRL is complex, intensive, and extensive

Used in its entirety, SRL can be complex, intensive, and extensive. To that end, not all SRL constructs were studied intensively and extensively, or even methodologically. This choice was guided by the scope of the study and its objectives. However, the volume of data pulled from each aspect ensured that the analysis offered a comprehensive understanding of the phenomenon. Further, although Karabenick and Zusho (2015) and Lichtinger and Kaplan (2015) note that this may be a limitation, they nevertheless posit that SRL research does not allow for each domain to be interrogated comprehensively. This is a limitation that the study accepts, and which is addressed in the conclusion.

2.7.2.4 Attributional shortcomings

Although Weiner (1985) sees that some attributing factors may promote persistence and perseverance, and sustain motivation in the face of underlying barriers to students' success, the nature of the cyclical model is not explicit on how At-Risk students are affected by broader contextual factors (such as financial challenges) which interfere with their focus, and how these can be controlled and monitored. Panadero (2017) posits that the SRL model still requires a more precise explanation and further development in the areas of "how self-regulation works, [and] the interactions that lead to attributions" (p. 24).

Rabin et al. (2011) note that:

> "..college students are faced with multiple tasks and deadlines that need to be accomplished within designated time frames, while much of their time is unstructured and unregulated. Because delay behaviours can have serious negative consequences, much research has focused on identifying the factors that produce and sustain academic procrastination so that effective interventions may be implemented". (p. 355)

The concern is, if students' time is unregulated, how does this fit into self-regulation? For example, in the context of the transition from BE to HE, how is the cycle of the BE ethos of regulated time broken to meet the unregulated time ethos in HE, so that students maximise their time adequately? When given a task, such as planning and goal-setting, students are expected to self-regulate their academic activities and the metacognitive processes of effort self-regulation. Their degree of motivation to engage or disengage with an academic activity in a given timeframe will influence performance outcomes. Thus, academic procrastination is an integral part of SRL, and will be discussed in greater detail in this study.

2.8 Conclusion

In the context of South Africa's inherited legacy of structural discrimination and systemic inequality, the bioecological systems model provides a focus on the specificities of the circumstances that affect many HE students at academic risk. Many students entering HE are challenged by the deficiencies evident in the BE system. The dynamic interrelationships between the various systems outlined in the bioecological model provide a thorough interpretation of how immediate and distant systems may impact students' relative academic success, from the microsystemic to macrosystemic levels and throughout their lifetime.

Given the fact that individuals are not merely the products of their circumstances, the SLR theory—which by its nature places the core motivations, proficiencies and experiences of the student centrally—brings the bioecological systems framework into balance. The critiques reveal how the limitations of the study of students' capacity to self-regulate were better understood by incorporating the bio-ecological theoretical framework. Concurrently, by supplementing the bioecological model with the SRL model's focal lines, its conceptual failings were obviated for this study's purposes. Together, they provide a more comprehensive framework for analysis.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology chosen for the study. It commences with a description of the study setting, followed by the ethical protocols that guided the study. Thereafter, it focuses on the philosophical assumptions and beliefs which guided the rationale for this study, and the selection of research processes which were followed. The mixed method research design adopted for the study and the justification of the exploratory sequential mixed methods research selected is presented, followed by the discussion on the phased research processes undertaken to answer the study's research questions. The qualitative study in phase one is presented first, followed by the quantitative study in phase two. Each phase entails the research design, sampling strategy, selection criteria and procedure, data collection, ethical considerations, and reliability and validity issues of the research instruments utilised, data analysis methods. The last section presents the integration of both research methods.

3.2 Study setting

The study is located at the University of KwaZulu-Natal (UKZN) in KwaZulu-Natal province, South Africa. UKZN is in the province of KwaZulu-Natal in South Africa. This university was officially renamed the University of KwaZulu-Natal on 1 January 2004, after a merger between the University of Durban-Westville and the University of Natal. Following the merger, it embarked on structural reorganisation, and a college model began operating in 2012. As such, UKZN is recognised as one of the largest universities in sub-Saharan Africa (UKZN, 2007), with five campuses and four colleges distributed within Durban and Pietermaritzburg, the two main cities in the province. Table 2 below presents an outline of each college and the associated schools that offer various degree programmes, as well as their campus location. This table is adapted from the UKZN undergraduate prospectus (2019).

Table 2

UKZN college, schools and campus structure.

College	Schools	Campus Location
Agriculture, Engineering & Science (AES)	Agricultural, Earth and Environmental Science Chemistry and Physics Engineering Life Sciences Mathematics, Statistics and Computer Science	Howard College; Westville; Pietermaritzburg
Health Sciences (HS)	Clinical Medicine Laboratory Medicine and Medical Sciences Health Sciences Nursing and Public Health	Howard College; Medical School; Westville; Pietermaritzburg
Humanities (HUM)	Applied Human Sciences Arts Built Environment and Development Studies Education Religion, Philosophy and Classics Social Sciences	Howard College; Edgewood; Pietermaritzburg
Law & Management Studies (LMS)	Law Business and Leadership Accounting, Economics and Finance Management, IT and Governance	Howard College; Westville; Pietermaritzburg

Each college is led by the deputy vice chancellor (DVC) and a head of college. Leadership support is from the deans of the college: teaching, learning and research; and the college director of professional services; the managers of college: administrators, human resources, finance, Student Support Services, and public relations. The student services division is the fifth structure and is under the executive dean, and this office includes the health clinic; residences; disability unit; funding; and sports.

Research participants were registered undergraduates from the following colleges (AES, HUM, HS and LMS) and four campuses: Howard College; Westville; and Edgewood, are all in the Durban metropolitan area; and the Pietermaritzburg campus is situated approximately 80 kilometres away from Durban in the uMgungundlovu municipality. The Nelson Mandela School of Medicine was excluded from the study; the reason for this is discussed later in the chapter.

3.3 Study permission and ethical principles

The following discussion pertains to the ethical considerations and process that guided the execution of the current study. The section commences by declaring the synergy between my position as a researcher

and a psychologist/student counsellor at the university where the study was conducted, as acknowledged above; thereafter, ethical considerations and procedures are discussed.

3.3.1 The researcher's positionality/reflexivity

This research area developed from my observation as an insider to the UKZN system, where I currently occupy the position of psychologist/student counsellor in the Student Support Services office. This experience allowed me to closely observe and examine the potential limitations of such a system, having worked intimately within its parameters. I therefore begin by declaring the synergy between my position as a researcher and a psychologist/student counsellor at the university where the study was conducted. In particular, due to my position as a UKZN staff member within Student Support Services—the division which participants were expected to critique—this declaration is necessary.

From the inception of the study, in taking the role of the researcher, I was acutely aware that I would be challenged to maintain an objective observer position while working with participants who were students with At-Risk status. In my position as a psychologist/student counsellor and researcher, I make reference to Chenail and Maione (1997) who comment that "this may lead to a premature narrowing of focus or, worse yet, to a view of the phenomenon which is replete with blind spots from this already-in-place lens" (p. 5). As the researcher I acknowledge the benefit of my position, since it allowed for deeper reflection and engagement—particularly as an insider to the UKZN system, and specifically to critique the potential limitations of this system which I have worked within for many years. The study clarified how the psychologist' role as a researcher reassert individuality and privileged the individual's voice over that of professionals. Professionally, as a psychologist registered with the Health Professions Council of South Africa (HPCSA), I reasserted my ethics. My engagement with any research participant prioritised their agency. Moreover, the researcher stance of comprehensively and contextually understanding the student participants from the bioecological perspective was maintained throughout the study.

A concomitant ethical aspect pertained to the inherent power dynamics. I dealt with this logically, by reiterating that each participating At-Risk student's involvement was purely voluntary, and there were no punitive outcomes should they not wish to participate. In addition, when I engaged with participants, I reiterated the study's focus and maintained that their responses needed to be independent and not influenced by my presence, as I in this context would occupy the space of a researcher. This declaration ensured that the study's quality was not negatively impacted upon by being an insider-researcher (Finefter-Rosenbluh, 2017; Greene, 2014).

To ensure that I maintained an ethical stance throughout the research process, I was guided by the supervisory process. This allowed me to address any ethical dilemmas that presented themselves. Moreover, being afforded a space to do so, I engaged with critical friends, fellow psychologists and

PhD candidates, and thereby ensured that I did not digress from the research process. I also maintained a journal, and all conflicting thoughts were interrogated to enable recommitment to the focus of the study.

Accepting my insider status afforded me a position of strength. This position is acknowledged by Bridges (2001), who states that insiders know which questions to ask relating to the current contextual challenges. However deeply I may be situated within such a structure of the university, I expected participants to critique these systems honestly. My mode of engagement was therefore that of a researcher who prioritised the students' lived experiences within the system.

Reflexivity was maintained throughout the research process using tracked journal notes. This allowed for a natural and immediate self-analysis of perspectives and biases, which was imperative for the study. Ensuring these were appropriately addressed (Marlow, 2011) mitigated weaknesses which may have presented themselves in the methodological practices of mixed methods. It assisted me in re-examining my research processes and ensured that transparency prevailed.

Finally, I adhered to the ethical research principles of moral conduct (Royse, 2011), thereby operating according to the research proceedings and protocols stipulated by the HSSREC at UKZN. This demonstrated my ethical commitment to ensuring that the university's integrity was protected and treated with dignity and respect, as acknowledged by Wassenaar (2006). This process helped minimise any foreseeable consequences (from my behaviour, the interview schedule, and research questionnaires) which might potentially cause harm, emotional distress, or jeopardise the participants' standing; thus, I made every effort not to, for example, violate participants' rights to privacy or compromise their academic programme as a result of their contribution to the study.

3.3.2 Ethical procedures

The researcher wrote a letter to the UKZN Register, seeking permission to conduct the study with UKZN undergraduate students, post-first year, who had been identified according the University's Academic Monitoring Support and Exclusion Policy (2009) as academically At-Risk. As detailed earlier (Chapter One, Table 1), the policy is facilitative as it tracks and identifies those who are struggling academically, and refers them to appropriate support programmes at the university (UKZN, 2009).

After permission was granted by the Register (see gatekeeper's letter in Appendix 1), the study received ethical clearance from the Humanities and Social Science Research Ethics Committee for the study to be conducted with At-Risk undergraduate students (HSSREC reference number: HSS/03575/016M) (see Appendix 2). Thereafter, the office of the Director of UKZN Teaching and Learning (UTLO) and the Deans (T&L) from the four colleges (AES, HS, HUM & LMS) were informed, in writing (through an email) of the study. The university' Teaching and Learning office also provided the list of the

Academic Monitoring and Support (AMS) staff to assist the researcher in the recruitment process. The AMS staff, comprises of Academic Development Leaders (ADLs), Academic Development Officers (ADOs), and the AMS mentor coordinators, who work directly with At-Risk students. Upon securing the list from the Teaching and Learning Office, the researcher arranged introductory information sessions with available AMS staff members across the different colleges and campuses.

Royse's (2011) guidelines on ethical protocols guided the research process, which consisted of: invitation letter, written informed consent, non-maleficence and beneficence, privacy, anonymity and confidentiality, storage of data. This section will present the invitation letter and the data storage process, since the content is similar for both phases, to avoid repetition. The ethical issues relating to non-maleficence and beneficence, privacy, anonymity and confidentiality will be explained later under each phase (qualitative and quantitative) to emphasise the different processes involved.

Invitation letter

For both phases of the study, potential participants were given an invitation letter containing detailed information about what the study entailed, including the research topic, purpose of the study, its objective, and the method of data collection (see Appendix 3 for qualitative and Appendix 5 for quantitative research). The letter also contained the details of the researcher's supervisor (name, surname, contact details, college and school), the HSSREC, and the researcher. It also informed the participant about their rights to contact the HSSREC's office and the researcher's supervisor should the need arise on issues of uncertainty or doubts regarding the study and its process. This information-giving process indicated the researcher's commitment to a transparent process for all role players, including the participants. This ensured the ethical principles of "fairness and equity", which Wassenaar (2006) acknowledges as vital throughout all research stages. To my knowledge, none of the participants have contacted these offices with any complaints to date.

Storage of data

As per UKZN proceedings and protocols, all raw data (handwritten and typed notes, audio recordings, hard copies of self-report answer sheets, and answer sheets), processed notes, and transcribed material was to be transferred electronically (with the aid of computer software) into one file for safe storage in the Discipline of Psychology at Howard College Campus, where that data would be kept for five years and then destroyed. This information was declared in the consent form given to the potential participants to read before consenting to participate in the study. The ethical issue on informed consent is presented later under each phase.

3.4 Research Philosophies and paradigms justification

This study commences with the philosophical assumptions and beliefs which guided the rationale for this study, and the selection of research processes which were followed to acquire the knowledge that would answer the research problem.

Cresswell (2013) contends that "whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research" (p. 15). Creswell (1998) believes that when conducting a study, their philosophical assumptions guide its researchers. Thus, researchers' philosophical beliefs and assumptions influence and shape their choice of methodologies in a given study, selecting those which they believe would provide answers to the research problem.

There are three assumptions which constitute the research philosophy: the nature of reality (*ontology*—what is reality?); the nature of knowledge and how knowledge claims are justified (*epistemology*—what is reality, and how can I know it?); and the nature/role of values in research (*axiology*—what elements can contribute to the intrinsic value of a state of affairs?) (Creswell, 2013; Saunders, 2015). The key research paradigms that inform social science research are namely interpretivism/social constructivism, positivism, the emancipatory paradigm, and pragmatism (Creswell, and Plano Clark, 2011), each of which assisted in determining the research paradigm for the study. Empirical research claims that the *social constructivism* approach is closely associated with qualitative research, while *positivism/postpositivist* is directly related to pure quantitative research. The *emancipatory paradigm* is associated with both qualitative and quantitative research methodologies, while *pragmatism* is associated with mixed methods.

The later *pragmatism* research paradigm informed the adoption of the mixed methods research design which Creswell and Plano Cark (2011) endorsed, while others (Johnson et al., 2007; Leech & Onwuegbuzie, 2009; Rubin & Babbie, 2013) described it as characterised by a systematic combination of both qualitative and quantitative research techniques within the same research study or across studies that investigate the same phenomenon. Also, the collection and analysis of both qualitative and quantitative data can be done sequentially and/or simultaneously, and rigorously integrates the two data sets (Creswell & Plano Clark, 2011).

The philosophical assumptions that the pragmatism research paradigm hold is explained from Creswell's (2013) perspective. This paradigm claim about the nature of reality (*ontological*) is that there is both a single reality (quantitative research) and multiple reality (qualitative research), and the nature of this *knowledge* (*epistemological*) is generated from experience, and can provide both objective (quantitative) and subjective, in-depth (qualitative) meaning of the phenomena under investigation. The researchers acknowledge the values and biases they bring (*axiological*), thereby maintaining objectivity and keeping a distance when collecting data through surveys and self-administered questionnaires

(quantitative), as well as by remaining subjective and maintaining direct human contact when gathering data through individual interviews, focus groups, etc. (qualitative).

3.5 Methodological approach

This study adopted a case study mixed methods research design (Guetterman and Fetters, 2018) that uses an exploratory sequential approach in order to examine the psychological and contextual factors that contribute to students falling into At-Risk status, with consideration of the influences of SRL strategies used by At-Risk students. An exploratory sequential approach is one of the four key elements which characterise the mixed methods research design (Creswell & Plano Cark, 2007) and is discussed later in this section. The other three types are explanatory, triangulation, and embedded design (Creswell & Plano Cark, 2007).

3.5.1 Research Design Justification

Mixed methods research is described by Creswell and Plano Cark (2011) as research that involves the collection and analysis of both qualitative and quantitative data in one study, combining the strengths of each to answer the research questions in the final stage. These authors further believe that this research design also accommodates the "integration of a variety of theoretical perspectives, e.g., ecological theories" (Creswell & Plano Cark, 2011, p. 4) which will afford the current study a frame within which to address the complexities of the phenomenon. Likewise, Venkatesh et al. (2013) offer that in mixed methods research, the researchers should consider the design's research objectives and theoretical contribution to the research, suggesting that aligning these processes should address and complement the research objectives of the phenomenon. That is, adopting this design ensured that this study's theoretical and methodological processes were appropriately aligned, in order to strengthen its findings. Theoretically, Bronfenbrenner' bioecological systems theory framed this study, and in phase one will qualitatively explore the various systems at different levels (i.e. macro, exo, meso, micro and chrono) in the students' environment that contributed to their At-Risk performance outcomes. Quantitative procedures will be used to investigate the use of SRL strategies associated with performance, situated at an individual micro level.

Creswell & Plano Cark (2011) and Guetterman & Fetters (2018), suggest that researchers using mixed methods should be purposeful in choosing the complementary strengths that best suit the needs of the study, and which will promote a better understanding of the research problem. According to Creswell and Plano Cark (2007), there are four types of mixed methods. The *triangulation* design is concerned with gathering complementary yet different data within the same study that can be integrated for analysis and interpretation of findings. *Embedded* design uses one data set to support other data in a secondary role. In *explanatory design*, researchers collect and analyse the quantitative data first, and

use it to explain the qualitative data. *Exploratory design*, which is the reverse version of explanatory design, was adopted for this study and is elaborated on below.

The exploratory, sequential mixed methods research is described by Creswell and Plano Cark (2007) as a two-phase design whereby qualitative data is collected and analysed first, and then used as a basis to inform the quantitative data collection process. This approach is characterised by the collection and analysis of qualitative and quantitative data, in a distinct sequence of two phases within one study, prioritising the qualitative over the quantitative data (Cameron, 2014; Jones, 2016; Leech & Onwuegbuzie, 2010). As Chen (2006) infers, each phase uses its methodological procedures—such as sampling strategies, methods of data collection, and analysis—forming a process which ensures that "the original integrity" is maintained. It also integrates qualitative and quantitative results, allowing the researcher to compare and contrast results for the final interpretation of data, a process which amplifies thoroughness and the convergent validation of the findings (McMillan and Schumacher, 2006; Plano-Clark & Creswell 2008). The mixed methods research design increases the richness of the data collected and the validity of the findings, enhancing a desired effect (Johnson et al., 2007). This combination ensures that the investigation maximises the benefits of each approach to address the research questions, purpose, and study objectives.

The philosophical lens of mixing two research approaches (i.e. qualitative and quantitative) in a single study assists the study in overcoming the limitations of each of these alone, utilising the complementary strengths that these approaches both share (Rubin & Babbie, 2011). According to Rubin and Babbie (2011), this approach affords a researcher the option to: a) use one set of methods to illustrate cases or provide numbers for the findings of the other set; b) use one set to initiate ideas or techniques that subsequently can be pursued by the other set, in the quantitative study; and c) to see if the two sets of findings corroborate each other (p. 45). For example, one strength of qualitative research is that the data collection methods—such as in-depth interviews with individuals or in a small group—facilitates the collection of rich data on patterns, themes, and social interactions which, once interpreted, deepens the understanding of the phenomenon under exploration. The quantitative research, on the other hand, uses statistical techniques such as standardised questionnaires (surveys) to collect data in a larger sample in order to test the hypotheses, patterns, and themes generated by the qualitative research. This provides quantifiable, descriptive, and analytical explanations concerning the differences and relationships of the phenomenon to increase the validity of the findings and deepen the understanding of the research problem as it seeks to reach the research objective.

3.5.2 Validity and reliability of mixed methods

This study considered the threats to validity in mixing the two methods (qualitative and quantitative) throughout the research process, including the data analysis stages and integration of findings. Onwuegbuzie & Johnson (2006) states that complexities may arise when the validity of the results are

assessed, which may particularly impact negatively on the integration of the findings. Onwuegbuzie and Turner (2007) maintain that integrity and accuracy play a significant role in all aspects of the research process. Nonetheless, the exact philosophical principles of mixing both qualitative and quantitative approaches in mixed methods research design should positively minimise the validity concerns of this study, particularly as the study carefully and comprehensively maximised the "complementary strengths and non-overlapping weaknesses" (Onwuegbuzie & Johnson, 2006, p. 48) that these two approaches share. This process "validates and explicates findings from another approach" (Onwuegbuzie & Leech, 2007, p. 122) to promote minimal threats to validity, and to enhance coherent findings and meaningful interpretations.

As mentioned above, the research process for this study began with qualitative data collection and data analysis in phase one, followed by the quantitative data collection and data analysis in phase two. This sequential strategy facilitates the use of the information gained in phase one to support the second phase, amplifying the attainment of rich data (Venkatesh et al. 2013). Using two research approaches allows the qualitative data to produce new themes and perspectives (McMillan & Schumacher, 2006) which can be renegotiated, interpreted, challenged and validated statistically, using quantitative instruments and questionnaires with a larger sample population (Creswell et al., 2011). In an iterative process, the current study considered the themes from the qualitative phase, together with the literature, to inform the sampling process and data collection procedures (instruments and questionnaires) for the quantitative part of the study (phase two). Thus, phase two considered the SRL constructs (Motivated Strategies for Learning Questionnaire [MSLQ] and academic procrastination) quantitatively. The resultant numerical findings were then integrated with the qualitative findings and interpreted simultaneously. Hence, the sequential exploratory mixed-methods research approach selected enabled the attainment of a comprehensive understanding of the phenomenon under investigation.

3.6 Research process of qualitative and quantitative data collection and analysis

This section outlines the logical framework that was considered, looking first at the qualitative phase and then at the quantitative phase. The specific research processes for phases one and two are detailed below.

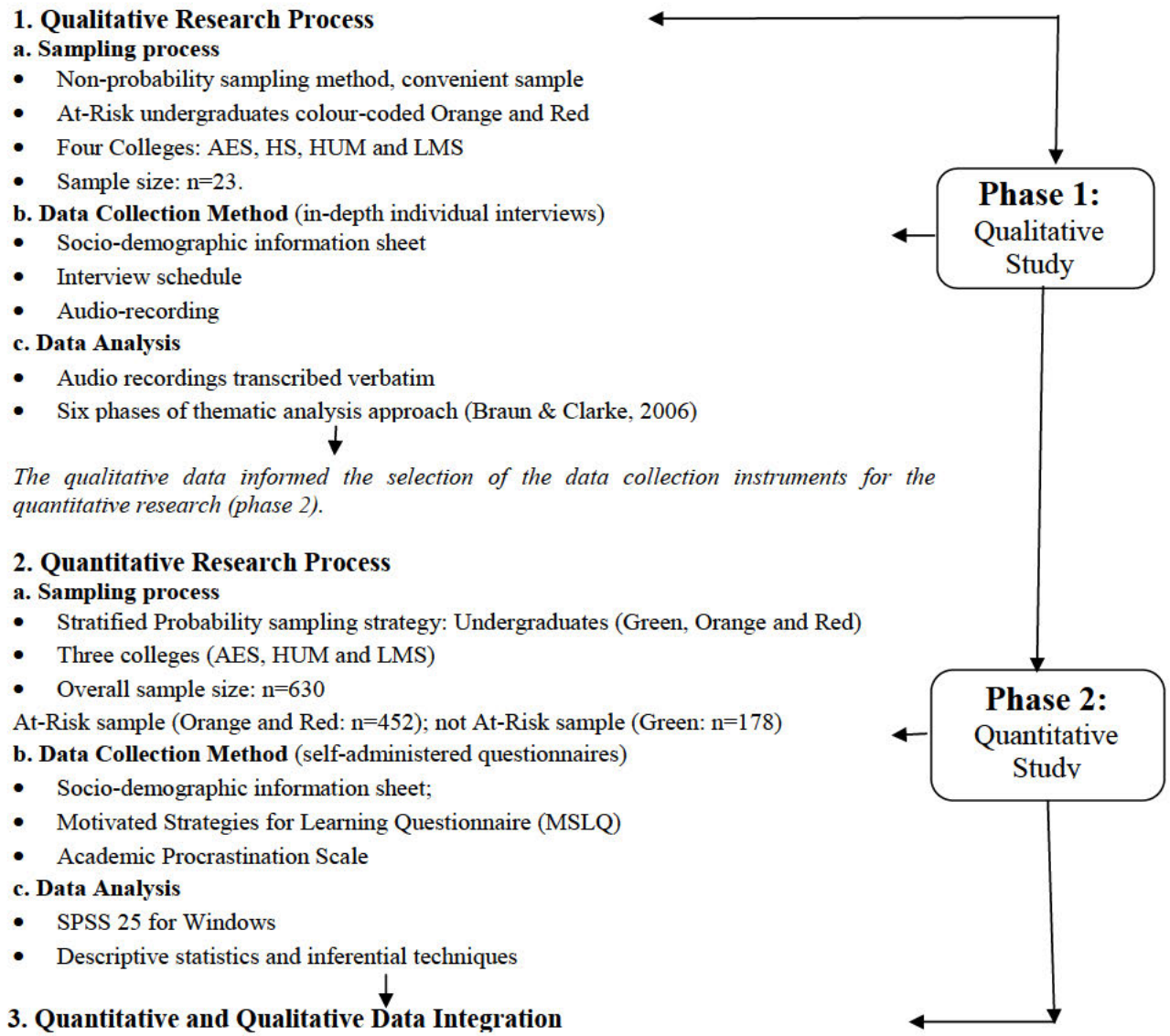

Figure 4

Outline of the Research Methods and Associated Processes.

PHASE ONE

3.7 Qualitative Study

The *qualitative research* is associated with the interpretive framework in which a social construction research design is embedded (Creswell, 2013). Constructivism and 'naturalistic' are terms commonly referred to in the literature on interpretivism, sometimes in an inconsistent way (Guba & Lincoln 1994). Studies have described the philosophical assumptions of the social constructivism also known as 'interpretivism' in terms of ontology, epistemology, axiology and methodology (Creswell, 2013). This paradigm holds the ontological philosophical belief about the nature of reality, claiming that there are multiple realities, and that reality is subjective because each person constructs their social realities differently. The *epistemological* assumption (nature of knowledge) is that human knowledge is socially

constructed. Researchers gather this knowledge through a direct interaction with the participants, and use data collection methods such as in-depth interviews and observations, acknowledging that the nature of values and biases (axiological assumption) influence the research process. The researcher choosing in-depth interviews, for instance, suggests that they believe direct contact will add more value to the study. From the *methodological viewpoint*, this paradigm states that knowledge can be obtained through various methodologies such as unstructured/semi-structured interviews, observations, focus groups, ethnography, case studies, etc.

According to Denzin and Lincoln (2011), and Wilson and MacLean (2011), qualitative research is predominantly an inductive approach orientated towards a naturalistic perspective. Denzin and Lincoln (2011) state that this approach "does not look for hard evidence" (p. 9); instead, it provides research participants a space where they can engage and describe their experiences of the phenomenon in their bioecological context. Norodien-Fataar and Daniels (2016) also acknowledge the importance of engaging students in their own experiences.

3.7.1 Sampling strategy

Students in the At-Risk group were conveniently selected for the qualitative study from the four UKZN colleges, i.e. Agriculture, Engineering and Science (AES), Health Sciences (HS), Humanities (HUM), and Law and Management Studies (LMS).

Non-probability was adopted as a technique which, according to Royse (2011), allows the researcher to select those who will provide the necessary data to address the research problem. Although all At-Risk students were eligible to participate, this study selected its participants with the assistance of the Academic Monitoring and Support (AMS) staff from across all four colleges and four campuses. According to Creswell (2013), a convenience sampling strategy "saves time, money and effort, but at the expense of information and credibility" (p. 158). Given the sensitivity of working with students identified as academically At-Risk, and the timeframe for this study, it was convenient for the researcher to approach available resources (such as AMS staff) to gain access to the students. As explained earlier in Chapter One (section 1.3), the Academic Monitoring Support and Exclusion Policy (2009) refers all academically At-Risk students to the AMS offices for academic advice and support, which is intended to enhance their performance. This office runs workshops for At-Risk students, and the researcher met this group at these workshops. Further from this, the criteria used to select students who agreed to participate are listed below:

- Inclusion criteria

Registered undergraduate students from the UKZN Colleges of AES, HS, Humanities and LMS; across four Campuses (Howard College, Westville, Edgewood and PMB)

Students from the academically At-Risk group (i.e. Risk, RSK2 and Underperforming groups) at the time of data collection

Exclusion criteria At-Risk Students on the Medical School Campus were excluded, as access to these students would be compromised due to their clinical practice, which is outside the university.

3.7.2 Sample size

Figure 5 below depicts the total number of the participants, the period of the interviews and the distribution of the participants across all four colleges.

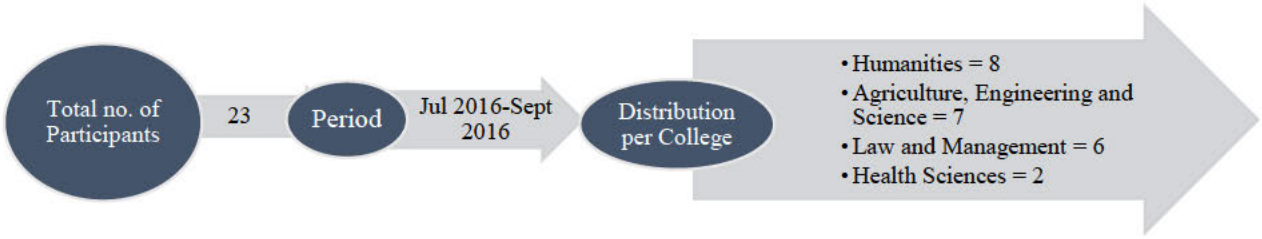

Figure 5

Realised sample across Colleges

The final sample size was twenty-three (n=23), with participants from all four colleges. As depicted in Figure 5 above, the College of Humanities had more participants, and fewer in the Health Sciences. Demographically, at UKZN, Humanities is the largest college and Health Sciences being the smallest college (UTLO, 2017).

Guided by the sampling designs in mixed methods research (Onwuegbuzie & Collins, 2007), considerations given to the sample size included whether it would adequately answer the research questions within the study's timeframe and available resources to complete the process. Likewise, the interviews conducted at the start of the UKZN second semester academic calendar (from the third week of July) were concluded in September for the reasons that the responses to the research questions were similar and there was no more new information coming through. Also, this period was within the study's timeframe for this phase one (qualitative research) which also took into consideration the availability of resources: students' academic context (lecture schedule and assessment times) and the researcher's limited resources (i.e. travelling costs to other campuses and navigating work commitments as an employee), a challenge also acknowledged by Patton (1990).

Royse (2011) posits that, in the qualitative research approach, interviews are usually conducted with a small sample size, with the aim of facilitating a more in-depth exploration of the phenomenon. Moreover, the use of the in-depth individual interview strategy, as acknowledged in similar studies

(Denzin & Lincoln, 2011; Neuman, 2011), enhances the appropriateness of the sample size to serve the study's research purpose.

3.7.3 Research instruments for the qualitative study

The tools used to collect data comprised a sociodemographic information sheet and a semi-structured interview schedule, as discussed below.

3.7.3.1 Sociodemographic information sheet

The sample of the current study as outlined earlier consisted of undergraduate At-Risk students at UKZN. Participants' sociodemographic information was gathered as part of the research process. The sociodemographic background characteristics that were gained (also for the quantitative study in phase two) were: age; gender; race; residence (where they resided during the term); funding system for their studies; type of school; degree programme enrolled for, the name of the college they registered under and their academic progression status (i.e. Green, Orange, or Red) (see Appendix 4). All participants were given the information sheet, which was to be completed before the interview session for qualitative research.

The school category was based on the two BE school systems in South Africa: government/public schools (i.e. rural, township, or Model C schools) and the private school system. The description of the colleges and degrees offered were presented earlier in this chapter (refer to Table 4). Information on the different academic progression categories was presented in Chapter One (Table 1).

3.7.3.2 Semi-structured interview schedule

The interview schedule consisted of a list of semi-structured, open-ended questions which were designed to comprehensively address the experiences of At-Risk students (see Appendix 4). Creswell and Plano Clark (2011) cite that the individual interview strategy is helpful in gathering in-depth, thick description data, a process which gives the researcher the flexibility to probe without digressing. These probing questions were not rigidly applied, and allowed deeper insights into participants' experiences to emerge, which added much depth to the study (Green et al., 2015).

In-depth individual interviews were used to allow students to share their perceptions and experiences in a safe context, to gain deeper insights into their experiences of being At-Risk and their perceptions of the factors that contributed to their academic challenges.

3.7.4 Data collection procedure and ethical issues

As mentioned earlier, data collection commenced after receiving permission from the Registrar and Ethical clearance (Ref. HSS/03575/016M) to conduct the study (see Appendix 2). The deans of teaching

and learning in the AMS programme, who were also informed of the study, did not object to my request to allow the Academic Development Leaders (ADLs), Academic Development Offices (ADOs), and mentor coordinators to assist with the participant recruitment process. Available AMS were contacted, telephonically and in person, at the beginning of the semester. Here the study's purpose and research process were detailed, along with a discussion of the AMS's specific role in the participant recruitment process. A background information letter and letter of invitation for potential participants was also shared, along with a consent form (see Appendix 3). The AMS staff informed the researchers of the dates when they would meet with At-Risk students in their workshops and during the curriculum advisory sessions offered to At-Risk students. The researcher was given a slot at the end of the workshop to introduce the study, and the invitation letters were distributed to those interested. The purpose and objectives of the study as well as the informed consent form were explained verbally during the workshop sessions.

A list was subsequently compiled by the ADOs of consenting prospective participants, who were contacted by the researcher to check their availability for an appointment. The researcher then contacted the participants to arrange an interview, which was done individually, on university premises, at times both convenient and suitable for participants, between July and September 2016. These interviews were conducted on four campuses (i.e. Howard College, Westville, Edgewood and Pietermaritzburg), for approximately one hour each. The process involved completion by the interviewee of the informed consent form; permission check to use the audio-recorder; and completion of the sociodemographic information sheet. The in-depth, open-ended interview then followed (see Appendix 4 - interview sheet). The consent forms detailed relevant research procedures, including the protection of the students' rights as participants (see Appendix 3. Consent to audio-recording was signed prior to conducting the individual interviews in phase one. The researcher declared in the consent form that: i) audio-recordings would be made to collect data from individual interviews, ii) no monetary payments would be made to participants for participating in the study; and iii) participation was completely voluntary, and participants were free to withdraw from the study at any time without repercussions.

Although participants were informed that they could respond in any of isiZulu, isiXhosa or in English, the majority preferred to respond in English, and at times, very few used a mixture of English and Zulu. The participants' responses in isiZulu were translated into English in the transcription process for data analysis.

In terms of *non-maleficence and beneficence*, the study posed no potential physical harm to the participants, as all data collection processes were conducted in the university environment and on its premises, where safety could be ensured. Potential emotional harm was minimal given that the informed consent form stipulated that, should participants feel uneasy or emotional, they were free to respond by expressing their thoughts and emotions, and even discontinue the interview should they so wish.

Participants were also informed of the referral system to the Student Support Services (counselling services) at their respective campus and college for psychological support. The individual interviews were completed without any harm expressed by the participants. Instead, many verbally expressed that the experience was cathartic, and enabled a self-reflective process concerning their own strengths and weaknesses. This demonstrated that the research process also offered some positive learning benefits.

Regarding *privacy*, *anonymity*, and *confidentiality ethical issues*, the participants' privacy was protected, and all reasonable precautions were taken. In the consent form, the researcher declared the purposes of the study (see Appendix 3), as well as anonymity measures and the potential use of the study results for publications and conferences. Anonymity was protected by assigning codes for each participant's data. All participants agreed to this.

3.7.5 Data analysis strategy

For the data analysis, Braun and Clarke's (2006) approach to Thematic Analysis thematic analysis (TA) was adopted. Some salient aspects of Braun and Clarke's (2019) recent version on reflexive thematic analysis are incorporated, for example, the study used the words 'generation of themes' instead of 'searching for themes' used in 2006. Earlier studies (Boyatzis, 1998) described thematic analysis as a process of "encoding qualitative information" (p. vii). Braun and Clarke (2019) study considered the significance of self-reflection when engaging the data and the process of analysis in ensuring quality of TA, hence 'reflective thematic analysis' as their preferred name. Although Braun and Clarke (2006) see this approach as a flexible tool which is not tied to any specific theoretical framework or methodology (like narrative analysis and phenomenological approaches). In the recent work, Braun and Clarke's (2019) established that researchers engaging in reflective TA of data are "fully cognisant of the philosophical sensibility and theoretical assumptions informing their use of TA; and these are consistently, coherently and transparently enacted throughout the analytic process and reporting of the research" (, p. 594). Also, Bloomberg and Volpe (2012) commented on the notion of generalisation of data, citing that thematic analysis "is not for purposes of generalising beyond the case but rather for rich descriptions of the case in order to understand the complexity thereof" (p. 31).

The process undertaken went as follows: All audio-recorded interviews were first transcribed verbatim. Once the transcription was verified by the participant to ensure accuracy of the interview, the data analysis utilised Braun and Clarke's (2006) six phases of thematic approach (see Table 3). A deductive approach aided the search for the patterns and relationships in the coded data to be extracted, defined, and organised in semantic content. This enabled the data to be interpreted and summarised as research findings, where conclusions on the phenomenon could be drawn (de Vos, 2005).

Braun and Clarke's (2006, p. 35) six phases of thematic approach are summarised in Table 3 below, adapted from Nowell et al. (2017, p. 4) which demonstrates how the data collected in each phase was

analysed to ensure reliability. In addition, the table explains how each phase minimised the validity issues of reliability (Lincoln & Guba, 1985) pertaining to the data analysis process.

Table 3: *Six Phases of Thematic Analysis Approach.*

Phases of Thematic Analysis (Braun & Clarke, 2006)	Procedure by Researcher	Means of Establishing Trustworthiness (Nowell et al., 2017)
1: Familiarisation with the data	Active engagement with the data; listened to audio-recordings several times; read and re-read data.	To minimise human error, extended time was spent moving back and forth in engagement with data.
2: Coding	Numbers and alphabets were used to label every data item gathered from in-depth interviews.	Reflective journal was used to jot down important codes for reference.
3: Searching for themes	Carefully reviewed all data generated and coded to look for themes, gathering data relevant to each potential theme.	Detailed notes pertaining to the themes generated and main themes were documented in order relating to the context.
4: Reviewing themes	All themes generated were checked, compared to the coded extracts and the entire data set, to promote accuracy and validity.	The researcher's colleague and supervisor reviewed the codes and themes.
5: Defining and naming themes	Each theme was analysed to generate clear definitions and names.	These were checked and validated by the researcher's supervisor and one research participant.
6: Producing final analysis of selected data extracts	Contextualised themes were generated and checked against the research questions and the literature to achieve the research objectives.	Member checking, peer debriefing, and data alignment strategies were employed.

Each transcript was given a unique identifier code (Transcript 1-23), and the date of the interview was noted in order of the interview process. As summarised in Table 3, the researcher actively engaged with the data by listening to all audio-recordings sequentially, typed the narratives, and read and re-read the transcripts to gain an in-depth understanding of the participants' responses. To minimise human error from the transcripts, the researcher moved back and forth between them to ensure an accurate understanding of each participant's responses, documenting impressions as she listened to the audio-recordings and read the transcripts, searching for essential data (Nowell et al., 2017).

Secondly, the researcher began coding raw data using numbers and the alphabet to label every data item in the transcripts. Following this, all relevant data was placed into categories and arranged according to the codes. Thirdly, the researcher carefully reviewed all raw data against the coded data to identify emerging and significant themes that appropriately answered the three broad research questions. In the fourth step, the researcher checked all themes that were generated, and compared these to coded extracts from all data. A research colleague assisted in reviewing the codes and themes, to ensure they supported

the raw data and thereby assure the validity of data analysed. The fifth step consisted of ongoing reflective analysis of each theme, to generate clear definitions and names. The identified patterns and connections within themes were merged into one, and verified and further validated by the researcher's supervisor. To conclude the analysis process, the main themes generated were put into context to ensure they supported the data and the research questions. Emerging themes that responded to the three broad research questions were framed by the theoretical lens of the study's bioecological systems theory.

The thematic analysis produced narratives that were arranged collectively into themes, and individual responses were not identified as they were assigned codes. Summaries and interpretation of data gave meaning to information generated from the completed questionnaires. During the data analysis stage of the qualitative study, a feedback session was arranged to verify data collected in phase one. Additionally, all participants were given access to the researcher and her supervisor's email address, and will be provided a copy of the thesis once completed, should they wish.

3.7.6 Data quality/validity and reliability in qualitative research

Cognisance was given to criticism of the subjective nature of the qualitative research approach, as noted by Onwuegbuzie and Leech (2007). In light of this, the researcher engaged a number of measures to enhance the trustworthiness of the data collected. Remedial strategies employed to ensure trustworthiness and reduce the study's validity and reliability concerns were guided by Lincoln and Guba's (1985) four-part criteria: i) credibility; ii) transferability; iii) dependability; and iv) confirmability of the study's research process. These are detailed below.

3.7.6.1 Credibility

The study adopted convenient non-probability sampling, which ensured that the participants selected were the most appropriate to address the research questions, and this promoted the credibility of the study. In addition, the research questions in the qualitative interview schedule were first discussed with the researcher's supervisor, before data collection. To ensure transparency, all participants were provided with a copy of the interview schedule and consent form, which was also read and explained prior to participation. Audio-recordings ensured that the details (contents) of each individual interview were captured accurately. During the transcription process, the researcher ensured that the meaning was not lost by capturing participant responses verbatim, and not paraphrasing. The researcher also listened to the audio tapes against the transcript at least three times to ensure accuracy in capturing the words faithfully. The transcripts were discussed with the supervisor to ensure further accuracy.

To confirm accuracy and eliminate the researcher's possible bias towards the data, a member-checking strategy was employed to verify the participants' responses during interviews and the researcher's own interpretations of data from their transcripts (Birt, Scott, Cavers, Campbell, & Walter, 2016, Bloomberg

& Volpe, 2012). A research colleague and fellow PhD candidate further enhanced accuracy by examining the findings. This process is promoted by Bloomberg and Volpe (2012) as "peer debriefing" (p. 113). Finally, Braun and Clarke's (2006, pp. 36-37) 15-point Checklist of Criteria for Good Thematic Analysis was utilised, to ensure that the study accurately applied the thematic analysis guidelines for the credibility of its findings.

3.7.6.2 Transferability

According to Van der Riet and Durrheim (2006), "transferability is achieved by producing detailed and rich descriptions of contexts" (p. 92), such that readers may construct their own perceptions regarding the study's transferability. In this study, transferability was demonstrated during the process of data analysis. Data generated was compared within and across all four colleges, and available studies on the phenomenon were utilised to draw on areas of similarity and divergence to reach conclusions and make recommendations. Thus, during interpretation of the findings, the researcher compared and contrasted the findings in search of associations, convergences and divergences across and within variables, to increase their thoroughness and validation. This strategy yielded "a greater confidence in [the] conclusions" (Johnson et al., 2007, p.122) and also increased the possibility of being able to generalise findings to a larger student population (Hanson et al., 2005) within the context of UKZN. This was crucial in the current study, as it had implications for increasing the content and structure of the existing intervention initiatives in the UKZN AMS Policy. This strategy promoted richness, fairness, and sample representation, which facilitated the transferability of findings across the colleges and contributed to new knowledge around the phenomenon which other HEIs may learn from.

3.7.6.3 Dependability

This was achieved by ensuring that the interview sheet and follow-up questions were discussed with the supervisor. The data collection and methods of analysis are explicitly presented in the study (Van der Riet & Durrheim, 2006). The researcher committed to discussing any major changes with the supervisor before they were implemented. The participant invitation letter and consent form provided detailed information on the purpose of the study, the data selection criteria, and the data collection procedure. This information was also shared with the ADOs and the mentor coordinators. The process was diligently followed, and no major changes or deviation from the study's main objectives occurred.

3.7.6.4 Confirmability

The researcher's interpretations of the raw data were discussed with two participants to verify their detailed accounts of the phenomenon. Further, a thematic analysis checklist was utilised to ensure efficiency in handling the data analysis process. An independent researcher, a fellow PhD candidate and psychologist, reviewed and verified the accuracy of the codes and themes generated to ensure that

they accurately supported the data. The findings were also presented to two participants to confirm if they reflected the accounts presented during their interviews and to eliminate the researcher's possible bias towards the data.

PHASE TWO

3.8 Quantitative Research Study

The subsequent, second phase of the study was quantitative in order to statistically investigate the salient themes in the qualitative data, and used standardised questionnaires to access data from a bigger sample size. Empirical studies (Creswell, 2013) associated the quantitative research with the positivist/postpositivist philosophical viewpoint which holds an *ontological belief* that there is one objective reality, and that reality is measured using scientific methods. It also holds the *epistemological assumption* (nature of knowledge) that this reality can be measured and known without direct human interaction, and that objectivity should be maintained by collecting data using experiments, questionnaires, and surveys (*axiological assumption* about the nature of values).

The quantitative approach is primarily based on a numerical investigation of a phenomenon where a large sample is available (Neuman, 2011). It is described by Plano Clark and Creswell (2008, p. 58) as a "theory-driven, deductive" approach that uses statistical instruments and techniques to test the hypotheses and develop evidence. This plays an essential part in facilitating objectivity and limiting biased data collection (Neuman, 2011; Plano Clark & Creswell, 2008) to promote the attainment of the research objectives. It uses a larger sample population (Rubin & Babbie, 2013).

Phase two in this study comprised of a cross-sectional survey across university students. In cross-sectional research, the phenomenon is investigated using a large sample at a particular moment in time (Cohen, Manion and Morrison, 2007). One of the advantages of this tool is that the researcher is able to collect more data in one setting, which makes the process cheaper and quick (Cohen, et al. 2007). Studies associated cross-sectional research with both descriptive and analytical statistical methods (Wilson and MacLean, 2011). Since the statistical techniques used allow various dimensions of the study to be measured (Neuman, 2011), from the descriptive perspective, the current study can investigate the prevalence of academic procrastination in At-Risk participants and its distribution among the colleges. The analytical perspective could be used to investigate the relationship between academic motivational factors and use of SRL strategies and procrastination to explain why procrastination levels are more likely to impact on performance outcomes. While cross-sectional studies investigate the phenomenon in a single moment in time, one of its weaknesses according to Cohen, et al. (2007) is that it cannot track change effectively since it does not offer data analysis of the causes and their effect on change. These authors suggest that such studies on change may have to repeat the survey, and this process may impact on the timeframe for the study (Cohen, et al., 2007). In the current study—

which adopted exploratory, sequential, mixed methods design—this limitation did not apply, since phase two of this study was informed by the qualitative findings from phase one.

3.8.1 Sampling technique and procedure

The study adopted a stratified probability sampling approach. For ethical considerations, the probability sampling technique was adopted to give the research participants (At-Risk students) an equal chance of being selected from the general undergraduate population. Neuman (2011) described this sampling technique as "the gold standard for representative samples" (p. 242), suggesting that it ensures a fair sample representation.

The stratified sampling chosen for this phase is one of the types of probability samples, and is described as a process whereby the research divides the total sample into subgroups, called 'strata', according to the research purpose (Wilson & MacLean, 2011). It allows the researcher to "first identify a set of mutually exclusive and exhaustive categories, [and] divides the sampling frame by the categories" (Neuman, 2011, p. 256). Furthermore, Neuman (2011) asserts that this approach is applied "when a stratum of interest is a small percentage of a population" (p. 256). Based on empirical evidence in the literature, this argument certainly positioned the study within the stratified probability sampling strategy, illustrating that the target group (i.e. At-Risk students) constitute a smaller percentage of the overall student population (UTLO, 2015, 2017).

This strategy offers "precise statements about the specific population based on the survey" (Wilson & MacLean, 2011, p. 163), a process likely to facilitate the accurate selection of suitable participants for the current investigation. Additionally, this sampling type facilitates data collection for descriptive and inferential statistical analysis (Neuman, 2011). This was an advantage for this study in its goal of eliciting detailed descriptions and confirmatory findings of the phenomenon.

Inclusion criteria

The *criteria for selection* were for undergraduate-registered students:

- Aged 18 and above
- In Green, Orange and Red academic progression categories
- From three colleges: AES, Humanities, LMS

All three academic progression categories (Green, Orange, Red) appear in the sociodemographic background sheet completed by participants (see Appendix 5). This process facilitated the identification of the study's target group, i.e. At-Risk students (orange and red) from the overall data collected.

Exclusion criteria

At-Risk students in the College of Health Sciences were not considered because of the practical component of their degree structure, which involves time spent outside campus with patients in clinics/hospitals. This decision was also informed by the qualitative sample, where only two students agreed to participate and no other participant came through within the timeframe of this phase.

3.8.2 Sample size

In total, 1100 questionnaires were printed and distributed to participants from the Colleges of Agriculture, Engineering and Science; Humanities; and Law and Management Studies, across four campuses (Howard College, Westville, Edgewood, and Pietermaritzburg). A total of 630 questionnaires (a 57.27% response rate) were completed by Feb 2018. Of this total sample, 452 (71.7%) of the participants were academically At-Risk, as depicted in Figure 6 below. For the purpose of this study, those in the good academic standing (Green) category were excluded from the study.

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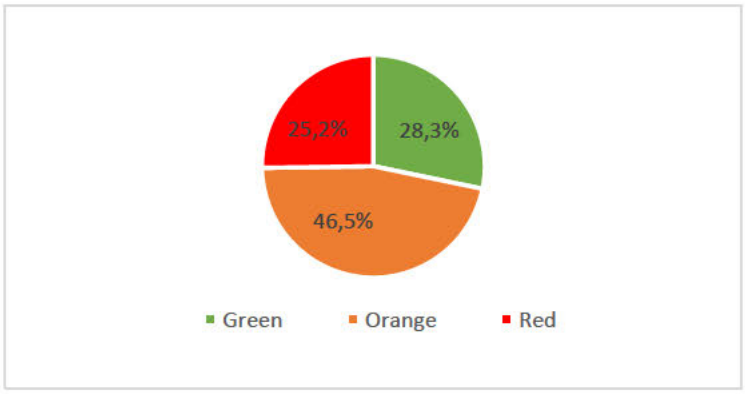

Figure 6

Depiction of the overall sample by progression status

3.8.3 Data collection instruments for phase two (quantitative)

Three data collection instruments chosen for phase two. These were: i) the socio-demographic information sheet as outlined earlier; ii) the 81-item Motivated Strategies for Learning Questionnaire (MSLQ) designed by Pintrich et al. (1991), and; iii) the 16-item Procrastination Scale (PS) developed by Tuckman (1991).

3.8.3.1 Sociodemographic information sheet

The study used the same demographic information sheet used for the qualitative data collection process in phase one (see: 3.6.3 Data Collection Procedure and Ethical Issues).

3.8.3.2 Motivated Strategies for Learning Questionnaire (MSLQ)

As discussed earlier, the study aimed to investigate the SRL processes and strategies participants used when engaging with academic activities in the university context. Pintrich et al.'s (1991) self-administered MSLQ tool was adopted. This was considered the best instrument to gather information on the SRL processes and strategies in one questionnaire, as it contains 81 individual items that evaluate participants' motivational orientation (part one), as well as various cognitive, metacognitive and resource management learning strategies used for engaging in their registered degree modules. Pintrich et al. (1991) describe the following subscales as making up the MSLQ:

Section one has five motivational scales, with 31 items as follows:

- *Value Components*: Intrinsic Goal Orientation (four items); Extrinsic Goal Orientation (four items); Task Value (six items); *Expectancy Components*: Control of Learning Beliefs (four items); Self-Efficacy for Learning and Performance (eight items), and an *affective component*: Test Anxiety (5 items)

Section two consists of nine learning strategy scales which are divided into 31 items that assess the students' cognitive and metacognitive strategies, and 19 items for resource management strategies:

- *Cognitive and Metacognitive Strategies:* Rehearsal (four items); Elaboration (six items); Organisation (four items), Critical Thinking (five items), Metacognitive Self-Regulation (12 items); and Resource Management Strategies: Time & Study Environment (eight items), Effort Regulation (four items), Peer Learning (three items), Help-seeking (four items)

In the original MSLQ instrument, Pintrich et al. (1991) administered it at a course-specific level using a seven-point Likert scale (from 1: not so much true of me, to 7: very much true of me). The Cronbach's alphas for the motivational scales ranged from 0.62 to 0.93, while for the learning strategies scales they ranged from 0.52 to 0.80. According to Pintrich et al. (1991), the MSLQ scales are designed to be flexible, and can be modified to suit the researcher's needs as they adapt them to meet the objectives of an individual study. This principle guided the study, as did empirical evidence found in Wurtz (2009), Rotgans and Schmidt (2009, 2010) and Schmidt and Rotgans (2012) regarding the reliability of the MSLQ instrument when a modified version was administered at general curriculum level instead of a course-specific level. Rotgans and Schmidt's (2009; 2012) modified version demonstrated Cronbach's alphas for the motivation subscales ranging from 0.70 to 0.91, and the learning strategies subscales ranging from 0.62 to 0.85. This indicated that the MSLQ is still a valid instrument when administered at the general curriculum level. Also, a South African study conducted by Hamid and Singaram (2016) on UKZN first-year medical students also employed MSLQ. While this study did not explore the factor structure, it had acceptable Cronbach's alphas which were similar to Pintrich et al.'s (1991) original scores.

The questionnaire for the study was administered at the bachelor's degree level (three and four-year programmes) rather than being module-specific. Adjustments made in the questionnaire to accommodate this included the wording and the Likert scale, as discussed below (see: section 3.8.3). These adjustments were necessary to ensure that the variables were more appropriate for a South African university, and were cognisant of its diverse and complex undergraduate student population.

The MSLQ instrument has eight negative statements, and these are listed below according to the item number, subscale, and statement. These are marked 'reverse' in the questionnaire (see Appendix 6) and are presented below. It is important to note that the MSLQ questionnaire was completed with each statement numbered 1 to 81. For the purpose of analysis, the item codes were created for the scale. Table 4 below presents the statements which were reversed during the interpretation of the results, and are presented with codes in the following order:

Learning strategies (LS) followed by the item number, then the scale and the item description of the scale, the metacognitive self-regulation (MSR), effort regulation (ER), help-seeking (HS), and time management and study environment (TSE).

Table 4

Reverse items of MSLQ

Item & Number	Description
LS33-MSR	During lecture times, I often miss important points because I am thinking of other things (Reverse)
LS37-ER	I often feel lazy or bored when I study for these modules that I quit before I finish what I planned to do (Reverse)
LS40-HS	Even if I have trouble learning the course material, I try to do the work on my own, without help from anyone (Reverse)
LS52-TSE	I find it hard to stick to a study schedule (Reverse)
LS57-MSR	I often find that I have been reading for these modules but don't know what they were all about (Reverse)
LS60-ER	When course work is difficult, I either give up or only study the easy parts (Reverse)
LS77-TSE	I often find that I don't spend very much time on my own modules because of other activities (Reverse)
LS80-TSE	I rarely find time to review my notes or readings before an exam (Reverse)

The scoring method states that all negative items should be reversed during data capturing so that all data analysed has positive worded items (Pintrich et al., 1993). In terms of scoring negative items on a five-point Likert scale, items marked 1 (strongly disagree) became 5 (strongly agree); 2 (disagree) became 4 (agree), and 3 remained 3.

3.8.3.3 Academic Procrastination Scale (APS)

The study investigated students' academic procrastination tendencies using Tuckman's (1991) 16-item version of Procrastination Scale which is used to measure and predict procrastination tendencies among students. In the academic context, studies have linked procrastination tendencies to students' failure to self-regulate when engaging with their learning endeavours, consequently negatively affecting their academic performance. The study used the procrastination scale to complement the MSLQ to gain a better insight into, various factors that are barriers to At Risk participants academic progress and success.

This academic procrastination questionnaire is a 72-item self-report instrument designed to measure and predict students' procrastination tendencies (Tuckman, 1991). The original 72-item version was modified by Tuckman (1991) to a 35-item procrastination scale using factor analysis. The Cronbach's alpha reliability co-efficient for the 35-item scale was 0.90. For the study, the researcher used Tuckman's (1991) 16-item version adapted from the 35-item scale. This uses a five-point Likert-type scale (from 1: strongly disagree, to 5: strongly agree), with higher scores indicating higher levels of procrastination among students. The Cronbach's alpha on the 16-item scale was 0.86 (Tuckman, 1991).

3.8.4 Piloting the questionnaire

The goal for the quantitative research was to provide statistical depth and breadth to the qualitative findings. During the proposal stage, the researcher considered online surveys for the quantitative data collection method, and permission to do so was granted by the gatekeeper, the university registrar (see the registrar's letter in Appendix 1). However, once the qualitative data collection and analysis in phase one was completed, consideration was given again to whether online survey tools would yield adequate responses and representation of the data collected within the timeframes allocated for the study. According to Cook, Heath, & Thompson, (2000) meta-analysis study on internet-based surveys, "response representativeness is more important than the response rate in survey research. However, the response rate is important if it bears on representativeness" (p. 821). In this study, it was important to focus on ensuring that the target group (i.e. At-Risk students) had higher representation in the overall sample population. As stated earlier, for ethical considerations, the convenience sampling approach was used to gain access to At-Risk participants among the student population.

The researcher and her supervisor deliberated and together decided on self-administering questionnaires, which required printing and personal distribution. The questionnaires were initially tested by five individuals to assess feasibility and comprehension, and to ensure a level of accuracy in estimating the duration of time for the data collection; this is an important process that adds value to validity aspects of the instruments used Creswell, 2010). Creswell (2014) contends that the response collected from a participant using modified instruments and questionnaires "either supports or refutes the theory and researchers may make necessary revisions and conduct additional tests" (p. 7). The

current study employed the complementary strengths of each data collection tool, which minimised the limitations that quantitative research may pose, to ensure the quality of the research results and conclusions.

Babbie and Mouton's (2010) ratios posit that an acceptable sample for a pilot study of 2000 participants should be between 10 and 20 participants with similar characteristics concerning the phenomenon under study. The feasibility and comprehension of the instruments was assessed by the following UKZN personnel who work with At-Risk students: a student counsellor, two ADOs, a mentor coordinator, and two At-Risk students, as well as two research colleagues. Valuable feedback was provided, and a few alterations were subsequently made:

In terms of the Likert scale, and similar to Rotgans and Schmidt (2009), this study's questionnaire used a five-point Likert scale (ranging from 1: strongly disagree, to 5: strongly agree). This change considered the length of the questionnaire (81 items), which was administered together with the 16-item APS and the socio-demographic information sheet during the academic calendar, when students have other academic priorities. Another reason was to maintain uniformity with the APS, which uses a five-point scale.

Another adjustment made relates to wording, where certain words in the original statements of the MSLQ were replaced (i.e. "good grades" was changed to "good marks"; "classes" was changed to "lectures"; "instructor" was changed to "lecturer", etc.). Copies of the questionnaires and their scales are attached in Appendix 6. The duration of the questionnaire was also adjusted, which originally took approximately 50-60 minutes to complete.

3.8.5 Recruitment of participants and data collection procedure

Similar to phase one, the ADLs, ADOs and mentor coordinators assisted with the phase two recruitment process. This process began in February 2017 and closed in February 2018. In this phase, the researcher was informed of the dates and times where large gatherings of potential participants were expected, which included scheduled workshops, group meetings, and consultations (academic and curriculum advisory) with undergraduate students. During these sessions, the researcher was given time to introduce the study for recruitment purposes. Students who expressed interest were given the invitation letter, the consent form, and the questionnaire, and were advised to read and sign the consent form before administering the questionnaire. This step is also explained in the invitation letter.

It should be noted that, as aligned to the HSSREC requirements (Ref. HSS/03575/016M), participants were once again alerted to the aims and objectives of the study, including the use of data and the ethical issues given in the consent form. That is, they were informed that the data would be anonymous, that confidentiality would be maintained, and that their participation was voluntary, leaving them the right to withdraw from the study without any negative consequences.

Most participants completed their questionnaires on site. Occasionally, the questionnaires were distributed and later collected with the assistance of the ADLs, ADOs, and mentor coordinators. Confidentiality of participant responses was protected by ensuring that all questionnaires administered on site were returned immediately upon completion. Arrangements were made with those participants who completed the questionnaires at their place of residence. The return date for these was mutually agreed upon, and the drop-off location was set as the offices of the ADLs, ADOs and mentor coordinators at the respective campuses. The researcher thereafter collected the questionnaires. These steps ensured that the data collection process was not in conflict with participants' timetables and academic activities. Signed consent forms were returned together with the completed questionnaires, and were completed with no harm expressed by the participants.

3.8.6 Data quality control

The IBM Statistical Package for the Social Sciences (SPSS 25) computer software was used to conduct descriptive and inferential statistical models for data quality control and analyses.

To ensure the quality and accuracy of data collected to be used for analysis, the SPSS 25 computed frequencies on the random sample from the research instruments to assess and compared response options with the options in these scales to get a better sense of participants' responses regarding the response options. A Chi-Square test was conducted on the main scales (81 MSLQ subscales and 16-item AP scale) using the five-point Likert scale to establish the statistical significance in the scoring patterns of the items that measure these scales. The frequency distribution for categorical sociodemographic data was also performed to gain an overall picture of participants' profile, the At-Risk group (n=452, Orange and Red) and to ensure that all the categories have been entered.

Thereafter, the MSLQ (81 items) was subjected to factor analysis to further promote data quality control by assessing the key components suitable for purposes of statistical analysis. As, the APS is a one-component measure, this scale was not subjected to factor analysis. In reference to a South African study (Hamid and Singaram, 2016) which used the original 81-item MSLQ instrument in a university context, it seemed that the instrument was not subjected to factor analysis and that the sub-scales were used as developed originally. Only the inter-item correlation coefficient (i.e. Cronbach's alphas) were reported for the MSLQ instrument. Against this background, it was decided that it would be best to subject the instrument to Principal Component Analysis (PCA). Tabaschnik and Fidell (2013) argue that PCA mostly yield similar results to confirmatory factor analysis.

The SPSS computed Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity to confirm the suitability of MSLQ data for factor analysis. The results are presented in table 5 below.

Table 5

KMO and Bartlett's Test: MLSQ

KMO		0.879
Bartlett's Test of Sphericity:	Approx. Chi-Square	7747.198
	Df	1035
	Sig.	0.000

The requirement is that KMO should be greater than 0.50, and Bartlett's Test of Sphericity less than 0.05 (Pallant, 2010). KMO measures the proportion of variance in the variables that might be caused by underlying factors (Pallant, 2010). The higher values (close to 1.0) generally indicate that factor analysis may be useful; if the value is less than 0.50, the results probably will not be very useful (Pallant, 2010). In all instances, the conditions were met for the factor analyses procedures.

Using SPSS 25 software, the Principal Component Analysis (PCA) technique of factor analysis was completed for the MSLQ scale (81 items). This was conducted to establish the extent to which the items for each subscale were measuring what they were supposed to measure. PCA was used as the extraction method. The orthogonal rotation technique (i.e. Varimax with Kaiser Normalisation) was used to minimise the number of variables with high loadings on each factor in order to simplify their interpretation (Pallant, 2010). This yielded the factor structure of the measuring instrument, that determine whether the items under each scale and subscale measured what they were supposed to measure.

The results of the factor analysis presented in Chapter five, (Table 11) showed a two factor loading structure for the MSLQ that consist of 46 items, namely:

Factor 1 (Learning Strategies, 30 items): Rehearsal (FacLRehea1), Elaboration (FacLElab5), Organization (FacLOrg2), Critical Thinking (FacLCT4), Metacognitive Self-Regulation (FacLMetCogSelfReg7), Time & Study Environment (FacLTStudyEnv4), Effort Regulation (FacLEffortR2), Peer Learning (FacLPeerL3), Help-Seeking (FacLHelpS3)

Factor 2 (Motivation scales, 15 items): Extrinsic Goal Orientation (FacMEGO4), Task Value (FacMTV3), Control of Learning Beliefs (FacMControlLB3), Self-Efficacy for Learning & performance (FacMSELPerf5).

Although 46 items loaded well in the factor analysis model, the Rehearsal subscale was excluded for further analysis since only one item loaded. Thereafter, the psychometric properties of the adapted 45-item MSLQ scale (as per factors that fitted well in the factor analysis model) and the 16-item procrastination scale were investigated to establish the degree of association between the items of each measuring instrument.

The following descriptive statistical methods were used for data quality control: range, mean values, standard deviation, variance, minimum and maximum values, skewness, kurtosis, and the inter-item reliability coefficients (i.e. Cronbach's alpha [α]). The Cronbach Alpha scores measured the internal consistency of the group responses to determine the extent to which all items in a scale measure the same construct (Cronbach, 1951). The Cronbach Alpha value ranging from .70 to .90 is recommended (Hair et al., 2008; Hair et al., 2013), and this value guided the study's interpretation of the Alpha values. Where relevant and in cases where the sub-scales had less than ten (10) items as noted in MSLQ scale (see Appendix 6), the mean inter-item correlation coefficient was computed (Briggs and Cheek, 1986). The recommended acceptable range of the mean inter-item correlation coefficient of between .2 to .4 (Briggs and Cheek, 1986), guided the interpretation of the results. The results are presented in Chapter five (Table 12) and the following four items were removed to improve the Cronbach alpha coefficient: Extrinsic goal (Item 30); self-efficacy for learning and performance (item 29); time and study environment (item 65) and help-seeking (item 58). Tavakol & Dennick (2011) note that poor alpha values are likely to be influenced by the low number of items per scale and "poor correlation between items" (p.54). The final MSLQ data used for analysis consisted of 41-items as depicted below:

Learning Strategies, (28 items): Elaboration (FacLElab5), Organisation (FacLOrg2), Critical Thinking (FacLCT4), Metacognitive Self-Regulation (FacLMetCogSelfReg7), Time & Study Environment (FacLTStudyEnv3), Effort Regulation (FacLEffortR2), Peer Learning (FacLPeerL3), Help-Seeking (FacLHelpS2)

Motivation scales, (13 items): Extrinsic Goal Orientation (FacMEGO3), Task Value (FacMTV3), Control of Learning Beliefs (FacMControlLB3), Self-Efficacy for Learning & Performance (FacMSELPerf4).

Also, to improve the credibility of the group responses, the effect sizes were computed for data quality control and interpreted using Cohen's (1988) effect size index when investigating the relationships between the measures using the Mean tests for Independent Samples T-test and One Way between groups analysis of variance (ANOVA), with post hoc multiple comparisons (Tukey's HSD) tests.

The p-values ($p \leq 0.05$* and $p \leq 0.01$**) were also computed in the Pearson correlation test between the measuring instruments (MSLQ and procrastination) to establish the levels of associations among the statistically significant factors and this ensures the quality of data to use in answering the study's research questions.

3.8.7 Re-coding of quantitative sociodemographic response options

Prior to data analysis, the following recoding of sociodemographic data was done on categories—such as the Other category, and those with lower numbers in order to improve the number of categories by combining response options for analysis purposes (see Table 6):

Table 6

Recoding of Socio-demographic response options of At-Risk sample (n=452).

Characteristics		At-Risk Sample (452)		
		N (%)	*Re-coded*	*N (%)*
Age	< 18	10 (2.2%)	<25	400 (88.5%)
	19-24	390 (86.3%)		
	25-29	51 (11.3%)	>25	52 (11.5%)
	30-39	1 (0.2%)		
Race	Black African	395 (87.4%)	Other racial groups	57 (12.6%)
	Coloured	21 (4.6%)		
	Asian/Indian	32 (7.1%)		
	White	4 (0.9%)		
Funding	Self-funded	181 (40.0%)	Loan system	225 (49.8%)
	Loan – NSFAS	206 (45.6%)		
	Bank Loan	19 (4.2%)		
	Bursary/Scholarship	46 (10.2%)		
Degree programme	Access/Extended	14 (3.1%)	3-year degree	311 (68.8%)
	3-Year Degree	297 (65.7%)		
	4-Year Degree	141 (31.2%)		
Accommodation	Home	130 (28.8%)	Home	141(31.2%
	Other	11 (2.4%)		
	Private Res.	112 (24.8%)		
	UKZN Res	199 (44.0%)		
School Type	Rural School	145 (32.1%)	Private School	47 (10.4%)
	Township	142 (31.4%)		
	Model-C School	118 (26.1%)		
	Private	17 (3.8%)		
	Missionary	28 (6.2%)		
	Other	2 (0.4%)		

Sociodemographic—were re-coded in order to improve the number of categories on the following variables for data analysis purposes The *Age* category was re-grouped to under 25, since only 10 participants were 18 years old and the majority fell within 19-24 years of age. *Race* was also re-grouped to two groups, *Black African* who were the majority (n=395), and *Other* which consisted of *Coloureds* (n=21), *Indians* (n=31) and *Whites* (n=4).

Regarding the socioeconomic factors (funding and accommodation), under the *Funding Source*, *self-funded* was interpreted as funds received from a significant other (i.e. relatives, friends, church leaders,

community members). The *Bank Loans* category (n=19) was re-grouped with *NSFAS Funding* (n=206), as these were both financial aid/loan systems at the time of data collection. When considering *Residential Type*, only 11 participants indicated *Other*, and this was interpreted as residing with significant others, such as relatives or friends, and was therefore re-grouped with the *Home* category.

Moreover, in terms of the educational context, under *Secondary School Background*, the category *Other* (n=2) was interpreted as *Muslim* or *Missionary*/*Catholic* school systems, which had 28 participants and was re-coded under the *Private School* category. Lastly, under the *Degree Programme Groups*, the *Access (Foundation) Programme* group (n=14) was regrouped with *Three-Year Degree Programmes*, a choice that was decided upon while acknowledging that all three colleges (AES, HUM and LMS) offer the Foundation Programme to a few who do not meet the criteria for their degree programmes. These coded sociodemographic categories were used for the data analysis presented next.

3.8 Data Analysis

Analyses were conducted to determine the relationships between the actual dimensions of two or more variables to draw conclusions about the sample (Pallant, 2010). This analysis stage commenced with descriptive statistical analysis of the sociodemographic data to gain an overall picture of the distribution of the sample. Thereafter, the Chi Square Test for independence (calculated at p = .05) was used to measure whether there is a significant relationship between the sociodemographic groups (i.e. gender, secondary school type, residential type, funding system, degree programme, and college groups) and the academic At Risk categories (orange and red).

Thereafter, the study investigated whether the relationships exist between the sociodemographic groups and the measuring instruments (adapted 41-item MSLQ after data control, and 16-item Academic Procrastination) using the following statistical methods:

- the Mean tests for Independent Samples T-test;
- the Mean test for One Way between groups analysis of variance (ANOVA), with post hoc multiple comparisons (Tukey's HSD) tests;

The independent samples T-tests were used for the two-by-two categorical groups to determine the group differences (i.e. age, gender, degree programme) on the mean scores of the adapted MSLQ (as per factor loaded items) and the procrastination scale. The effect sizes were calculated and interpreted using Cohen's (1988) d effect size index: small effect d = 0.20, medium effect d = 0.50, *large effect d = 0.80.

The ANOVA tests were used for the two-by-three (i.e. funding, residence, college) and four-by-four 4 (i.e. school type) categorical group to measure the differences on the mean scores of the scales relating

to the adapted MSLQ and the AP. The post hoc analysis (Tukey's HSD) measured by the Partial Eta-Squared was used to determine where exactly the statistically significant relationships occurred among the respective groups. The Eta value established the strength of the association between the variables. Cohen's (1988) effect size index guided the interpretation: Small effect: = .01, moderate effect: =.06, large effect = .14 (Cohen, 1988, p.284-287).

The Pearson correlation coefficient (r) model was also used to establish if there were any significant associations between the measures (MSLQ scales and APS). The significant correlation values that guided the interpretation of the results that were reported are at p-value $p \leq 0.05$* (1-tailed) and at $p \leq 0.01$** (2-tailed).

Further, the frequency analyses of all the other items allowed for the investigation of the participants' level of awareness and access to the following university intervention initiatives: Development Officers (ADOs), Mentorship Programme, Writing Place, and Student Support Services (student counsellors).

The study also conducted a hierarchical multiple regression model on the measures and used the original 81-item MSLQ as an independent variable to measure the ability of the At Risk students' motivational orientation and learning strategies use to predict levels of academic procrastination, after controlling for the influences of the sociodemographic groups at Step 1. The model as a whole explained 23% of the total variance in academic procrastination: $F(22, 451) = 7.158$, $p < .001$.

3.9 Data Interpretation and Integration

Upon collection and analysis of the qualitative and quantitative data respectively, the findings were interpreted in the discussion sections of each research phase. The integrated discussion of both the qualitative and quantitative results is presented in Chapter Six. In mixed methods, Creswell and Plano Clark (2011) acknowledge the process of integrating the qualitative and quantitative data results as an important end step. During integration, the quantitative results are used to support the qualitative themes through the process of transformation of the findings (Onwuegbuzie, et al., 2009). In this study's integration stage, the quantitative results provided an analytical framework for the major themes to be interpreted systematically, and qualitative narratives were elaborated to provide a more comprehensive understanding of data in terms of where these approaches shared similarities, and where they diverged. This process enabled the researcher to interpret the results effectively.

3.10 Summary

This chapter presented the study's setting, introducing the sample location, the colleges, and the degree programmes offered by the institution. This was followed by a discussion on the ethical principles that guided the study, as well as the researcher's reflections regarding her positionality and the steps to be taken to ensure that the findings were not compromised. It then discussed the philosophical assumptions and beliefs surrounding the nature of reality, knowledge, and values in research. The philosophical

research paradigm that guided the selection of the exploratory sequential mixed methods research and the reasons for choosing this design were explained. The chapter also offered the research process that was to be followed, and discussed comprehensively the research approaches and methods of data collection and analysis (qualitative and quantitative) procedures, demonstrating how these procedures would help to answer the research problem. The validity issues relating to each approach (qualitative and quantitative) were also addressed, as was the integration of the qualitative and quantitative results. Since the focus of the study was At-Risk undergraduates' individual experiences in the context of UKZN within the Robot System, this chapter demonstrated how, through the qualitative procedures, phase one would explore those experiences comprehensively and further investigate them through the quantitative cross-sectional survey. The next chapter presents the qualitative findings in section one, followed by the discussion of these findings.

CHAPTER FOUR
PHASE ONE: QUALITATIVE RESEARCH FINDINGS AND DISCUSSION

This chapter is divided into two parts. Part One presents the qualitative research data, and Part Two presents the discussion of the qualitative results. The primary aim of the qualitative study was to understand the psychological and contextual factors that hindered each participant's academic progression as depicted in the recurring pattern of their At-Risk status.

QUALITATIVE RESEARCH FINDINGS:

4.1 Introduction

This section opens with participants' sociodemographic characteristics, followed by the contextual influencing factors in the participants' quality of university engagement and their success in the pre-university period. The influencing factors within the university context, as well as the psychosocial aspects implicated in them becoming At-Risk and the consequences being At-Risk has had on their psychological wellbeing, are presented next. The university context includes the participants' perceptions and experiences of their engagement with the UKZN academic support, including the monitoring initiatives established for undergraduate students and the interventions provided by the student support services, all of which are designed to enhance the students' overall psychological/mental health development.

Narrative extracts from the interviews are used to give voice to the At-Risk student and to illustrate the key findings. Due to the inextricable synergy of the bio-ecological systems theory and SRL models, some narratives do not belong discretely to one particular theme, hence there are similarities across related themes, while retaining differing underlying contexts and meanings of these students' experiences.

4.2 Sociodemographic characteristics

Table 7 below presents the sociodemographic background characteristic of the participants.

Table 7
Sociodemographic characteristics of participants (n=23).

Characteristics	Categories	N	%
Age	<18	-	
	19 -24	22	95.7
	25 – 29	-	
	30 – 39	1	4.3
Gender	Male	9	39.1
	Female	14	60.9
Race	African (Black)	21	91.3
	Coloured	1	4.35
	Indian	1	4.35
	White	-	
Residence	Home	5	21.74
	Private	5	21.74
	UKZN	13	56.52
Funding	Self-funded	16	69.6
	Loan (NSFAS)	3	13.0
	Bank loan	2	8.7
	Bursary/Scholarship	2	8.7
School System	Rural	7	30.4
	Township	5	21.7
	Model-C	9	39.1
	Private	2	8.7
Degree Programme	Access	-	
	3-year	18	78.3
	4-year	5	21.7
College	AES	7	30.4
	Health Sciences	2	8.7
	Humanities	8	34.8
	Law & Management Studies	6	26.1
Academic Progression Status	Orange (RSK2)	2	8.7
	Red (Underperforming)	21	91.3

Note. AES (Agriculture, Engineering & Sciences)

Often at university, a student with slow progression is confronted with academic exclusion should they fail to meet the academic progression. This is done pending an appeal, whereupon the student states the reasons for their poor performance as detailed earlier in Chapter One (Table 1).

As depicted in Table 5 above, the overall At-Risk sample was drawn from four campuses across all four colleges. The participants were probation students in the Red colour-coded status (n=21) and the Orange colour-coded status (n=2). Of more than half participants (n=13: 56. 5%) residing at UKZN university residences, about eleven (n=11) of them were in the Red-coded, underperforming group. In terms of funding, it should be noted that the majority lost their (NSFAS) funding and became self-funded as depicted in the table. From the self-funded group (n=16), about eleven (n=11) participants lost their NSFAS funding source. Regarding the Schooling type, just over a half (52.1%) were from the historically disadvantaged public schools (i.e. rural, n=7, township, n=5), while over a third (39. 1%) were from the Model C public schools. The majority (78.3%) enrolled for three-year degree programmes compared to those in four-year degree programmes (21.7%).

4.3 Contextual and psychological influencing factors on performance

Figure 7 below contextualises the At-Risk students' situation as they interact with various systems. It demonstrates a visual framework of the key contextual and psychological factors generated from the results that form part of this chapter. The narratives are presented systematically and methodologically to demonstrate, firstly, the pre-university influencing factors on their university performance, followed by the university systems implicated in their academic performance and success, and then lastly, the psychological factors.

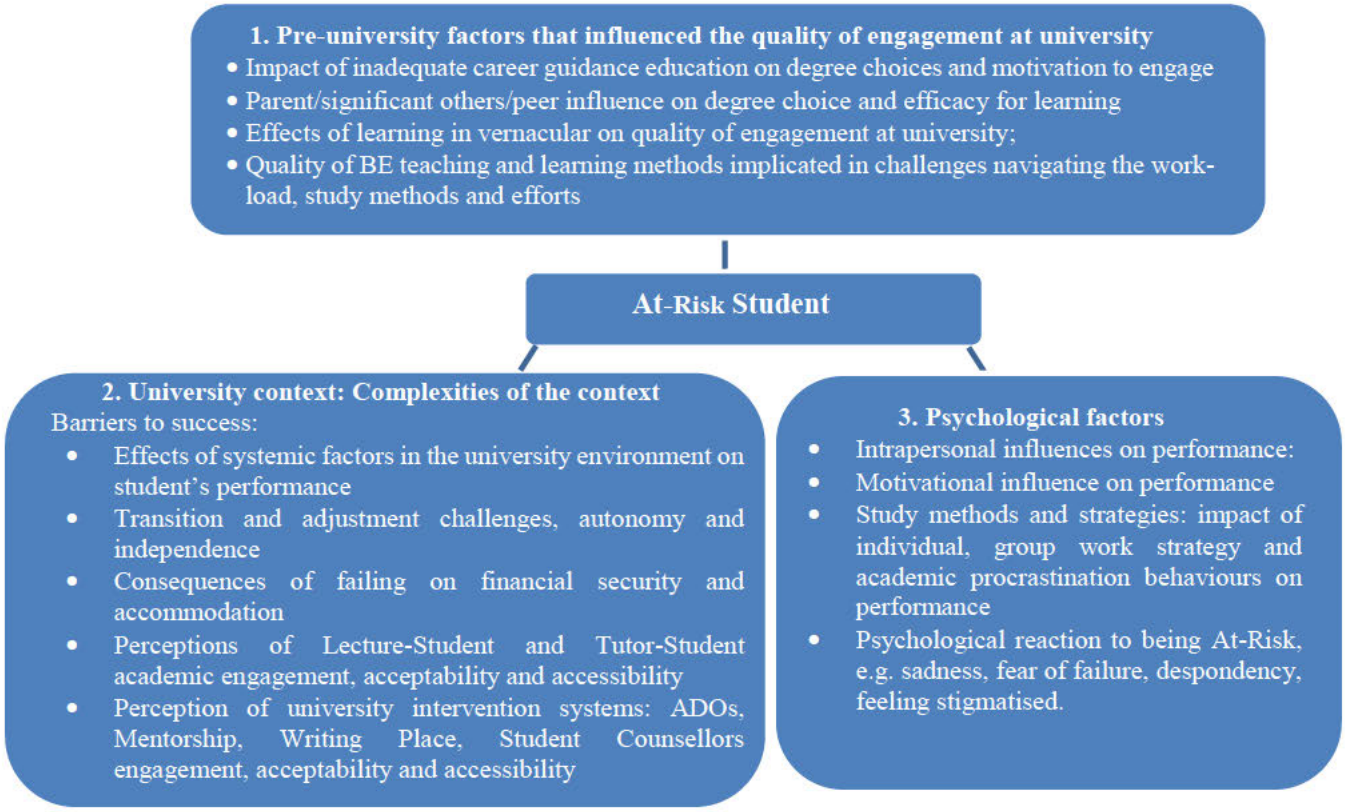

Figure 7

Educational systems of influence on At-Risk students' academic development.

4.3.1 Pre-university influencing factors on quality of HE engagement and performance

This section addresses the systemic factors at school level that were perceived by the participants as a hindrance in their capacity to effectively navigate the university demands and expectations to perform, as depicted in Figure 7 above. The narratives particularly capture the disparities between the school system and the university system in terms of teaching and learning methods, and this somewhat demonstrates that the school system inadequately prepared them for the demands which they would have to meet at university level. These pertinent factors are inextricably interconnected, as they explain the context of At-Risk students.

4.3.1.1 Impact of career guidance education on degree choices and motivation to engage

The narratives demonstrate that many participants enrolled for degrees which they were somewhat ill-prepared for, as one of the key factors mentioned was inadequate career guidance at school level. Many participants found it challenging to navigate their initial degrees, and ended up opting out of their degree choices as a result of failing and academic exclusion.

The participant below acknowledged the school system for providing the university application forms to enable the learners an opportunity to study further. However, she lamented the teachers' failure to

provide proper career guidance, as she later realised how inadequately she had been prepared to make an informed career/degree choice when she entered university.

At school, no one cared about what you want to do after matric. The teachers told us just to fill in the Central Application Office (CAO) forms. In the forms I saw that I met the entrance requirements for a degree in Health Sciences. I then decided to apply for it. I did not know about the degree, and it did not even occur in my mind that I should research before applying for it. I only realised what this degree was all about when I was doing the degree; I did not like the degree at all and failed repeatedly until I received an exclusion and readmitted to Humanities. (P11, female).

Others reported that their initial degree programmes were chosen based on meeting the entrance requirements that were college, school, and discipline-specific, as demonstrated in the interview excerpts below. However, they failed due to lack of passion in the degrees they settled for, as they were not adequately informed about the degrees they would be pursuing.

I wanted to do a BSc degree, but I did not meet the required points because my mathematics mark was low. I opted for B.Com Accounting, but I kept failing to a point where I felt so disappointed at myself; I lost interest in the degree. (P3, male)

From a very young age, becoming a chartered accounting was my lifelong dream, however, I did not meet the entrance requirements for B. Com Accounting, I was then accepted to a general B.Com degree. But I won't be able to because I have been failing accounting, and I stopped doing it. (P6, female)

The participant below described how, even though she could not pursue her degree of choice, she was able to opt for an alternative module that was within her initial career path:

Since I did not meet the LLB requirements, I took legal studies in humanities as one of my majors; I have been failing and changing modules. Legal studies in particular, I have been repeating these modules many times, resulting to two exclusions because I could not drop legal studies, it is one of my majors. I had to leave the university. I came back after two years. I am only left with legal studies modules to complete my degree. This semester I feel happy that I did not quit legal modules, because it is my last semester. (P16, female)

Conversely, the two participants below voiced that while their degree choices were guided by the secondary school subjects they enjoyed, they could not cope with those exact subjects at university. As such, failing and repeating the module (major) they once enjoyed brought about a lack of interest, which further contributed to them failing to meet their progression requirements, ultimately leading them to select other modules or change their degrees entirely.

In high school, I did well in commerce subjects, hence I chose a bachelor of commerce in accounting degree. I enjoyed accounting but here I struggled with it and ended up changing my major to Economics. (P2, male)

My first choice was B.Com Accounting, because I enjoyed accounting at school. I failed accounting twice, and I couldn't carry on with it. I lost interest. I then decided to change the degree to supply chain and marketing degree. I just want to finish now. (P5, female)

Also, while the following participants shared similar sentiments as those above regarding the influence of high school subjects on their degree choices, they demonstrated a greater sense of resilience and persistence, as they maintained their optimism and remained in their chosen fields of study:

In high school, I was good in maths. I feel I made a correct degree choice—enrolling in chemical engineering, I have passion for this degree. I am At-Risk because I have been struggling with maths in particular. I am repeating it this year. I understand it better so far. (P7, female)

I always had a passion for environmental management in geography back at school; I was accepted in the degree. I have not been performing well. What makes me stay in this degree is because of my passion for it. (P13, female)

Similar to the participants above who chose to persist in their pursuit of their initial degrees, the passion the participants below expressed for their degrees was influenced by exposure to the careers in their immediate environment:

My passion for BSc agricultural engineering started at a young age; I come from rural areas, and we are surrounded by farms, although I have not been doing well. Although I am on probation, I love my degree in agriculture, because it produces food, and people need the food products. (P23, male)

When I was still at school, I was inspired by a guy in my community who did a chemical engineering degree. That's why I chose chemical engineering as my first choice. However, I failed some modules like math, and I am on probation now. I have been working hard, I am feeling the pressure, but I am coping because I like this degree. (P8, male)

Clearly, the personal attributes and passion evident in the narratives are an integral part of choosing a degree, however these aspects do not obviate the experiences of academic challenges and failures.

4.3.1.2 Parent/significant others influence on degree choice and efficacy for learning

Moreover, other participants gave accounts of *parental, family, significant others* and *peer influences* on their career planning and on their ultimate decisions regarding their initial degree choices, which they ended up not enjoying, and later finding themselves on probation.

The participant below expressed that her family influenced her degree choice due to a lack of information and knowledge about the university degrees offered and their exact content, which she herself was still confused about.

I wanted to be in the business industry. Maybe it was because my mother owns a business. I was not sure what type of business I wanted to be in. I did not have the university information relating to the degrees offered, and what they were all about. My aunt helped me choose a degree in community development. I have been failing this degree. It is not what I thought it was, and I find it difficult, and now I am on probation, and still confused about what modules to choose. I just selected modules just to be registered. (P9, female)

Likewise, the participant below was led to her choice via family influence, as her family members were all in the health sciences fraternity:

My first year was in health sciences, and it was not the career I wanted to pursue. My family influenced my degree choice. My parents are professors, and my siblings are in the medical field. (P1, female)

Another participant alluded to entering university while she was still developmentally immature, and therefore unprepared. This contributed to her pursuing legal modules to meet her parents' personal plans for her, and consequently found herself struggling.

It was my family that decided that I should study a law degree at UKZN; I was not ready for the university, and I did not know what I wanted to do. I matriculated at age 16, and I was already at university when I turned 17. I think I did not understand the importance of education. I felt that I was being bullied to go to university. For the longest time I felt that I was doing this degree to please my parents. (P16, female)

Others below reported that their family's influential role on their degree choices was based on a preference for degrees which they (the family) perceived would offer better employment prospects upon completion:

My mom chose the B.Com degree for me; I wanted to do drama, but she said, 'No, drama doesn't put food to the table'. (P4, female)

My parents chose the degree for me. I always wanted to do drama, but they did not understand it; they asked where I was going to get a job. Only last year they accepted drama after noticing that I was performing badly in other modules and I was doing well in drama studies. (P17, male)

I was accepted to pursue a teaching degree, but my mom is an educator, said, 'No, you cannot do teaching'. I don't know why she didn't want me to do teaching, maybe it is because of her experiences, like the working conditions, or the salary. I enrolled for the health science degree which was my fourth choice, I am on probation now. (P12, female)

The two participants below also described how parental career influence swayed them to register for degrees that were not in line with their personal interests and career goals.

Initially, I wanted to do political science and international studies, however, I was discouraged by family and friends, they asked what the degree was about and where was I going to work? My family said they would only pay for an LLB degree, I enrolled for LLB, and I had to do this degree for my dad. I remember the first day when we had our introduction, and I was sitting there thinking, I don't like this LLB degree at all, but I told myself that gradually with time I will enjoy it, and I am doing it for my dad. It did not work out, I got excluded, and I have been readmitted to humanities this semester. (P10, female)

I wanted to do nursing or teaching, these careers interest me, but my family said no, 'We are tired of those professions'. I enrolled in audiology since I met the entrance requirements, but I did not like the degree, I was failing. I asked my family to change to homeopath offered at Durban University of Technology (DUT), but they refused and said: 'What are the neighbours going to say? No.' My family, they are not supportive, they don't really care. They say: 'You have to study, pass, study all the time.' I get that I must study to pass, but when I was choosing a degree, they were not there to give me direction. Even though I hated my degree in audiology, I have been struggling and failing my modules, I got excluded and readmitted to the College of Humanities. (P11, female)

Peer influence on degree choice also plays a role in the degree and module choices students make. While most of the family input on degree choices seemed to have negative outcomes, the participant below explained the outcomes of peer influence in her degree choice.

Back in high school I was a commerce student, so I told my friends that I wanted do a B.Com degree instead of a BSc and they said I would be degrading myself by choosing commerce over science. So I continue with sciences, but I am underperforming. This degree is very hard, and challenging. But, I have been convincing myself that I am going to love this degree, because my father told me to not ever

tell him that I am struggling with the degree, and I want to change it. So, I had to love it no matter what, hence I am still doing this degree. (P18, female)

Evidently, interpersonal factors played an important role in facilitating and influencing the degree choices made by the participants when they joined the university. However, the results show that parental involvement dictates a punitive measure, as students do not feel free to follow their aspirations. Also, although not explicitly stated, the narratives above inferred that some degrees choices were made based on the esteem and respectability associated with those degrees, especially concerning employment opportunities. Contextually, the influence of significant others on degree choice seemed to have impacted adversely on the participants' motivation and interest in the degree, which influenced their academic outcomes.

4.3.1.3 Effects of the medium of instruction on quality of HE engagement

The participants from particularly underprivileged rural and township schools, where teaching was often offered in their home language, complained that learning in their home language or local vernacular negatively affected their competency in English language skills and their quality of engagement. They reported that these practices created challenges for them at university, where English is the medium of instruction. The following quotations illustrate their views:

I come from a disadvantaged rural school; teaching and learning was mostly done in isiZulu. I have been struggling to work at the lecturer's pace and to quickly grasp information when they teach. (P23, male)

In high school lessons were taught in vernacular (isiZulu) and here at university is English, I struggled to adapt to university teaching style, I failed because I struggled with theory, it has too many readings, I prefer numbers. (P3, male)

4.3.1.4 Effects of the BE system on quality of academic engagement

Another factor reported in the narratives was that students experienced the school system as less demanding in terms of the work load and effort required to perform. The narratives below reported that, while in high school, less effort afforded them a pass. A similar experience could not be extended at university, and consequently resulted in their failure to meet the academic demands required of them.

In high school, I did not study that much. I used to just listen to the teacher and pass my tests without putting much effort. I did the same in my first year, and I struggled to catch up hence I failed. (P12, female)

In high school, I used to study for tests and exams at the last minute and pass with good marks that helped me get accepted at university. I had the mentality that 'I could cram, and pass'. But it did not work out here at university. I failed my exams and I am now on probation this semester. (P15, male)

The further difference between school and university education expressed in the narratives lay in the challenge of managing large volumes of academic work at university. Students also highlighted the challenges with self-directed learning—an expectation at university to which they were not accustomed. The narratives demonstrate that at school level, their teachers and parents helped to regulate their studies. These previous learning practices negatively impacted performance.

High school and university is very different. In high school, I understood my work without an effort. My family don't understand that there is too much work at university, there are too many lecture slides to read here, and it is hard to cover all these slides and still remember the work. (P11, female)

I was not applying myself that much at university; my home is far so I did not have someone reminding me that I have a test; and I must study, as my parents did when I was in high school. I was not putting effort into my studies, that affected my performance. (P8, male)

Presented next are the influencing factors of the university context on performance.

4.3.2 Complexities of the university context

Various systemic challenges in the university environment play a role in students' performance and success. As depicted in Figure 7 above, this section commences with the results relating to the participants' barriers to success in the university context in terms of *transition and adjustment challenges*; challenges around navigating access to *funding for study support* and *conducive accommodation* as At-Risk students. The participants' *teaching and learning experiences* associated with the expectation of the independent learner, their perceptions of the lecture space, lecturer support, and mutual expectations, as well as perceptions of the tutor academic service, are all presented next. The acceptability and accessibility of university support interventions is discussed last.

4.3.2.1 Effects of systemic factors on students' performance

As depicted in Figure 7, this section presents the results relating to the transactional interactions between participants and their university context which implicated the quality of the students' academic engagement and performance outcomes. It includes the participants' perceptions of the university's intervention programmes established for undergraduates.

As alluded to in the earlier sections, the participants' challenges in *transitioning to university and adjusting to the system* were described as barriers that contributed to their unsatisfactory academic

performance outcomes. In the narratives, the participants reported that a *fair degree of autonomy and independence at university* was something they were not exposed to during secondary school, and this had a negative effect on their ability to adjust, ultimately affecting their performance. The participants explained that the absence of a person to monitor their academic behaviour in particular adversely affected their performance. Their views also revealed their expectations that someone would be there in a monitoring role to take responsibility for their academic motivation, as was generally experienced at school in the pre-university context.

Moving from high school to varsity is a huge change. In high school, I did not have so much freedom. I went to boarding school; I was away from my parents, and matrons used to monitor us and our work, and punish us if you do something wrong. My performance was affected by the independence that I was not used to, I neglected my work. I now know that it is all on me, even though I know I am a grown-up woman, I still need someone to push me. (P12, female)

There is more freedom at university, you are on your own; there is no one to tell you to study, whereas, in high school I used to be told what to do, my parents used to push me to study. I felt bored here because I have no one to encourage me to study and I used to spend time socialising with my friends. At times I would think the freedom here is good, but when the test results come back, and saw that I failed, it was then that I began to realise that too much freedom is bad for me. I would think about being expelled, but I would still continue socialising and not studying hard. (P3, male)

Likewise, the excerpts particularly highlight that participants failed to self-monitor and prioritise their academic schedules. They couldn't balance their social life and academic activities, which hindered their academic progress.

I used to spend time in the Lan (computer room) watching movies and downloading music instead of attending lectures and studying. This impacted negatively in my performance and I became At-Risk. (P2, male)

The participant below further elaborated on the experience of university autonomy, describing how socialising promoted the social acceptance that he longed for. As a result, social space was privileged over academic tasks, resulting in his poor performance.

I always failed to fit in since high school, and because of the freedom at university I became too independent. Campus life is a more socially friendly environment. Socially I was doing well, but failing academically. Since my first year, I have always behaved in a childish way, wanting to chill with friends, and socialise more. That fulfilled me socially. The main reason I have been failing is that I struggle to

grow up, I failed to focus on what is important, I just wanted to make friends, be known by a lot of people, I didn't put enough effort in my studies. (P15, male)

Others described the experience of freedom, in some way inferring that the university should caution students early in the academic year about the likelihood of becoming At-Risk.

University is more of 'do as you please' and then you see your consequences later after exams when they academically exclude you. The institution can't force you to do anything, but if you are At-Risk and underperforming, I feel you need to be pushed to study. (P1, female)

Evidently the degree of autonomy and independence afforded to participants without any monitoring mechanisms introduced to them lead to their engagement in non-academic activities, which had a detrimental effect on their academic performance. The transitional phase from secondary school to university was undoubtedly a substantial contributory factor that influenced how they interpreted and responded to their new university environment.

4.3.2.2 Consequences of failing on financial security and accommodation

Participants' socioeconomic context and the financial implications of failing (once identified as At-Risk) had an impact on continued access to financial support, which created accommodation challenges. The participant below expressed constant preoccupation with her financial circumstances, as her mother—the family's sole provider—could not afford to pay for her education. Her situation increased feelings of helplessness, which negatively impacted her academic motivation and subsequently resulted in failure to control and monitor her academic behaviour and social life:

I had financial problems that were stressing me. I did not qualify for funding because of my parents' salary, even though my father does not support me, and my mother alone cannot afford. So when I try to study I used to find myself asking why am I even studying because I will be financially excluded next year, so what's the point of studying and getting good marks if I am going to be financially excluded and not able to come back to university. That was discouraging, and it drained all my energy. Then, I would make time to spend with friends instead of studying. (P12, female)

Other participants in similar situations of *financial exclusion* had to *sustain themselves and work part-time* to gain some financial security while studying. However, this income was described as inadequate to cover all their financial demands. The participants below demonstrated this challenge, stating that although they secured part-time employment, their earnings were inadequate to meet all their needs, as they claimed they were unable to afford their textbooks.

I lost funding when I did not meet the academic probation requirements. I work sometimes since I am now self-funded. I didn't have textbooks because I could not afford and that affected my performance. (P3, male)

I lost funding due to poor performance, so I was working to fund my studies as my family could not support me financially. I did not have textbooks, and to print notes was also problematic for me. I still have financial difficulties, but I am trying to access the university's resources as much as I can to catch up on studies. (P16, female)

Similarly, the participant below, who also had to work part-time, shared how he would sometimes miss classes due to a lack of transport money. He expressed feelings of stress at having both academic and work responsibilities, and described how the difficulties he experienced in balancing the two and led to his failure.

I could not get financial aid because of my previous poor performance. Sometimes I won't have money for transport and would miss classes. My parents could not afford to pay for my studies, as they are unemployed, I did not know how I was going to finish my degree. I had to stop studying for a while to work in the drama field and earn some income. When I came back, I was working and studying. Work was taking too much of my time, and that led to my second academic exclusion, as I was not coping academically. After work, I used to come home tired and too tired to study, my work was physical, I am a dancer; I used to feel drained physically and mentally. (P17, male)

These narratives demonstrate that losing funding had immediate negative consequences on available money for basic living costs, living in an affordable and conducive study environment, and travel fees to university and back.

The participant below explained that not only did he lose financial security, but he also lost accommodation at the university residences as his sponsor suspended him financially. He expressed distress at this, as his parents were not financially stable enough to afford his university education fees.

My sponsor suspended my tuition fees and also informed me to deregister residence as well, and find a place to stay. That stressed me a lot as it meant I will be paying for my studies since my family can't afford to pay the amount I owe. I managed to register, but I have no funding. (P8, male)

Two participants also expressed difficulty, stating that their lack of financial security resulted in living in accommodation and living conditions that were largely inconducive to learning, which consequently affected their capacity to perform and meet the probation requirements.

I lost NSFAS due to underperformance and exclusion. If I had financial security that would have enabled me to stay in a conducive place. The place I am renting is what I can afford, and it is not conducive for studying. I still have financial problems, but I am trying to stay focused this semester. (P16, female)

My accommodation is not a conducive environment for studying, I don't feel safe; sometimes I hear gunshots, there is robbery, noisy, there are screams at night. I can't afford a better place, I lost NSFAS when I got excluded. (P17, male)

The participant below returned home after being financially excluded. Her challenges were that the home environment was unsupportive to her studying, and that commuting to and from university was costly. This additional financial constrain resulted in feelings of helplessness and disconnection with the academic environment, as she missed classes due to not having enough money to cover her transport.

After I was financially excluded, I had no choice but to go back home. Staying at home and travelling to campus every day affected my performance as I sometimes missed lectures due to no transport money. Also, we are a big extended family, and I am the only person who is studying at university. There was noise all the time. Even when I am doing my schoolwork, no one cared. I used to postpone studying hoping that to do it in the morning. It didn't work out, and I failed. (P11, female)

The narratives revealed that many participants came from relatively lower socioeconomic status (SES) backgrounds, and losing financial aid (i.e. scholarships or bursaries and NSFAS) was reported as a consequence of academic exclusions, which concomitantly placed added financial burden and strain on them, further affecting their ability to engage effectively and perform satisfactorily. It is also evident that systemic impediments (i.e. the participants' financial circumstances) impacted their ability to either reside in an environment conducive to effective engagement with academic activities, or the ease by which they could attend classes. As they were no longer able to sustain themselves due to financial exclusion, the loss also put strain on their families, who were not able support them financially. This situation increased their preoccupation with their financial challenges. It is clear that financial loss adversely affected various areas of their lives, such as transport fare, money for textbooks, and living in a safe and quiet environment where they could concentrate and study. Clearly these contextual constraints had negative psychological effects on the participants' academic motivation to study, components which are necessary for sustained performance and success.

4.3.2.3 Perceived experiences of Lecture-Student and Tutor-Student acceptability, and accessibility and support

This section provides insights into the study participants' views pertaining to the learning environment at university. Several factors influenced the quality of classroom engagement and knowledge acquisition, including the academic support provided by lecturers both inside and outside the lecture/classroom space.

4.2.2.3.1 Inside the lecture room space

In their narratives, participants conveyed their classroom experiences of teaching and learning systems, and how the lecturer's modality influenced the quality of their academic engagement, learning and performance. The systemic factors reported included the class size, academic supportive resources (such as posting lecture notes online/on Moodle, which is an online learning platform) as well as the lecturers' teaching modalities (e.g. pace, class interaction, English as the language of instruction). Only two participants expressed their commitment and consistency in attending lectures, describing how they found these classes to be beneficial.

I attend my lecturers and I ask for clarity in areas that I don't understand. I get a lot of information by listening to lecturers in class and writing notes while trying to understand the module. (P4, female)

I attend all my lectures; we go through problems and questions, I like to know what the lecturer says for in case they say something that is not on the notes. Most of them are very helpful. They upload the notes and corrections, and problems. (P7, female)

Many participants indicated that they did not attend most of their classes, and provided various reasons for their absence. One participant explicitly described their lack of enjoyment on some modules as the main reason for missing those classes.

I did not attend most classes on modules that I was not enjoying. (P12, female)

Poor lecture attendance was viewed by a few to be a result of the university's academic support strategy, which includes posting lecture notes online/on Moodle, and the use of textbooks to help students consolidate lecture notes. These strategies are intended to foster independent learning, however the additional academic support provided outside the lecture space was said by some participants to have enabled their poor lecture attendance. According to the narratives given by these participants, students miss classes particularly because there is no class register to track attendance. Another reason given was the class size, which when large can make it difficult to engage.

I was not attending lectures last semester because notes were posted online and there was no register. I think the register will force students to attend classes. During the lecture it is also hard to ask questions because there are many students in class. (P2, male)

The participant below purposefully missed attending lectures, as he found the textbook material sufficient.

As long as I understand the textbook, there is no need for me to attend lecturers. Lecturers don't really matter to me, unless I really need to understand something. I don't think I am at that point where I am desperate for a lecturer to help me understand something. (P8, male)

In addition, the lecturer accent and pace, the teaching style, and the lecturer's attitude, the language of instruction (English), were critiqued as contributing factors that compromised constructive engagement with course content and giving this as a reason for missing classes. Some participants conveyed that they had difficulty understanding some lecturers' accents. The participant below suggested that post-lecture periods be established to fill this gap and ensure that all students benefit from the course content taught in class.

Some lecturers come from a foreign country, I don't understand when they speak, their accent is strong, they scream, I don't hear anything. So as an At-Risk student, I am already at a disadvantage. It would help if they were to wait after the lecture to address questions from students who did not hear the lesson during to a 50-minute lecture. (P19, female)

Others commented on the lecturer's attitude and fast pace as barriers to their learning, and this was perceived as not accommodating students' differences in English language proficiency levels, given that English is the language of instruction. This challenge was most frequently described by those from less resourced rural school environments, where teaching and learning was conducted in that area's vernacular. Some participants revealed that the lecturer's fast pace impacted their capacity to confidently engage in class. The participant below gave his low level of English language proficiency as a barrier against his comprehension of the course content during class, and a hindrance when trying to interact with lecturers for academic support.

Lecturers think that students who are doing Engineering are all smart; they are fast when teaching us; I have been struggling to grasp information when they teach, I take longer to understand the course material. They need to know that students come from different school backgrounds; like me, I come from a disadvantaged rural school, and most teaching and learning was done in isiZulu. (P23, male)

In addition, the participant below conveyed that her lack of English language communication skills prevented her from asking questions.

Not being fluent in English drives me away from interacting with lecturers. (P13, female)

Another participant described how alienated she felt as a result of her challenges with English language proficiency, which affected her self-esteem and hindered her ability to form friendships.

I could not speak English fluently. So, for the past two years I was not speaking to anyone, I did not ask anyone for help with my schoolwork, I did not have friends. I would go to attend class alone, I had low self-esteem. I think what contributed to my low esteem was that people I attend with always speak to each other in English. Only this year I made friends and I can ask them for help, and we study together sometimes. Now it doesn't affect me anymore when they communicate in English. (P22, female)

Another factor highlighted by the participants relates to class interaction opportunities created to engage with the content, which were not always consistent across all modules. One participant explained that while some lecturers allow class interaction, she felt frustrated by those lecturers who did not create opportunities for students to interact and engage with the module content in class. Such a situation consequently resulted in poor class attendance by students.

Some lecturers make the three hours pass because they are very interactive, but sometimes you get a lecturer who is just speaking and going on and on, which is why most of the time, the attendance keeps dropping, and it is too long. This is kind of annoying. (P4, female)

Regarding the modules which students found challenging to comprehend, one participant expressed how a lack of class interaction deprived her of an opportunity to have her challenges with the content addressed by the lecturer during the class.

The modules I struggled with had no opportunity to interaction, there was a disconnection between the lecturer and students, an absolute silence in class. The lecturer just reads from the book. I would be thinking, 'I can read this on my own, I don't need to be here'. Criminal Law, I would never miss it, because I was fond of the lecturer, she was very expressive, she made examples. When she read the case, it was easy to relate to it even though it was about murder. She made it real. (P10, female)

This participant (P10) further suggested that lecturers should include practical examples when teaching to promote interaction and engagement, as such strategies would ultimately enhance the students' comprehension of the course content.

I would have wanted the lecture to be real, apart from having notes in the slides and reading from the slides, I would have wanted the lecturer to interact with us more, not as an individual but as a class. You have no understanding of the law language, and there are no practical examples other than the ones from the textbook, which I might not understand. Using realistic examples would have benefited me. (P10, female)

This issue of class engagement and absenteeism was further elaborated on by others. The participant below expressed her frustration when lecturers did not cover the work learnt in class in their assessments (i.e. tests and exams), and described how this situation demotivated her efforts to attend classes.

I wish lecturers can be more specific and be straight to the point because I study and only to find that the lecturer does not test us on some things covered in class. Then I asked myself why they even mention those things if they are not covered in tests/exams, no point of attending then. (P18, female)

Similarly, participants felt that lecturers should guide them on the relevant material to study, particularly for assessments like tests.

Assistance on how to identify what sections to focus on, instead of learning the whole paragraph off by heart so that would benefit me. (P6, female)

I wish lecturers would tell us the important points to focus on, for the test. It is frustrating not knowing what you will be tested on, and you read the whole paragraph, only to find that you will only be tested on two lines, while you read everything. (P11, female)

Although not directly stated, the expressed need for more explicit guidance reflects the participants' academic skills challenges. For example, the participant below described how her challenges with academic writing skills, critical thinking skills, and in tackling assessment questions, impacted negatively on her quality of learning and performance.

I struggled with the skill of answering questions for tests, like how to approach, and also how to see what sections to focus on. You know you have got a textbook, and in a textbook, you could see in the headings whatever is written underneath that, but there are some important bits that you need to pick up from instead of learning the whole paragraph off by heart basically, so that's the kind of skills would be nice to learn. (P1, female)

Similarly, the participant below reiterated these kinds of challenges and recommended compulsory extra lessons to help students enhance their academic writing and assessment skills, a strategy which she believed may possibly increase attendance.

I struggled with academic writing and answering questions. I would benefit from help in and from attending extra classes. First semester, they offered extra classes for some modules but attendance was not compulsory, hence I did not attend. I did not pay too much attention, I kept telling myself that 'I can manage, I can do it'. It is my fault that I did not attend them. (P13, female)

Other academic learning needs which the participants believed may enhance performance and success included post-assessment reflections sessions. The participants below explained how such sessions were likely to facilitate accountability and enhance future performance.

For the exams, it will be very helpful if we do corrections to find out where I went wrong and to know what to look for, especially because next year I will be repeating the modules that I failed, and I won't have the answers to the past exam papers. (P7, female)

I wish all lecturers could return our scripts and help see where I went wrong. First semester they did not give back our scripts and some lecturers gave use our scripts in the second semester, that was helpful because we could make corrections as well. (P18, female)

The academic spaces offered by tutors as an extension of lectures for some modules is also highlighted, as this small tutorial group setting was identified as a positive learning strategy to enhance the learning experience and improve comprehension of the module content.

4.3.2.3.2 Acceptability and accessibility of lecturers' support

In terms of seeking lecturer assistance on content comprehension during and beyond class engagement, many participants indicated that they had never consulted a lecturer for any form of assistance, citing various hindrances such as lecturer acceptability, accessibility, and approachability etc., as discussed below. Nonetheless, two participants reported positive engagement with their lecturers on module content, highlighting the experience of the lecturer as approachable and encouraging, and accessible via email or their offices for assistance.

I always email my lecturer for support in areas that I don't understand, I consult with them privately and is helpful. (P4, female)

They were very approachable, they give us their email addresses so that we can contact them at any time, and their office numbers to contacted them anytime we need help. (P7, female)

However, although the participant below benefited from engaging some lecturers, she expressed a level of frustration relating to the unavailability of some lecturers, citing that after several proactive efforts soliciting their support, she felt demotivated by their poor response.

I have experienced some lecturers who have not been helpful at all and I have experienced lecturers that have helped me, and who sat down with me on a one-on-one and gave me notes. Whereas another lecturer would just say, 'Ask one of your friends'. It is stressful and frustrating because I take the initiative to contact lecturers, but they don't respond. When I go to their offices to look for them, they are not there. That's why I send them emails, but there is no reply. But other lecturers respond. (P1, female)

Three other participants reiterated these negative experiences of lecturers, expressing that although they were seeking assistance, their proactive attempts to seek guidance were hindered by the lecturer's unavailability and inaccessibility.

I did not consult with lecturers; you will never find them in their offices, so what's the point. (P11, female)

I have not consulted a lecturer, they are not easily accessible after the lecture. It is also a problem to plan to see them before the lecture starts, because sometimes we get messages that the lecture has been cancelled. (P19, female)

Lecturers are not accessible. When I try to book, you find that they are not available until next week. When next week come, you realise that the work is too much and you are writing a test, so there is not enough time to cover the scope and consult. It is very frustrating not to find them when you need them. (P22, male)

Clearly, the participants' experiences of some lecturers as *inaccessible and unavailable* kept them from engaging or attempting to improve their understanding of the module content. The majority of participants found their lecturers intimidating and unapproachable, and feared that they would be judged as unprepared or inadequate if they sought their lectures out for help. The narratives highlighted the fear that is associated with not being well prepared, experiencing a lack of confidence, and feeling intimidated by underlying power dynamics. Although not implicitly stated, the participants created such barriers for themselves, hindering their own efforts to seek help.

With lecturers, I always fear that they will ask me something that they mentioned in class, or something that I don't know the answer to. I fear that they will think I don't take my work seriously, I don't study. Some just make you feel uncomfortable around them. (P13, female)

I do think about consulting with a lecturer but I fear being asked questions about the module, and I always think what if I am not able to answer the question? I fear the lecturer himself, he once commented in class that we are lazy. (P14, female)

I always felt like lecturers would ask me a difficult question and notice *that I did not prepare. I am a shy person. They tell us that when we consult, we should come prepared. I always think that even if I am prepared, they might ask me a tricky question and that would make me seem like I don't prepare work, that makes me scared to approach them.* (P16, female)

Similarly, the participant below conveyed that her lack of confidence lead her to prefer attending lectures over engaging in one-on-one consultation sessions with the lecturer.

I did not consult with any lecturer for help. I was afraid to face lecturers. I am too shy, that is why sometimes I find it hard to consult lecturers, even during the class. My fear around consulting with lecturers is that the first thing some lecturers ask you is whether you have done your work and would want to first look at what you know to see if you know the work. That intimidates and demotivates me. I lack self-confidence. I prefer attending classes. (P5, female)

Some participants found soliciting assistance during academic activities with friends/peers as beneficial, while other participants expressed that there are limitations to this kind of support in terms of course content knowledge when compared to approaching the lecturer.

My friends helped me understand work that I struggled with, but I would not be satisfied with their answers because we were all at the same level at that time. (P12, female)

When I didn't understand work, I would ask other students for clarity; sometimes, we study together and discuss areas that we are unsure of. But I also think a lecturer's explanation will be much better than that of a student. (P14, female)

In a similar vein, one participant described needing to step beyond peer assistance to solicit support from tutors, mentors, and senior students who had completed the module, as she found the lecturers unapproachable.

I used to ask my friend to help me with some areas of my work, and if they also don't know, then I won't know. I need tutor and mentor's help, or even second years and third years can help, because they are

students who have done the module. But the further elaborated problem is, we don't even know the students. Lecturers you cannot approach them, they look scary. (P11, female)

4.3.2.3.3 Students' experiences of tutor support

Academic support services from tutors is acknowledged in the narratives as critical to the facilitation of learning and gaining a better understanding of the module content. The vast majority of the participants expressed a preference for tutors, stating that they found the tutors more approachable and less intimidating than their lecturers, and saw benefit in being able to communicate with them in their own home language.

I feel I prefer consulting with tutors, they are more approachable than a lecturer. I consulted tutors for modules that have tutorials classes. It will help if they make more time for us because I could only consult with them during the practicals. Having a tutor is much better; you can also speak in your own language. (P13, female)

Similarly, one participant reported a preference for tutors because classes were smaller, making it less intimidating to ask questions about content for clarity, which augured well for group participation. However, the participants also complained that this support did not extend beyond first year for most of his modules, and he believed that his performance was affected as a result.

During tutorials, you can ask any question because the classes are small. Most of the modules, especially in the second year and third year don't have tutorials; I think that also impacted my poor academic performance last semester. (P2, male)

Others suggested weekly tutorial sessions, believing this would enhance their commitment to their studies and improve their performance.

I feel tutorials are helpful. If we can get tutorials every week, it will push me to study harder. Knowing that a module is very difficult, that will help me to study ahead of time. (P6, female)

Tutors can explain the chapters we covered during the week, in smaller groups; you get to ask the tutors, talk to your tutors, you talk to each other and understand the module better. (P3, male)

4.3.3 Acceptability and accessibility of academic and psychosocial support services

This theme pertains to the participants' perceptions of the accessibility and acceptability of the following academic and psychosocial support initiatives available at UKZN: Academic Development

Officers (ADOs), the mentorship programme, academic writing support (i.e. Writing Place), supplementary instructions (SIs), and student counsellors.

4.3.3.1 Students' level of awareness of support programmes

From the evidence, participants had different levels of awareness of the support initiatives available to them, and had different perceptions around access to the different support initiatives offered by the university. Despite the availability of these student services, the majority did not seek assistance for their academic and/or personal challenges. Many reported awareness of and access to some of these services after they had underperformed and become academically At-Risk.

In the narratives below, the participants attributed their poor engagement in the support services, particularly in first year of university, to a *lack of awareness* regarding the resources available in support of students.

As a first-year I was very ignorant about what the college actually provide for us, I never consulted with anyone. (P8, male)

It took me a while to know the resources available on campus; I never consulted with anyone. I feel students need to know about the resources. Universities need to find a strategy to help students know about the available services. (P17, male)

Others gave the lack of clear guidelines and information on processes to access university support systems, and a lack of understanding regarding the value these services might bring them in terms of their wellbeing and academic development, as reasons for not seeking out support services.

It would be good to state precisely why counselling, mentorship, ADOs should benefit your academic performance, because people don't get the importance of it. (P1, female)

I never consulted with anyone from the support offices. I guess I wasn't interested because I did not find out about these services. I think they should explain to students what they do and how their services will benefit students. (P3, male)

Some participants explained that they did not seek out these services as they believed they were capable of managing their challenging tasks and circumstances by themselves.

I did not seek help, I prefer to keep things to myself, believing that I can handle and come up a solution. (P7, female)

As a first-year, I used to tell myself that I can do it on my own; I understand it. I never utilised these resources. (P11, female)

4.3.3.2 Participants' perceptions of ADOs

Most of the participants demonstrated awareness of the ADO support service after being identified as academically At-Risk. This service is compulsory for At-Risk students. The participants reported that only once they had visited the ADOs and experienced them as accessible did they find them supportive.

I started consulting with them this semester; I was referred for academic counselling as a student At-Risk. I think they are very good and very supportive, because they make sure that I follow up with them on the situation I presented to them, do follow-ups. (P2, male)

ADOs are accessible and this year's ADO was very supportive (P11, female)

The ADO helped me understand what it meant to be At-Risk on Red category; he is helpful. (P18, female)

Apart from tutor support, ADOs were viewed positively, and were perceived as more helpful and accessible compared to lecturers when it came to attending to their academic needs.

I have been to the ADOs and they were actually helpful with my academic work because some lecturers are not always available. (P4, female)

I only saw the ADO when we had class group sessions, and we would ask questions and get answers, particularly on questions I did not understand. We also went through past question papers. That was helpful. (P12, female)

Support from the ADO in drawing up a study timetable to better plan and monitor learning was viewed as helpful, although the below participant was not consistent in following the study timetable and neglected her other modules.

My ADO suggested that I should have a study timetable, and it really worked for me. I used to choose what I liked, and what I did not like, I would just leave it. Even my results showed that. I did follow my study timetable but not strictly. (P10, female)

Another participant acknowledged the ADO's Dully Performance (DP) scare as a good strategy to force students to engage, and also adhered to the instruction to attend ADO sessions.

I saw an ADO because the ADOs mentioned in the group meeting that if one doesn't consult with the ADO, that would affect your DP. It was good to hear that because if they have not said that, I would not have bothered to attend. ADOs stressed that this was for our benefit. But sometimes people don't want to be helped, and I was one of those. (P10, female)

Another reason for commitment to seeking compulsory support from the ADO is seen in the view below, where attending the ADO's sessions and signing the form was primarily done to provide a paper trail which could serve as supporting documentation for a likely appeal.

I only got to know about the ADOs this semester when I received a letter from the college that referred me to this office. The ADO gave me the form which tracks my daily study schedule, to fill in and to show to my ADO the next time I consult. I think this will help because that will be a proof for me that I have been studying. I wouldn't want to see it blank, because the next time, if I had to appeal, they will say, 'Oh you didn't even go consult even one tutor or ADO or lecture'. I feel this form is now forcing me to go and study in the library and if I don't understand, to seek help and get a signature from the person who assisted me. (P3, male)

Importantly, operational challenges in accessing the support of the ADOs was experienced as frustrating and demotivating. In the excerpt below, it is learned that due to standing in long queues to consult with an ADO, students might be compelled to seek support from ADOs in other schools with a smaller number of students, making access much easier.

The ADOs are only available on certain times and days. When you go for your appointment, the line is too long, hence I did not see the ADO, because I don't want to miss the lecture. I managed to see the ADO in the other school, and she was helpful. (P19, female)

4.3.3.3 Students' perceptions of the mentoring support programme

The participants talked about being both aware and unaware of the student mentorship programme, and also discussed the benefits and challenges they encountered in their experiences with the mentorship programme. One participant specifically mentioned that, beyond mentoring assistance, her mentor referred her to student counselling for further assistance, signifying a level of collaboration between these two offices.

I had a mentor last year, but he was not very helpful. This year, I decided to tell my mentor what I was going through that affected my performance. The mentor referred me to student counselling. (P14, female)

Despite mentorship benefits, not all participants seemed to utilise this support to prioritise their academics.

Mentors organised workshops, but most workshops were clashing with my lecturers, so I did not attend them. (P13, female)

Other participants reported the unavailability and inaccessibility of mentors when needed. In particular, one participant below unequivocally shifted the blame to the university regarding their lack of awareness of the student mentoring support service.

I wanted a mentor in my first year, I would have done better. I heard that there were mentors, but when I went to the offices to get more information, there were no mentors. That's one thing I blame the university for. (P8, male)

I did not know where to find mentors, and I did not understand why I did not have a mentor while other people had. I did not know where to ask for a mentor and I did not ask. (P15, male)

The participant below articulated operational challenges within the mentorship programme, relating to her experiences of mentors as unprepared and inexperienced to deliver the service, an experience which deterred her help-seeking efforts and left her feeling demotivated.

I have seen a mentor before, they are inconsistent. Today we had a mentor meeting, and the mentor did not pitch. If you ask a mentor a question, they themselves don't know an answer. They have to ask other people, which adds to demotivation. Mentors are students who are two years ahead of us, they don't have the experience for mentoring, they are just there because they got the job. During the meeting, you sign the register, they introduce themselves as mentors and ask about our difficulties, and you name your difficulties and they said they will get back to me with the information and they never got back to me. That's disappointing and unprofessional. (P19, female)

Although the mentorship service has been appraised for operational inefficiency and inconsistency, for some it is still an option, as indicated by the participant below after being flagged Red.

I am still studying on my own. Now that I am on the Red category, I was planning to ask the college office for a mentor because I am going to need one for support with my essays. (P9, female)

4.3.3.4 Students' perceptions of the Writing Place service

The Writing Place is another supportive initiative that currently exists for students in the Colleges of Humanities and Law and Management Studies, and assists students in developing their academic writing skills as related to essay writing, referencing, etc. Only one participant reported accessing this service for essay writing skills, and found the service helpful.

I used the Writing Place a few times in my first year. They assisted me with my essay, and they helped me. (P13 female)

A few participants acknowledged that they were aware of the Writing Place and its services, but never utilised the service. One participant explained that his proactive initiative went in vain, as this office was not easily accessible, and another participant reported that the staff at these offices were unavailable.

I heard about the Writing Place, but I never visited their office. I wanted to make use of their services this semester, but I could not find their offices and I gave up. (P15, male)

With the Writing place, I would make an appointment, and often no one is there for my appointment. That is very disappointing. (P19, female)

The participants' experiences seem to indicate that this support initiative has been poorly marketed and administrated, and is thus underutilised.

4.3.3.5 Students' experiences of supplementary instruction (SI) support

As noted in the literature review in Chapter Two, the SI programme is a peer-support learning initiative currently available to undergraduate students in the College of Agriculture, Engineering and Science (AES) and is facilitated by the SI leaders. The study participants indicated that this service is well received and experienced as beneficial. Of seven participants from this college, four registered for mathematics described their experiences with the SI group sessions as valuable. The participants below described how the SI support sessions afforded them an opportunity to engage with the content in a group environment where they could share knowledge, self-reflect on challenging learning areas, seek clarity on the content of the module, and make the necessary adjustments.

The SI classes are helpful, work gets explained there, and you also learn from others when their questions are answered. (P7, female)

The SI were beneficial last semester on working through challenging tasks and solving problems; I am going to continue attending these classes. (P8, male)

The sessions helped me gain clarity not only on what I did not understand. I also learned more from listening to other students' questions, and answers were provided increased my knowledge. (P18, female)

While SI is beneficial, one participant described operational challenges, particularly when SI sessions would clash with his lectures. He felt these clashes negatively affected his commitment and consistency in attending this service.

SIs are helpful; I get answers to most areas of my work that I struggle with, but they must make more time for SIs because sometimes they clash with my lectures and I missed several sessions. (P22, male)

Evidently, participants perceived the SI programme as a valuable peer-support initiative.

4.3.3.6 Students' perceptions of the Student Support Services (SSS)

Another pertinent service of UKZN is that of Student Support Services. Generally known as the student counselling department, this service operates at a more personal level to promote students' overall psychological wellbeing/mental health, and is aimed at enabling them to improve their academic engagement and achieve success.

In terms of *awareness and accessibility*, some participants, reported that while they were made aware of the counselling services in their first year at university, they were ignorant about soliciting the help of student counsellors. These participants, like many others below, only contemplated such assistance as a result of failure and after finding themselves on At-Risk academic probation. One participant specifically demonstrated that he needed to seek help in order to prevent further academic exclusions, while another had already started the process and noticed the benefits of this service.

We were informed about the counselling services during the orientation in my first year, but I didn't think I needed a psychologist then. But now that I am in trouble, I am on probation and I am planning to visit their office for help, so that I don't get excluded again. (P3, male)

I heard about counselling services, but I did not make use of this service because I did not believe in counselling. I did not think that it will help me to talk to a person about my personal issues. I thought you just tell a person what is wrong and being asked what is wrong or what is bothering you, is a very difficult question for me to answer. I thought it was going to be a waste of time telling someone something that I already know. Only this semester, after I received an academic exclusion, I was advised to seek help. I started counselling. It's been helpful. (P13, female)

A fair number of participants who did not utilise this service alluded to greater participation and engagement in times of academic crisis, after receiving an academic exclusion and probation status. The participants below received counselling for personal reasons and for their study skills, and described their experiences of this service as helpful.

After receiving an academic exclusion, I went for counselling for my financial, personal difficulties, and study techniques. They have been helpful. (P16, female)

I am on probation, I started counselling sessions this semester for personal difficulties and study methods, it has been helpful so far. (P15, male)

I had a session with a counsellor this semester to be assisted to find a balance between my academic and my personal difficulties. I still go for therapy when I am overwhelmed, and it's been helpful. (P17, male)

Others, like the participant below, specifically expressed regret for not soliciting counselling services the previous year when she experienced personal challenges that she believed interfered with her performance.

I started attending counselling this year after I got readmitted on probation. I wish I sought help last year when I was overwhelmed by my personal problems. I would not have ended up failing. (P14, female)

The value of the student support service was also acknowledged by some, expressing an appreciation of the structure and consistency of the counselling services when dealing with difficult personal circumstances.

The only beneficial system of support is counselling; they have an appointment system and give you a specific set of time. It is a structured environment, and I like structure. You go there for your 50 minutes session or so and you leave, you don't have to wait once you secure your session. (P19, female)

Others, like the participants below, consulted for academic counselling and career direction when changing her disciplines and the college.

I saw a counsellor for academic counselling and some direction when I was readmitted to the College of Humanities; she was helpful. (P11, female)

The study skills workshops on time management and learning styles were mentioned in particular as one of the more beneficial services offered by the student counsellors/psychologists.

I attended a time management workshop in counselling division. It did help last semester to learn the importance of putting time in everything I do, something I wasn't doing before, which affected my performance. (P8, male)

I attended a learning styles workshop, we did an exercise that put a lot of things into perspective regarding my approach to my studies. I am one person that need to find interest in something, it's clear I procrastinate. (P10, female)

While a fair number of participants found the counselling services accessible and useful, a few discontinued their counselling attendance, citing various reasons such as discomfort at dealing with personal challenges in counselling space, and expectations not being met.

I had a counselling session before, and I found one-on-one sessions very uncomfortable. I feel I need to deal with my issues. But I find sessions like that uncomfortable. Even a group session will be more uncomfortable. My friend suggested that I should write, but I don't like anything that brings up emotions. (P4, female)

Counselling service is accessible. The first time I went there I was hoping to get learning strategies and motivation to learn. I stopped because they were not helping me. I told them what I wanted, but they did not help. (P18, female).

4.4 Intersecting psychosocial factors in the university context that impact on progress

The participants' narratives reveal some personal factors that impacted their performance as At-Risk students. The section commences with the influence of failing modules, particularly major/s, on academic motivation and lateral transfers. This is followed by the personal and psychosocial influencing factors associated with being At-Risk and on probation, and how these impact on progress; the consequences being At-Risk bears on psychological wellbeing; and the ultimate impact on performance. The section concludes with a discussion on the learning strategies employed, including the academic procrastination behaviours identified as a result of participants' failure to effectively apply themselves.

4.4.1 The effect failing a major has on sustained motivation and lateral transfers

The narratives demonstrated that many participants struggled with their initial degrees and had to change their major/s and degree, but remained in their colleges, while others had to apply for lateral transfers to start a different degree in another college. These changes consequently affected their

motivation in pursuing the degree and also influenced their academic performance. The participants expressed career uncertainty and confusion as they continued with their studies in different career paths after being academically excluded, with some specifying that their goal was now only to obtain a degree pass.

I was not enthusiastic about my studies. Becoming a chartered accountant was my lifelong dream. When it was not working out, and I was failing, I became confused about what to do. I was studying just to get a pass. Now that I am doing a different degree, I don't really like this degree, I am just trying to love it. I had no clear answer or vision as to what I was going to do with the degree. I am studying just to get a degree so that I can start working. (P6, female)

I was failing B.Com degree, accounting in particular, and lost interest and was excluded. This semester I am readmitted into supply chain still in the School of Commerce. I took it because it was a choice made available to me, and I don't know much about it. (P4, female)

I wasn't enjoying my degree in health sciences, I was failing and got excluded from and readmitted in the College of Humanities. I am still not sure of the modules that I am doing, I don't know where they will take me career-wise, but I am registered. (P12, female)

4.4.2 Influence of personal characteristics and psychosocial factors on academic progress

The narratives demonstrate that some participants were consumed by personal circumstances in the immediate environment, which negatively impacted their ability to effectively engage with their academic studies. The participants below cited their personal challenges as impeding on their ability to succeed.

I have not been coping in my social science degree either, due to some personal problems. I changed majors many times, I am underperforming. I was excluded again and readmitted this semester. I hope to pass this time around. (P1, female)

I was preoccupied with my personal issues, and couldn't focus on my studies. I changed few modules during my degree. I never had problems with my first major, I always passed, I always enjoyed drama at school. My second major has been delaying my progress and graduating, I am on probation and I can't afford to fail now. (P17, male)

The feelings of sadness and despair are noted in the excerpts. For example, the participant below attributes being academically At-Risk to personal challenges, which caused her sadness most of the time. The realisation of her Red colour-coded, At-Risk status placed her under pressure to perform

academically and became a distressing, overwhelming situation which she couldn't self-regulate. Consequently, this further negatively affected her performance.

My personal problems consumed my time and left me feeling sad. I lost focus most of the time. When I saw that I was in 'Red underperforming category', I was under too much stress to perform and ended up not coping with schoolwork. I failed again. (P1, female)

Similarly, one participant had stressful personal challenges that impacted her physiologically and behaviourally. Consequently, she failed to comply with assessment rules, such as meeting due dates for submissions.

I was under too much stress, and I did not have someone to talk to about personal struggles; I used to oversleep and miss classes and submit work late. That affected my performance. (P9, female)

Other participants who also missed classes indicated experiencing personal challenges relating to grief that caused intense feelings of *depression and despair*.

I was depressed all the time and negative towards life after losing my brother; I was not attending classes at times because I would be doing something else, in places where I can be happy, but still I was unhappy. I felt that I did not deserve to be at university. I felt like a failure. (P17, male)

Additionally, the participants below expressed anger and self-blame as they attributed their academic failure to the interpersonal relational difficulties (family/partner) which they were preoccupied with.

The situation at home is a big contributor. I have been preoccupied with family issues which distracts me from my studies; I am the first person to attend university, they expect too much, and with this pressure I have been struggling to concentrate on my studies. (P13, female)

I am an emotional person, I had personal problems that preoccupied me, ever since I told my family about being academically excluded, my relationship with them has not been good. I struggled to concentration on my studies, and my performance was affected badly. (P18, female)

Likewise, the participant below alluded to feelings of being overwhelmed, and how dealing with the pressure and expectations from her immediate environment impacted on her levels of academic motivation. Consequently, she failed.

Ever since I started university, I feel too much pressure; everybody is in my case: my neighbours, my parents, my family as a whole. No one has ever been to university, so all eyes are on me and they expect

too much from me academically, and everybody sees me as a role model. I am tired, overwhelmed by their expectation and demotivated. I have been failing. (P11, female)

Another participant expressed regrets for not seeking professional help timeously regarding relationship (partner) issues that weighed heavenly on her.

Mainly the problems with my ex, the father of my child, I wish I sought help last year when I was overwhelmed, I would not have ended up failing. (P14, female)

Some participants shared the different coping mechanisms that they used to deal with their personal and psychological pain. The participants below described their dependence on substances and alcohol as a coping mechanism to ease emotional pain and sadness.

I struggled to come to terms with the loss of a significant person, my performance was deeply affected; I indulged in substance abuse and alcohol as a coping mechanism. Substance abuse was an escape to me, and there were times where I felt guilty. These were a significant influence in my academic performance and progression. (P17, male)

Another participant indicated that he used substances to alleviate social anxiety and gain social acceptance, alluding to peer pressure. He expressed feelings of marginalisation and inadequacy because of his sexual orientation, and how his circumstances affected his attitude towards learning to the extent that he began neglecting his studies.

I always failed to fit in because of my sexual orientation; this has been my struggle since high school, it has not been easy for me growing up. That's one reason I cared less about schoolwork, and I cared more about what the world thinks of me. Because of the freedom at university, I became so independent. I would watch my housemates smoking weed, but they passed. I smoked weed as well, but I have been failing my exams. (P15, male)

The same participant noted his perceptions of smoking weed as a way to improve intelligence and performance.

I smoked weed because it was fun, it was nice, and I was hoping that it would enhance my intelligence. (P15, male)

4.4.3 Experiences and consequences of being At-Risk on psychological wellbeing

In terms of the experience of being At-Risk and on probation, almost all participants reported emotional and psychological reactions such as feelings of disappointment, humiliation, and shame when their underperformance left them colour-coded Red. The participant below revealed that this situation disrupted her life and future career plans, and described how her academic exclusion incited suicidal ideations.

I feel suicidal most of the time, because I have no life; to me school is all I have and when I got academically excluded, I felt like the end of my life. I must just end my life. I feel like the world has turned against me. I feel like I am the biggest problem in the whole world. (P11, female)

To other participants, being academically excluded lowered their confidence and motivation to engage, to the extent that they questioned their cognitive capability to accomplish their learning goals and make clear progress.

Failing lowered my confidence; I started doubting myself, feeling incompatible with this course. Some days I was depressed. I remember the first days of my suspension, I would sit in my room, not eat, watch movies the whole day. (P8, male)

I feel like I am a failure. I doubt my capability. Failing has cost me another year at university, another complication because some things I cannot change. It saddens me that I cannot even get a 50% to pass. I won't finish on time, this makes me feel like I am not smart. (P13, female)

Academic exclusion put me off balance. I feel like I am a failure; I am incompetent; not focused; I am distracted. (P16, female)

Two other participants expressed feeling judged by their peers as they transferred into a different college to pursue another degree. Such perceived experiences when changing a degree and college is noted to have consequently affected students' self-esteem and self-worth, and created feelings of fear and uncertainty about future career prospects.

The change of degree is embarrassing, and to tell people that 'I am now doing BA', sounds like 'she is struggling', and if I am excluded, I fear is that I won't be able to register in other universities. (P10, female)

When I meet someone from my speech therapy class, I feel bad and sad. Changing my degree to humanities makes me feel like loser, and leaves me uncertain about my future career. (P12, female)

In addition, the participants expressed being shamed further by the university's system. Many found the experience of viewing their academic records online to be humiliating, as having a red code appear on the public system with their name did not protect their privacy. Four participants alluded to this sense of shame around their red-code status, describing how it negatively affected their self-worth, lowered their self-esteem, and damaged their confidence in their ability to accomplish their academic and personal goals.

I am less enthusiastic, less motivated with being labelled. When you log on to your student profile, the colour code flashes; firstly, you are afraid to sit in the Lan among other students because other students will see this red code, which is a stigma attached to your name; secondly, the minute I see that red flashing, I feel labelled already, that I am not performing well. Once you label something, you take it as what you are. I don't want to log on to the system anymore purely because I don't want to see that label, you are At-Risk, indirectly in my head it is perceived as 'you are weak, you are not performing to the level'. In order not to see that rubbed in my face, I rather not log on, which leaves me not getting my emails, and stuff that gets posted all the time. (P19, female)

Checking my results online was challenging because when you open the student central it shows the risk status. In my situation, I am on red; the red colour is right there. That is very shaming. I had to check around to see if anyone is looking at me. (P3, male)

The Robot System affected my confidence when you open the student central, it shows that you are 'Red'. It is shaming and embarrassing. (P5, female)

I saw on the student central that I was on red. I did not expect to see Red in my academic record, I felt so disappointed at myself and embarrassed because there were other people around me. I wish I was alone, when I first found out. I would have prepared myself. (P20, male)

Other participants revealed the consequences their Red-code status bore on them cognitively, stating that they became preoccupied with the fear of failing, and their struggle to control this fear interfered with their quality of engagement with their studies—leaving them feeling guilty.

My biggest fear is getting excluded from the university. That will impact my whole career. I won't be able to register in other universities, I think about it more often and end up not studying and then feel bad. (P2, male)

Although being on Red has made me work under pressure, I end up not coping well with other things as I am worried about being excluded again. If I failed a test I get preoccupied with it, trying to improve my performance, to avoid failing it again. I find myself neglecting other modules that are a bit

manageable. I ended up failing modules that are easier to manage, leaving me feeling guilty and upset. (P5, female)

Others expressed that their experiences of being coded Red also created feelings of guilt around socialising with friends instead of studying.

I feel peer pressure. I compare myself with my friends. When they want to go out, for whatever reason, I want to make my friends happy and I go out with them forgetting that they are in Green academic status. As a student in Red, it is hard to enjoy time with friends because I know that I am supposed to be studying instead of socialising. (P16, female)

Moreover, the participants expressed the challenge of rebuilding their confidence and focus while living in fear of a second academic exclusion.

My biggest challenge is getting back on my feet, to avoid another exclusion. (P1, female)

The challenge is to adjust to academic life, because if I don't pull out of the situation, I will be excluded from the university. That really scares me; hence a lot of things have to change this semester. Being on Red has not been a good feeling at all. It is terrible. I am ashamed of what I have done to my studies. (P15, male)

I am under a lot of pressure not to get excluded again. I changed my study habits; I have been spending most of the time on books. Most of the time I forget work that I studied, because I spend too much time on the books, I don't take breaks because I want to ensure that I understand what I am studying so that I don't fail and get excluded. (P20, male)

The three participants below expressed their fears regarding their future careers as students risking a second academic exclusion.

The pressure right now is, if I get excluded, my life will turn upside down; confused about where I stand and not knowing what I will do next, going back home, sitting and doing nothing, that's very stressful. (P5, female)

Getting excluded from the university scares me. I don't know what I will do, it will mean going back home and not knowing what to do, which will be a big problem. (P20, male)

Apart from the experiences of being At-Risk, participants alluded to other challenges, such as accountability to family and significant others. The participant below communicated a lack of family support for her current situation, which required her to make huge changes in her academic career.

When I told my family that I failed, they said, 'You never failed all your life at school'. They don't believe that I have been failing. Now I must try and make my mother understand that I have changed the degree to study something else in humanities. My problem is that my family's only interest is in knowing when I am finishing; when will I start working. I don't have answers to those questions. I am not getting support. I just want someone who will understand that I have changed to the College of Humanities. No one supports this choice. (P11, female)

The participant below attributed the lack of family support to a lack of knowledge about tertiary education, as she was the first in her family to enter university.

At home I don't have someone that I can talk to about my academic challenges that I am facing. I am the only one at university. My family doesn't understand how the university works. I think all that my family wants is that I finish studying and get a job; they don't know of my academic exclusion. (P14, female)

Other participants explained that they intentionally hid their academic status from family members, to protect them from disappointment and protect themselves from the sense of sadness and shame they felt around the situation, which also had financial implications for their families.

My whole family is looking up to me. I am the first person to be at university. My family always uses me as an example to encourage my siblings to work hard and pass. I told them that I have not been doing well, but they don't know the details that I had to appeal against the exclusion. I feel bad for lying to my parents. My only hope is that if I pass all my modules this semester, there won't be any space for lying; I will continue with my degree. I won't be a disappointment and be a burden to anyone at home. (P13, female)

At home, my sister and I are the only ones at tertiary and the only ones who can change our home environment, the financial situation, for the better and assist our younger siblings to get a better education. (P20, male)

When I discovered that I was excluded, I was very sad and worried about what my family was going to say because they pay for my studies. I did not tell them about the exclusion. It was hard to accept the situation, and it felt better when I was readmitted. (P18, female)

Non-disclosure was further used to protect themselves from being stigmatised and receiving judgmental remarks from significant others, who they worried would accuse them of being less capable due to their probation status.

I don't disclose my current situation to other people because of the fear of being judged, I am embarrassed by my performance. Now I feel too much pressure from home to finish and start working, and their lack of support made me less motivated to study. (P9, female)

When I got the first At-Risk status, I told my father and he did not understand what that meant. I explained and he shouted at me, saying that I was not serious. I failed again, so I can't tell him; he thinks I am completing my degree this year, and I am not. I don't know how I am going to tell him. It is hectic. It is worrying me, and it's hard to take it out of my mind. (P18, female)

Other participants described their family's punitive actions after disclosing they underperformance status as having a stigmatising effect that caused them to alienate and isolate themselves from others.

My parents were very disappointed at me when I told them I failed. Now they stopped talking to me, and no longer give me money for essential needs and for groceries. They are very angry at me. (P9, female)

My family is aware of my underperformance status. In my family, once you are labelled, everyone labels you, they ask, why you are watching TV, don't you know you are At-Risk, go and study. I feel angry, frustrated and belittled. I don't go and study when they tell me because it is pointless. They remind me that they pay my fees, and I need to pass. I get excused from the family activities, I get reminded that I am At-Risk, so I need to stay behind and study, and they are paying for my fees. It is very painful, there is no autonomy. I get frustrated and angry and I don't study. (P19, female)

The participants below described their reactions to being on probation as a wake-up call, expressing their commitment to modifying their academic habits to enhance performance. For these participants, being flagged Red was a catalyst, leading them to make changes to enhance their academic performance.

Being on Red category is my last chance, so I need to start working harder, seek more help, utilise whatever the university is offering. (P6, female)

Being on Red made me realise that if I don't finish this degree, what will I be in life? I need to finish a degree. A degree is needed, so that I can get a decent job. [It] has changed the way I think about the future [and] changed me from a person I was before, for the better; it has a very positive impact on me, because I now know that I need to work, I know that in life, you need to help yourself, if you get an opportunity have friends who almost got excluded, they are my motivation; I have a support system as well, I now have a mentor and a friend of mine that I live with. (P15, male)

4.4.4 Learning strategies used to influence the quality of engagement and performance

The study methods and learning resources used to engage with academic activities are discussed in the sections below. To this end, some of the participants consolidated lecture notes and prescribed textbooks to acquire a deeper, more comprehensive understanding of the module they were tasked with learning.

Reading and writing notes worked for me. I will be paraphrasing based on my understanding of the reading, and reading my own notes helped a lot. It gave me a better understanding of the reading. I use my own notes to prepare for exams, and test. (P13, female)

Lecture slides don't provide all the information you need to understand the subject, so I read the textbook and lecture slides and notes that I take during lecturers to get a better understanding of the module. (P14, female)

Participants also shared their preferred study methods, and how they manage their modules.

I separate my work into sections. I learn one section at a time, and I take breaks in-between. I get bored if I have to go through the same thing repeatedly, revising and repeating work; my mind switches off. (P1, female)

I do all my readings in the morning, it's my routine. I also review the course material when I come back from class. I don't do the last-minute studying, I study in advance. After each lecture, I study the notes and the prescribed textbook. (P4, female)

I treated all modules differently. The ones that I did not enjoy—I was not applying myself; I was not preparing that much. I used to focus more on modules that I was enjoying. (P10, female)

I relied more on YouTube to help me understand the module. My friends helped me a lot, we did past papers as well. This semester I have been trying to listen in class, but it is a struggle. (P18, female)

For maths, I watch videos on YouTube, and it is very helpful. I rely more on lecture notes when I study. I don't have the textbooks; I can't afford to buy. So, I get questions online to use to practice maths. Some modules don't have past question papers, I use questions given by the lecturer in class and during the tutorials. (P20, male)

Past question papers were identified as a valuable learning strategy for preparing for tests and exams.

I go through past papers, check for the answers, and then study. I do the past papers again after studying the relevant chapters to test my knowledge. (P2, male)

However, not all modules have past papers, as indicated below.

In supply chain you are not provided with past year papers, and they are very useful to help prepare for exams; I struggled to prepare for the exam because I could not imagine how the paper was going to be like, and how to study for exams. When I got to the exams, I found out that there was an application of theory and short questions; that didn't sit well with me. I like to see what was happening in the past work to give me an idea on how to go about in my studies. I felt overwhelmed during my exams because it was for the first time to see how the questions were structured. (P6, female)

While others were aware of past papers, they did not make use of them. The participant below described regretting not using them to prepare for her assessments to enhance her performance.

I did not make use of past papers. People who used them, I used to hear them saying that some questions that came up were in the past paper as well. Then I used to feel so bad and say 'Only if I did the past papers, I would have known the way they ask questions in an exam.' (P13, female)

The narratives above demonstrate that the university does have resources (such as the library, internet access, past papers, lecture notes, etc.) available to students to enhance their academic knowledge acquisition and engagement with the course content. Another pertinent factor established in the narratives was a preference for practical-orientated modules instead of theory-based modules. For example, some participants explained that they struggled to balance theory and practical work, as well as describing how the challenge of absorbing the theory impacted on their academic progress.

I enjoy calculations and applications; I struggled with modules that are theory-based and end up failing them. I used to put off studying modules that I did not enjoy, and I failed them. (P5, female)

I struggle with theory-based modules, I like doing calculations and applications. I think that's how I ended up not performing well—because it was hard for me to absorb all of the information. I would study everything, and understand, and when I get to the exams, I get overwhelmed and forget. I think, I have not really mastered the study techniques for theory-based modules because most of them are theory-based. (P6, female)

I struggle with modules that have too many notes, and the degree I was accepted for, the [environmental sciences], had too many notes. I kept failing. I felt it was going to take me longer to complete this degree, I then decided to change to maths. I prefer calculation, maths does have some theory, but it's manageable because when I apply theory, its calculations. I work better with calculations and applications. I can practice maths alone any time, I don't need to look for a group to do maths. (P20, male)

Other narratives revealed that some participants experienced challenges in making the distinct relationship between theory and its application in assessments.

4.4.5 Participants' experiences and perceptions of peer learning

The narratives conveyed the participants' intentions to engage in peer learning as part of a strategic learning plan aimed at enhancing their academic performance.

When I joined the university, I did not have a study group—a strategy that I used in high school. Studying with my friends motivated me to study. Here at university, I have been studying alone, I did not take my work seriously. When I failed my first test, I did not take any steps and things got worse. I failed, and I am on probation now. (P12)

The value of peer learning in a group format was further explained in the narrative below, where the participant articulates regretting not participating peer learning, which they view as a shared space for inquiry and knowledge acquisition that would have afforded him an opportunity to get personal clarity and increase his comprehension:

If only I had someone to study with, my performance would have improved. When you study alone, you may think you understand something. You don't see your problem until you get your test results. Last year I was studying alone, I wouldn't share what I learned; I couldn't put to the test my knowledge. (P8, male)

Sharing the sentiments of the narratives above, the participant below acknowledged the benefit in understanding challenging modules, but he felt reticent about seeking assistance, particularly in the first year of study, as he had not yet established rapport with other learners.

I was still new at the university and I did not have people to study with, and I was studying alone. I did not know people around, and I was afraid to ask people I did not know that well to study with me. [Environmental science] degree requires a lot of time, and you need to work with other people to do better. (P20, male)

Besides participants' recognition of the benefits of peer learning, the narratives also communicate their experiences of group learning and group dynamics, and how a shared learning space affected their ability to perform and attain their learning goals. The participants below found individual learning to

be effective, and justified their preference for an individual study strategy by citing the challenges created by group dynamics.

I have been studying alone. In groups, when the other persons feel they are correct, that made me lose confidence and to doubt myself. (P4, female)

In groups we end up talking about other things and I am a type of person that prefers to work alone. (P6, female)

Trying to study by someone else's pace was incredibly difficult. There was a lot of conflict in our group, with different understandings of things when it came to case applications. When the other person feels they are right, it used to make me lose confidence and doubt myself. I prefer studying alone. (P10, female)

I found being in a group would waste my time because I would not be participating, I won't be able to be open enough to ask for clarity if I don't understand something. I prefer to study alone. I like my space alone. I am introverted. In groups, some talk too much, and dominating the groups, interacting with each other, so I will be the one left out not saying anything. (P13, female)

The narratives below highlighted the individual differences in learning, illustrating how fostering study group strategies such as learning ahead and being prepared are key attributes that strengthen the group studying experience.

In groups, if you go unprepared, you will feel left out, like you don't know the work and you cannot contribute if you are not prepared. I prefer studying alone. (P13, female)

Group work works for me when I have prepared work to discuss in a group, and you identify areas that you need assistance with during the discussion. It does not work if you go to a group unprepared. (P14, female)

Another participant suggested that study groups be organised at the start of semester.

Study groups need to be introduced in the beginning of the semester. When you are in a group with other At-Risk students, it is better because you are all at the same level than being grouped with fast learners who can grasp the module quickly. (P5, female)

Academic procrastination was often recognised in the narratives as an attributing factor to failure, as discussed in the next section.

4.4.6 Self-reflection on academic procrastination tendencies

In the narratives below, participants discussed how they managed their academic space without wasting time, engaging with their tasks well in advance.

I don't do the last-minute studying, I study in advance after each lecture, I go through the notes and the prescribed textbook. (P4, female)

I don't procrastinate, I start on the day the project is given to meet the due date. I don't want problems. (P7, female)

Participants particularly expressed a tendency to engage more timeously in the modules which they found more enjoyable.

Essays and tutorial are more exciting than studying for a test. For essays I start studying right away because I enjoy essay writing, I don't procrastinate. (P1, female)

While some participants did not delay engaging with their academic schedules, the majority reported high academic procrastination tendencies, which included intentionally putting off more cognitively challenging tasks. This brought with it concomitant challenges in managing the study process timeously, as described by the participants below.

I delayed getting started on my work, I struggled with time management, I spent more time listening to music instead of studying, and I ended up failing my modules. (P2, male)

I had those moments where I would say 'I should be focusing on my work, this is wrong', but then I would not have much time to think about school work, because I had other things to do like hanging out with my friends instead of studying. (P12, female)

I would procrastinate on my work to an extent where I would study for an exam a day before. All I focused on was having fun, I would go out to find people and tell myself that the work will come later. (P15, male)

The narratives below demonstrate the challenges in monitoring and managing the balance between social life and study time.

I struggled to balance the time that I allocated per module. If I did not do well on a test, I used to focus more on that particular module, trying to improve my performance. I would find myself neglecting other

modules that were a bit manageable. I ended up failing modules that were easier to manage. (P5, female)

I tried to manage my time but failed. Also, I have come to realise that the workload here is not the same as in high school, so you can't manage your time the same way you managed your schoolwork in high school. (P8, male)

I struggled to manage my time and that had an impact on my performance. I would make plans to study at a specific time, and when the time comes, I would be doing something else. Like with maths, I spend a lot of time doing maths, I end up not giving other modules enough time. I think it is because I enjoy Maths, and I end up not balancing my study time with other modules. (P20, male)

One participant alluded to working under pressure to perfect her work, and felt that her time was squandered in the process. She attributed the challenges she experienced in planning appropriately to a lack of distinct instructions on a task.

I would describe myself as a timewaster. I delay my work. I feel so pressurised by the fact that I am At-Risk, and I need to perform well. I then take so much time to perfect my work so that I get good marks. If I am given a topic, I find myself wasting so much time going into so much depth on the topic, wasting time trying to find out everything about the topic, and not focusing on what is expected of me. I feel we don't have clear instructions about the task. (P19, female)

Others shared how their procrastination tendencies increased their stress levels.

When there is a test, I keep putting things off and procrastinate during the study time, because tests have so many rules and regulations; there is a limited timeframe to learn and you have to put the book away. That overwhelms me. (P1, female)

I will be telling myself to relax; there is still time to learn for a test; it's just calculations. As time gets closer, I would notice that there is lot of work to cover. I would study under much pressure, cram almost everything, and then forget my work. (P3, male)

I would do an essay at the very last minute and type it the night before the due date. I would become so anxious and stressed about finishing the task, and then when I do finish, I would get that feeling 'You are such a conqueror'. I would be very happy. (P10, female)

I would keep postponing work, and tomorrow never came. On the last day, I would be under pressure covering work that should be done over four days. I would write under much pressure to complete and submit my work. (P13, female)

I would postpone dates to start on an essay for modules that I don't enjoy and find myself starting two days before the due date. I would be under a lot of pressure, and cross-night in order to finish the work. (P14, female)

The narratives highlight that cramming does not yield the desired results. The participants described how cramming their work was done as a last resort which invariably created pressure and produced undesirable results. This is a distinct indication of poor time management and goal setting.

I study for my tests two days before the test because I forget if I study in advance. As time gets closer, I would notice that there is a lot of work, I had to cram almost everything. Forgetting work contributed to failing my modules. (P3, male)

The only time I would understand my work is when I read and then write it down in my own words, but this is time-consuming, there is a lot to cover, hence I end up cramming. (P8, male)

I tend to forget work that I study a few weeks before the test. I used to study two days before the test to try remembering everything. Cramming was the only method I was using, but it didn't work. (P11, female)

I had the mentality that 'I could cram, and pass'. But it did not work out. It did not matter whether I understood the sentence or not, I would just cram everything in the slide and put it in my head exactly how it is. That did not help me. I struggled with the skill to prepare for exams, all my learning was done a few hours before the exams. (P15, male)

I used to find myself cramming the night before. Planning and scheduling work and dedicating time to each module would have helped me avoid last-minute cramming. (P19, female)

The participants reported that they delayed studying for the modules they were less enthusiastic about.

I would procrastinate on modules that require too much reading. I don't like notes, I prefer calculations and application. I would delay, putting off studying these modules, and would rather be socialising with my friends. (P3, male)

Only with modules that did not interest me, where I used to procrastinate. Studying for those modules, I would get bored and fall asleep. There was no excitement. I always procrastinate and say I will do it tomorrow. I would be free the entire day with nothing to do, and I would make excuses instead of studying. I remember I would rather sleep, watch TV. (P10, female)

Two participants described how they employed unrealistic study habits.

I always procrastinate and say I will do the work tomorrow. I just end up not studying at all. (P9, male)

I gave myself excuses and worked it out in my mind how I was going to do it the next day, but the next day I would give another excuse, and say, 'I can still manage, I will do it tomorrow'. I used to just change my plans on the day and do something else. (P13, female)

Three participants reported idleness and lethargy as being chief contributing factors behind their tendency to delay tasks. They exhibited avoidance tendencies when confronted with challenging cognitive tasks, and justified their actions.

I used to postpone my work and say, 'Let me just clean my room, do my laundry or grocery shopping.' I'd feel tired afterwards and say, 'I can still do my work tomorrow.' I won't study, and the day will be over without studying. (P13, female)

During the first semester, I was very lazy, sleeping a lot, and missing lectures. I used to tell myself that I can do this on my own and I did not need a lecturer. I felt terrible when I missed lectures, but I used to tell myself that I was going to catch up. (P18, female)

I used to watch movies when I felt I had more time to study for a test or an exam. I know I procrastinate a lot; I would feel too overwhelmed and think about negative things. I would self-talk, ask myself why I am not studying when I should be studying, and tell myself that I am being lazy. I would feel depressed and guilty because I won't be doing anything to change what I am doing. (P16, female)

The participant below not only gave idleness and lethargy as her reasons behind procrastination, but also expressed similar reflections as participants P3, P20 and P10 above regarding lack of enthusiasm as a contributory factor, demonstrating an inability to control negative learning actions.

I am lazy. I sleep a lot, sometimes during the day, especially when I don't have a class; I tend to procrastinate on modules that I don't enjoy. I keep pushing dates to start on an essay and end up starting two days before the due date. By then I will be under a lot of pressure and stay up the whole night studying trying to finish the work. (P14, female)

One participant experienced personal difficulties that led to poor behaviour control concerning tasks and time management, and consequently felt ashamed, making unrealistic promises to compensate for his actions.

My major weakness is procrastination. When I was going through my personal problems, I kept postponing work, and never got work done. I would hand in work late, I would have a sense of shame;

sometimes I would not submit work and then lie to myself and say, 'I am going to work harder to cover up the marks that I lost'. (P17, male)

Another explained that he was aware of his tendency to procrastinate, but struggled to control it due to a fear of failure.

I procrastinate, it is a big problem for me. I don't know why. It's a habit. I tend to leave work until the last minute. Every time I would be thinking of failure because I know that when you delay something, and you are not doing anything at that time, there is a possibility that you are going to fail. I procrastinate. While I see it, and I try to stop myself, but it is hard, it is a big issue. (P8, male)

The narratives indicate that despite being aware of the repercussions of procrastination, the vast majority of participants lacked the skills to efficiently self-regulate their thoughts, emotions, and behaviours towards their academic engagement, consequently resulting in unrealistic study habits. These included avoidance tendencies that placed participants under pressure to complete the task and achieve desirable outcomes against greater odds.

DISCUSSION OF QUALITATIVE FINDINGS

4.5.1 Introduction

This section presents a systematic discussion of the qualitative results in relation to the existing literature. The discussion begins with an overview of the pre-university influencing factors, followed by an analysis of the influencing factors relevant within the university context. The chapter concludes with a discussion relating the psychological factors associated with the experiences and consequences of being At-Risk while on probation. While the discussion is approached in a systematic way, it should be noted that a complex interaction occurs between the different themes that were identified. Figure 8 offers a representation of the main findings established in the qualitative results section above.

4.5.2 The At-Risk student within the university

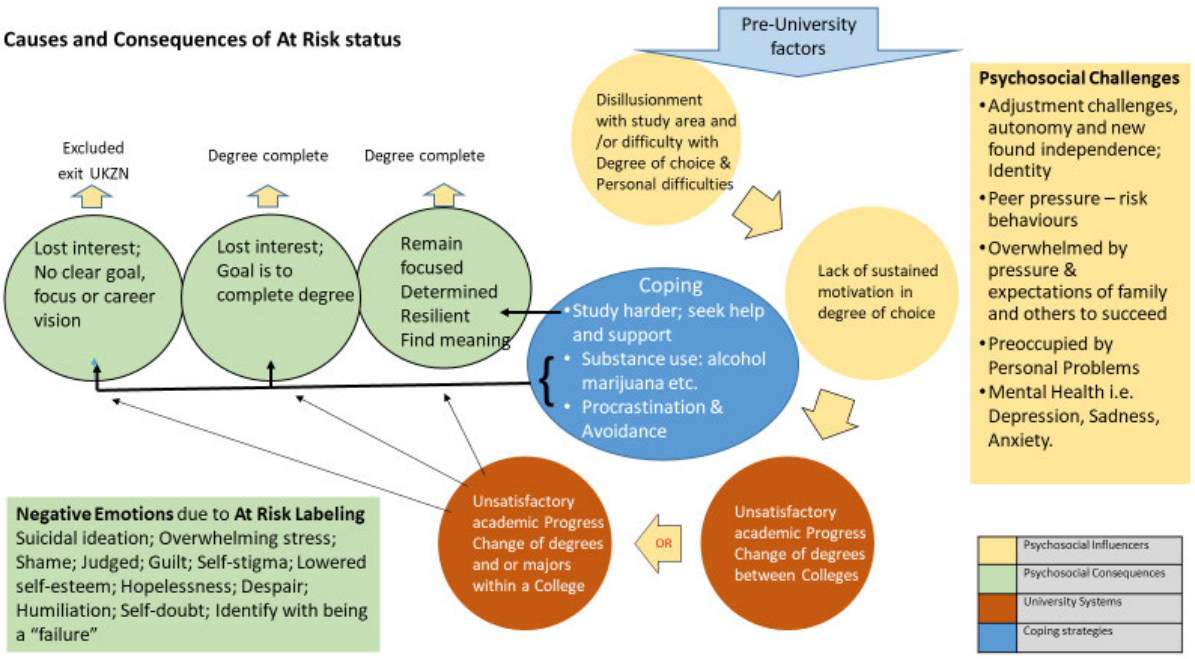

Figure 8

Causes and consequences of At-Risk status.

The study suggested that the relationships between the contextual and psychological factors are inextricable connected, and none could be supported or refuted without reference to another. These results concur with Boughey and McKenna's (2016) argument that in order to understand any student's experiences, it is imperative to view the situation through an intersectional lens. Shay (2017) likewise acknowledges the need for research that offers a "thorough review of the 'epistemic obstacles' which students face beyond first year that result in high failure" (p. 5), which relates to the purpose of this study from the perspective of At-Risk students.

Demographically, the findings demonstrated that the majority of academically At Risk participants, were Black students, suggesting that they are less likely to complete their degree programmes on record time for three-yer and four-year degree programmes. This contextual factor is consistent with the recent reports on Post-School Education and Training Monitor, Macro-Indicator Trends (Department of Higher Education and Training, March, 2019 and 2021) which demonstrated that, despite improvements on graduation rates, the low retention and completion rates have reportedly been skewed towards this racial group in South Africa. Another interesting finding is that a fairly high number of the participants matriculated in well-resourced schools (Model C mixed-race public schools and private schools), which have been described in the previous literature (Spaull, 2013; Rule, 2017) as schools that offer better education as compared to less resourced/more disadvantaged schools (township and rural). This finding demonstrates that, students are likely to experience academic failure at university despite differences in the quality of prior knowledge and skills from the Basic Education (BE) teaching and learning system

in South Africa. Previous studies have demonstrated that student do fail at university, citing various factors that impact, which this study also found and these are elaborated further below.

These findings also demonstrated that many had access to financial aid (i.e. NSFAS, bursaries and scholarships) when they joined the university. As stated in Chapter Two, one of the SA government's transformation goals was to increase access to HE and provide financial support (NSFAS) to students from historically disadvantaged socioeconomic backgrounds. Access to funding has been associated with positive learning and promotion of academic success (Bawa, 2019). However, these findings indicate that undergraduate students from all socioeconomic and educational backgrounds as well as racial status experience academic failure and academic exclusion at university. These finding support the existing literature on HE, both international (Ajjawi et al., 2020; Tinto, 2017) and national (Scott, 2018; Swartz, 2018), which have also acknowledged that many students experience academic failure at university, implicating various underlying contributing factors such as transitioning challenges. These finding match those of the current study. The barriers to success are discussed next.

4.5.3 Pre-university influencing factors on quality of HE engagement

One of the key contributing factors was the issue of unpreparedness for their degree programmes. The findings suggested that many participants enrolled for degrees which they were ill-prepared for, implicating the BE system's failure to adequately equip them with career guidance education, as also posited by Maphosa et al. (2014) and Wilbur and Ri (2016). Career guidance education equips learners with career knowledge on various degree programmes offered at university, and such information is important in building their self-confidence and beliefs in the ability to make informed decisions on which degree to pursue. Akkermans, Paradniké, Van der Heijden & De Vos (2018) also acknowledged the significance of students' career knowledge and career competencies in promoting career choice satisfaction, positive engagement and performance outcomes. Moodley and Singh (2015) further note the significance of making an informed career decision on academic efficacy and performance. From the SRL perspective, the decision making process in the forethought phase of Zimmerman and Moylan's cyclical phases (2009) is an important first step that involves most planning (career / task) and goal setting on the steps to be taken to accomplish their educational and personal goals. The findings also suggest that parents and significant others played a role in facilitating and influencing the participants' initial degree choices. Parental involvement in their children's career decision making process was also acknowledged in previous studies (Bohara & Suri, 2021; Onoshakpokaiye, 2023; Maphosa, et al.'s, 2014) study. Consistent with these studies, the findings suggest that parental involvement in career choices indicated that parents had an invested intention for the children to navigate career paths linked to perceived esteem, respectability, and employability, in order to improve the family's socioeconomic situation. However, the current findings seem to suggest that the lack of

career knowledge negatively affected the participants' confidence in their preferred career choices, which were not mutually shared. This phenomenon contributed to many such students enrolling for degrees which were recommended by their parents and significant others, and which they had little or no interest in themselves. It became evident that due to the pressure to enrol, these students had to settle for the degrees which they were not interested in pursuing. From the findings, this initial challenge (pursuing degree choices that were not well informed) seems to have contributed to the participants' failures in sustaining passion for their module/s and degree choices, which consequently affected their quality of engagement and performance. While personal attributes and passion are critical factors to consider when choosing a degree, these aspects however do not obviate experiences of academic challenges and failures. The findings seem to suggests that both the motivational factors (Bandura's, 2001 concept of self-efficacy beliefs, in one ability to perform the task) and the influences of the environmental factors as they prepare to transition to university and in the university context consequently affected their regulated adjustment to the degree and efficacy for learning and attaining performance goals.

Another systemic issue beginning at BE level was reported by very few participants, who described how being taught in rural and township schools in a language and vernacular other than English later affected their ability to communicate in English fluently, and how this consequently decreased their confidence to seek help from the lecturers regarding their academic work and performance. Previous literature (Sosibo 2015) also notes the issue of English language proficiency among second-language users from rural and township school backgrounds as a barrier in their academic engagement in HE. Dukhan (2016) posits that English language proficiency among second-language users affects their ability to engage deeply and critically with their reading material. Roman et al. (2016) also cite multilingual needs within an English-medium setting as immediately influencing success

4.5.4 Complexities of the university context

4.5.4.1 Factors that influenced engagement and performance

One of the salient factors that was an influencing aspect of participants' academic failure was not being adequately furnished with the necessary skills to navigate the university environment. The literature (CHE, 2017) likewise acknowledges that many students enter the university lacking appropriate skills to navigate the HE context. This challenge hindered the participants' attempts to meet both the university demands and their own educational goals of success. As discussed in Chapter One, the university's ethos and commitment to a student-centred environment affords the students the autonomy and responsibility to manage their academic lives (UKZN Strategic Plan, 2023-2032). This expectation also suggested the fundamental assumption that students are self-disciplined and self-sufficient individuals who can self-regulate their academic pressures and remain motivated to succeed. However,

the findings seem to suggest that the disparities between the BE and HE systems exist and both systems are implicated in the difficulties the participants face as they sought to navigate the contextually autonomous university environment. The findings broadly support Scott (2017), who reported that there are systemic challenge that requires systemic changes and interventions.

Another salient factor relates to the study methods that were used to promote their understanding of the modules and performance. The findings suggest that exerting less effort and cramming methods established at secondary school level (BE level) that provided them a pass, were not effective for meaningful engagement and maximum gains at HE level. This systemic challenge seems to suggest that although the participants acknowledged that the volume of their work is much higher as compared to high school, they may not be mindful of the academic demands and standards of a university context that promotes success. They particularly alluded to the challenge in understanding how to learn deeply and more comprehensively to meet the university's learning and performance requirements. Malm et al. (2015) reiterate that students should be assisted in "how to learn with what to learn" (p. 347) as an essential concept in the learning strategy. Even the minister's NSC report (2017, 2021) acknowledges learning deficits in problem solving and critical thinking skills in grade 12 learners.

Another salient systemic factor relates to the participants' challenges in the practical application of theory and in deconstructing questions in tests, exams and essays, suggesting their difficulty engaging in deep, constructive, critical thinking skills. Romans et al. (2016) argue that these higher-level reading skills seem to be underdeveloped among students. Fundamentally, the application questions require students to utilise theory as a foundation, and thereafter to apply such theory appropriately. The disjuncture between the theoretical content and the application seems to confirms that, at some level, participants are not cognisant of the essential nature of the university, including the expectation to effectively comprehend content and make use of the necessary relationship between theory and practice. Ultimately, as Partab (2010) suggests, students need to "witness theory articulating into practice", implying a comprehensive understanding of the process involved in linking theory and practice (p. 508). Thus, if they do not possess and develop the capacity to translate theory into practice, they are likely to remain underprepared—which has detrimental ramifications for continued academic engagement.

Another factor relating to individual preferences in engagement with the module content suggested that preferences such as selectively privileging assignments over tests and examinations were counterproductive and a barrier to success. The association between the students' selective forms of task engagement and their academic motivational beliefs that impact on performance has been noted by Pintrich (2004). The findings seem to suggest that participants were more likely to underestimate the enormity of the less enjoyable tasks (tests and exams), and engaged in unrelated activities instead as a distraction, eventuating in a personal sense of guilt and fear of failing. It is likely that the failure to engage timeously on less enjoyable tasks, and being averse to the volume of class work on such

modules, perpetuated unproductive learning habits that manifested behaviourally in task avoidance and resulted in undesirable outcomes. In the UKZN context, continuous assessments in the form of tests (both practical and theory), assignments, and group or individual presentations, influence the DP (Dully Performance) marks that the majority of modules require for students' admission to sit for the examinations each semester (UKZN College Handbook, 2020). Often students cannot compromise one or the other of these two assessment methods, since most modules require students to be involved in both tasks as necessary contributions to their DP (UKZN College Handbook, 2020).

In addition, the findings suggested that the participants value in-person forms of academic learning (i.e. attending lectures), corroborating Bulbulia and Wassermann's (2015) study. Consistent with Almutawa & Suwaidan (2020) study, the findings of this study suggest that class attendance is perceived to improve their understanding of the module content which will in turn promote performance. However, the systemic factors such as the lecturer teaching style, attitude, power dynamics, class size, accent, and pace, seemed to compromise constructive engagement with course content and heighten absenteeism, which perpetuated failing. Randa (2020) study on SA university students also found that the lecturers' behaviour and their teaching related practices negatively impacts on students' class attendance and increased absenteeism.

The findings suggest that the tutoring programme was preferred over engaging lecturers for various reasons, such as smaller class size and a less intimidating environment, which augured well for facilitating group participation. As also cited by Swartz et al. (2018), it seems that the negative perceptions of lecturers as intimidating, inaccessible, and unavailable, and the power dynamics extant in this learning space, inhibited the urge in participants to elicit lecturer support on module content.

The findings also suggest that the lack of confidence in eliciting academic support from lecturers contributed to the participants' reasons for accessing academic support from their peers instead. The value of participating in group work was of particular note when a student-driven learning space was facilitated by a staff member, such as in the case of Supplementary Instruction (SI) sessions, which are presently confined to the college of AES (as discussed in Chapter Two). Consistent with the literature (Theobald, Eddy, Grunspan & Crowe, 2017), the findings suggest that group dynamics when learning with peers can be hard to control and tend to result in unproductive engagement. However, the peer learning environment that are facilitated by for example the SI group leaders seems to have greater participation and commitment in the leaning process that benefits students—a finding also noted in studies by Malm, et al. (2015) and Paideya & Bengasai (2017). According to Malm, et al (2015), group learning contexts such as the SIs engages students on a "think, pair, share" (p. 347) approach, which tends to facilitate reflective learning—an important skill to develop and apply for greater comprehension of subject content. These "synergistic properties of groups" are likewise endorsed by Partab (2010, p. 498). The ability to self-reflect and self-evaluate when considering learning strategies

is also raised in a study by Panadero (2017), who suggests that students need to be actively taught this SRL skill as it promotes the attainment of goals.

4.5.4.2 At-Risk students' perceived experiences of the Robot System

An exploration into the reasons why the students in this study remained academically At-Risk pointed to the participants' misconstrued perceptions on the purpose of the Robot System. As explained in Chapter One, the purpose of the Robot System is to be a facilitative intervention mechanism (Academic Monitoring Support and Exclusion Policy, 2009). However, the findings suggest that this system was perceived with a degree of hyper-sensitivity, as it was essentially seen by students as punitive instead of as a facilitative process aimed at enhancing their academic progress and motivating them to gradually improve their academic performance. It seems that their At-Risk status was internalised as a negative and stigmatising label, a finding supported by Mngomezulu and Ramarathan (2015). The prospect of returning with historical academic debt as well as losing funding support due to failure to meet the progression requirement is likely to have aroused feelings of guilt, humiliation and shame for failing.

Systemically, the findings suggest that returning without funding support, as well as being compelled to change degrees, modules, disciplines, or even migrate to another college, further heightened the participants' levels of frustration with the university system. This situation seems to have set into motion a self-fulfilling prophecy that has been noted as a common pattern among those with At-Risk status. In particular, the findings suggest that the impact of failing major/s and module/s, making lateral transfers, and adjusting the anticipated time to degree completion, perpetuated a fear of failure around meeting progression requirements and incited dread at the prospect of ultimately facing final exclusion, heightening the participants' vulnerability to psychological distress. This predicament suggests that the system possibly creates a false sense of security, as students seem challenged to effectively self-regulate their academic space in the attainment of educational goals when under such dire conditions. This predicament seems to have perpetuated feelings of helplessness in the participants, as they were challenged to think strategically on ways to deal with their internalised feelings of humiliation and guilt.

The findings demonstrate that students with At-Risk status interact with the intervention programmes without benefiting from the intended goal of the Robot System—which ultimately is to ensure students departure from the system by graduating to the green status. It seems that they continue engaging without taking adequate time to reflect on their barriers to progression and on which necessary adjustments and decisions they may need to make to facilitate success. This predicament is recognised in participants' continuous attempts to pass their major/s, and is particularly apparent in the subsequent lateral transfers that ultimately place them at greater risk of dropping out or facing final exclusion. Although the participants persisted, the findings suggest that they did not necessarily do so proactively, but instead with a false sense of hope. This emanates, albeit indirectly, from the system, given its role in mitigating their intense feelings of vulnerability and of being overwhelmed by the prospect—or

reality—of failing, and consequently facing the loss of significant benefits such as funding, which would impact on living in suitable accommodation that is conducive to study.

The Robot System further showed limitations in regulating students' financial support. The study acknowledges that it is the institution's priorities that determine how finances are assigned, hence this logical, regulated university process of financial exclusion intends to protect and sustain the institution financially. The logical and complicated question remains: At what point is the system cognisant of how academic exclusions impact directly on continued funding? It is evident that participants' financial circumstances contextually impacted their ability to reside in an environment conducive to effectively self-regulating their engagement with academic activities, or their ability to attend classes. This situation ultimately influences other social systems of support, such as residing in an environment conducive for learning. These intersecting factors are deliberated upon next, beginning with the role of funding as a hindrance to the appropriate application of SRL strategies and performance outcomes.

4.5.4.3 Consequences of failing and academic exclusion on funding and living space

Failing a module or a major and facing academic exclusion naturally impacts on progression time, which follows as a result of lateral transfers, financial exclusions, and consequent changes of living space. The findings suggest that returning without financial support is not managed effectively by the At-Risk group. In the South African context, access to funding for HE plays a vital role in students' decisions to enrol or not, as detailed in Chapter Two (CHE, 2016) report. Access to funding and a conducive living environment are further described in the literature as the fundamental transformational factors that facilitate equity to education, positive learning experiences, and academic success (CHE, 2016). Evidently, most participants who were previously funded returned to the system without financial aid (NSFAS), including a few who had begun on scholarships and bursaries—a turn of events which impacted negatively on their living costs and environment. Scott (2017) also presents a scenario of academic exclusion in institutions with high fees, but which also host a good proportion of self-funded students. Clearly, the financial costs are not only systemic but also have psychological implications for students who engage in HE. It seems that the system may potentially be creating both a false sense of hope and some insecurity for the students who remain classed as At-Risk.

The findings further suggest that the participants' sense of vulnerability was further heightened when withdrawal from the programme was done as a result of a lack of financial support. This dire situation is also acknowledged by Swartz et al. (2018), who identify exclusion as a form of "institutional violence" (p. 111). Clearly, the intersectionality of other contextual factors acknowledged are a burden to the families who cannot afford the cost of HE. This predicament is demonstrated by some participants who expressed feeling compromised, and due to lack of funding, they (e.g. P16, P17, and P21) reflected and accepted their responsibility to withdraw and return to the system, albeit a year or some years later. Such a situation is also discussed in Swartz et al.'s (2018) study.

Furthermore, the findings indicate that while funding and living space during the academic term are interrelated, systemically they operate independently. The literature affirms that a conducive home environment and family support facilitates positive learning, ultimately increasing desirable performance outcomes (Zimmerman, 2013). The findings suggest that financial security becomes an essential factor in a student's ability to continue to stay in such a conducive environment (e.g. university residences, private accommodation). Evidence suggests that financial exclusions compelled the participants who were based away from home to consider alternatives, such as returning home or sharing private accommodation—options which have not always been conducive. Both options (residing at home or in private accommodation) had financial implication. Swartz et al. (2018) also found that due to the financial demands of university, some students reside at home to reduce costs. The current findings, however, suggest that such a move back home was because these participants had no choice but to return due to discontinued funding. Such a situation would further compromise their family's financial status, resulting in them experiencing feelings of guilt and humiliation as they once again became a financial burden to their parents/significant others.

Contrary to a UK study by Webb & Turner (2020) that found that the students' residential profile (i.e. commuters and those residing close to the university) did not have an influence on their academic performance, but found the significant differences in the levels of their pass mark. These authors found that the pass marks for those who commute to university were lower as compared to those who stayed close to the university. The current study suggests that residing at home or privately have been a further barrier to performance, due to challenges surrounding access to resources (e.g. library, computer, internet), and the time and money needed to spend on commuting; aspects also identified by Swartz et al. (2018). This situation seemed also to impact negatively on academic engagements involving group activities, such as the supplementary instruction (SI) sessions, as students often had to rely on public transport—a solution which has further cost implications for students without funding.

For some participants, gaining part-time employment was necessary to alleviate the financial burden. However, the findings suggest that the challenge of balancing the time for employment and academic activities perpetuated high levels of stress, which ultimately affected academic performance. This situation, according to Swartz et al. (2018), can be construed as "distracting from the considerable dedication that academic success requires" (p. 19).

The pivotal questions presented become: Are the systems interacting with each other to ensure student solutions, or are they working independently without recognising their intersecting commonalities? Is there a lack of commonality? Is the system in fact handicapping itself due to a lack of collaboration between institutional support structures?

4.5.4.4 Consequences of failing and becoming At-Risk: Lateral transfers

The findings imply that most participants perceived lateral transfers as their only option to remain in the system. However, it seems that these lateral transfers and degree choices were made without futuristic goals, as these decisions appear to have been made out of desperation to remain in higher education. In some instances, as also mentioned in the study by Mngomezulu and Ramarathan (2015), the findings imply that some students felt coerced into registering for degrees and modules which they were less passionate about. Such a predicament implies that students choose without appropriately interrogating their reasons for failing or coherently understanding their role in their lack of progress. This suggests a possibility that the system does not provide enough time to adequately realign students' career orientation towards personal goals, which is part of the career decision-making process. The findings suggest that the manifestation of such transitions has demoralising effects which persistently challenge students' efforts to strategically engage with academic activities. It seems that the system fails to amplify optimism or minimise pessimism among At-Risk students. Clearly, the challenges in making informed decisions further impact choices that maximise reward and minimise punishment—the fundamental principle upon which the Robot System depends as a mechanism to facilitate proactive behaviour in students. Inferred from these findings is that, although the Robot System is a facilitative intervention mechanism designed to promote students' positive engagement and success, the offices (ADOs and mentors) do not provide students with adequate space to self-reflect.

One noted feature of the Robot System is that once excluded from all other colleges (AES, LMS HS), humanities is explored as an alternative. The statistical frequency of lateral movements would be useful to capture, since it strategically informs a comprehensive intersecting response. Perhaps the present system does not capture and track this movement due to the complexity of students' migration within UKZN.

The findings suggest that lateral transfers within or from one college to another have other psychological impacts, as students often arrive already despondent in response to stigmatising labels and their sense of humiliation. It seems that they agonise in silence, as their fears of being judged as a failure by parents and peers further increases feeling of alienation, perpetuating the cycle of failing. Such students often enter college having already accrued one or two years of their academic careers. Such a predicament has several ramifications for the university system, let alone the incremental years participants spend at university, which in turn negatively impacts retention and throughput trends (Ramrathan and Pillay, 2015). The DHET (2017a) and CHE (2017) reports describe the implications within the South African institutions, where under 30% of students graduate in regulated time, under two-thirds graduate within six years, and one third have not graduated after ten years. The ramifications relating to slow progress among undergraduates continue to persist within UKZN, although considerable improvements have been reported (AMS 2017 Report, Chapter Two) and different strategies are expected to be employed to address these alarming statistics.

The findings demonstrate that participants considered a generic degree that, by implication, does not afford a clear, focused qualification. The question raised in the qualitative narratives was what a generic degree is supposed to accomplish, both personally and in terms of potential employment? Clearly the generic options likewise raised further fears for participants, in terms of employability upon graduation. Within the South African context, there is no guarantee of employment directly after graduation. Those entering the job market with generic degrees are therefore more compromised, as evidence by Stats SA (2019), which reports a high unemployment rate of 31% for the first quarter of 2019 among graduates up to 24 years of age. The majority of participants in the study were aged between 18-24, which suggests that they enter the employment market much later than 24 years of age. Additionally, if they remain At-Risk while still within this age group and are yet to complete their degrees successfully, their entry into the labour market is prolonged even further.

Structured degree programmes such as social work also experience high rates of unemployed graduates. For example, by the end of January 2019, 3969 social work graduates who benefited from a scholarship from the Department of Social Development were still unemployed (https://www.sanews.gov.za/southafrica). In the discipline of education, a comparable scenario presents itself when looking at the recipients of the Funza Lushaka Bursary, as a lapse between graduating and employment is noted due to systemic governmental challenges in placement. The South Africa Council for Graduate Cooperatives' database comprises approximately 30,000 unemployed graduates, 3,580 graduates from universities, 7,890 from universities of technology, and 20,008 from TVET colleges (Bangani, 2019).

4.5.4.5 Psychological reactions to the consequences of being At-Risk, and procrastination tendencies

The findings suggest that being classified as At-Risk is perceived as a potential source of psychological distress. Participants found the experience stigmatising and labelling, which negatively affected their motivational beliefs and confidence in their academic ability to perform and attain their goals. Evidently, the experiences of academic and financial exclusion; undergoing changes to modules, majors, degrees and colleges; and embarking on lateral transfers that extend the academic year and create a loss of sources of socioeconomic support, further elicited feelings of inadequacy, guilt and shame which consequently heightened undesirable negative procrastination behaviours such as delaying and postponing work until the last minute, that resulted among other, to missing essay submission deadlines, cramming for exams. The consequences of such experiences are likely to lower their rational beliefs in their own self-efficacy for learning and negatively affect their rational hopes for academic achievement.

Using Balkis, et al. (2012) concept of academic irrational beliefs which was positively associated with higher levels of procrastination and lower achievement in their study, the current findings appear to

suggest that instead of navigating through rationalisation and denial—which are underlying At-Risk cyclical patterns—the participants seem to have been struggling to deal effectively and realistically with their feelings of fear of failure, humiliation, guilt, stigma, and shame. Such fear-based responses invariably impaired their impetus to activate resilience and, for example, seek the support they obviously needed, and they instead opted to engage in undesirable avoidance behaviours as a protective defence mechanism. The findings point to the possibility of a distorted form of gratification; one that tends to supersede the immediate negative effects of guilt and shame resulting from inconsistent academic engagement, failure, and the state of being At-Risk.

Implicated in the underlying psychological fear is the guilt and shame felt for failing, negatively affecting participants' confidence and consequently increasing the tendency to procrastinate. The findings suggest that all participants possessed academic procrastination tendencies which interfered with their efforts to progress academically. The literature in Chapter Two also recognises the high prevalence of problematic academic procrastination among the student population (Rozental & Carlbring, 2014).

A huge factor noted in the findings was that the participants' fear of failing to meet the probation requirements (exclusions) and the actual consequences of being on probation (included financial aid exclusions) appeared to negatively interfere with their ability to set realistic goals, prioritise work, and plan for assessments (i.e. tests, exams and assignments), heightening their academic procrastination tendencies. Although this predicament suggests the same lack of self-discipline which Klassen et al. (2008) also note exists among undergraduates, here it seems to have amounted to participants further not taking responsibility and accountability for their academic actions. This implies that they possibly lose sight on how their academic studies necessitated adequate prioritisation and capacity to exercise agency in their own learning.

Associated with these factors are poorly managed study times and undesirable learning environments, which also negatively affected the participants' academic functioning Park & Sperling, 2012). This predicament manifest as a struggle to balance academic priorities with the need to partake in enjoyable non-academic activities, inhibiting full engagement with the academic tasks expected at university. The presence of internal conflict triggered by intense guilt over avoiding what they knew they should instead have been doing suggests a lack of self-discipline: the SRL skill that mediates commitment and self-regulation, a strategy which ultimately influences the capacity to complete tasks and attain educational goals.

The tendency by some participants to engage in unrelated social activities is associated with creating time to affect their mood for the better. This finding is also noted in Kandemir's (2014) study. For example, the findings show that the regular use of stimulants that negatively affected study time was to gain social acceptance. The gratifying effect of non-academic activities combines with a concomitant

failure to acknowledge that they are struggling and require assistance, heightening their dysfunctional procrastination tendencies (Park & Sperlin, 2012). Clearly, the suffering many procrastinators experience goes unnoticed even by themselves due to these distorted defence mechanisms that bring them false or temporary gratification. Such a situation is, of course, both contradictory and ultimately counterproductive, given the subsequent sense of guilt experienced by the participants for lack of effort and commitment to their studies. This cycle undoubtedly becomes an "enmeshed and complex relationship" (Roman, Titus & Dison, 2016, p. 32), highlighting the complexity of SRL and academic procrastination. Such a situation invariably increases the academic workload (Hussain & Sultan, 2010) and adds tremendous pressure to make decisions which, by this stage, are not always well informed. For example, the narratives demonstrate that as imminent deadlines approached, the majority of participants reported high levels of psychological distress (Cerino, 2014). This manifested in last-minute preparation, which often involved cramming for tests and exams, late assignment submission, and missing assessment deadlines. For others, the extent of this habit eventuated in them giving up on tasks altogether, as noted by participant P15. Ferrari et al. (2007) too state that "procrastinators often cope with the anxiety and threat derived of accomplishment of tasks by actively avoiding the start of a task until there is insufficient time to perform optimally" (p. 712), which the narrative alluded to. The downplaying of emotional stressors evident in the participants with procrastination tendencies might be explained by underlying demotivation forces associated with the systemic consequences of academic failure and exclusion that heightened the fear of failure. The forces act as protective factors, distorting the student's rationality and metacognitive awareness of their learning deficits. In this way, these learning deficits—lack of preparation, lack of personal agency towards learning, lack of monitoring skills, and poor support from other agents such as parents—would have remained outside the realm of rational adjudication.

The findings further suggest that the interaction between the experience of failing and the resultant (emotional) fear of failing played a central role in the participants' capacity to make decisions. Evidently, the participants' experiences of failure and their fear of failure perpetuated a tendency to avoid both engaging in decision-making processes and committing to deadlines (Rozental & Carlbring, 2014), leaving work to the last minute—with some participants missing their submission dates entirely. Ronningtam and Baskin-Sommers' (2013) study offers useful insights into the relationship between fear and decision making, citing the role of fear management in students who exhibit SRL deficits. Their delays in getting started seem to have increased their workload, and consequently resulted in pressure, anxiety, and discontent with studies (Grunschel, et al., 2013). It seems the ultimate challenge of working under pressure may be disempowering, to the extent that some participants gave up on their tasks and further resorted to procrastination as the cycle of failing persisted. Linked to delay is the association between procrastination and perfectionism—the latter of which was revealed in the findings as an unproductive habit that contributes to time wasted and increased procrastination tendencies.

According to Ronningtam and Baskin-Sommer (2013), perfectionism can be motivated by fear of incompetence and failure, a suggestion which was echoed in the findings. As noted explicitly by participant P19, perfectionism seems to have been perpetuated by her high expectations of performance outcomes which increased to failure to commit to academic deadlines and resulted to poor performance.

The findings further suggest that the interaction between the experience of failing and the resultant (emotional) fear of failing played a central role in the participants' capacity to make decisions. Evidently, the participants' experiences of failure and their fear of failure perpetuated a tendency to avoid both engaging in decision-making processes and committing to deadlines (Rozental & Carlbring, 2014), leaving work to the last minute—with some participants missing their submission dates entirely. Ronningtam and Baskin-Sommers' (2013) study offers useful insights into the relationship between fear and decision making, citing the role of fear management in students who exhibit SRL deficits. Where the fear of failure is exhibited comes increased anxiety associated with assessments and evaluations (Rozental & Carlbring, 2014). The literature mentions that any form of assessment creates anxiety; a fair amount of which does contribute to a productive outcome (Rozental & Carlbring, 2014). The findings suggest that the degree of test anxiety was not used as a catalyst to motivate the participants to put more effort to their studies in order to achieve their desired performance goals. Constant preoccupation with worrisome negative thoughts relating to past experiences of academic failure further decreased the participants' motivation to apply themselves even to their more manageable tasks. Test anxiety was also associated with the effort to meet the UKZN Duly Performance (DP) requirements of 40% that allows student to sit for exams (College handbook, 2020). Entering the exam with low DP, seems to increased their awareness of the potential for failure which exacerbated test anxiety. An associated factor to test anxiety is that, increasingly, decisions across colleges allow students to write an exam without qualifying for the DP requirement. For example, in 2019, the registrar twice issued a notification of such a measure in correspondence, first for the June and then for the October/November exams (dated 17 May 2019 first semester and 10 October 2019 October/November exams). The October communique (10 October 2019) explicitly stated that "the class/semester mark generated by every registered student in a module will be used in the calculation of the student's final mark in that module". As discussed in Chapter One, the DP requirements (which are stipulated in the college handbooks) differ for each college, school, module, and module level (first, second or third level), and the percentage for tutorial attendances forms a percentage of the DP. Such decisions, often made and announced a few weeks prior to exams commence, potentially impacts student preparedness for exams, particularly in the case of those who are already At-Risk and are consequently preoccupied with the negative ramifications of failing. The system does respond adequately to student disruption during the examination period, and the culture of disruption in HE is often related to the student not qualifying for the DPs. The cyclical response is often to succumb to student demands to prevent a disruption to the examination process.

These results logically raise questions around the current intervention programmes in terms of how much awareness there is in the student body of the prevalence of academic procrastination, and the level of commitment institutions are willing to show in raising awareness about the effects of procrastination on academic success, a point which Klingsieck (2013) also acknowledge. This line of reasoning has repercussions on the quality and relevance of the contents and service, the instruct4.ional facilitative approach, and the number of times workshops are repeated for sustainable skills development. It seems teaching time management skills may not necessarily and adequately remedy all facets of the habit of task avoidance, particularly where it is intentional and intrapersonally and situationally embedded.

4.5.4.6 Perceptions of intervention support programmes

Another form of support explored in this research concerns intervention support programmes such as the AMS and student counselling services. The different views shared about the accessibility and awareness of mentorship, the Writing Place, AMS offered by the ADOs, as well as the student counselling services, all suggest that these essential services are underutilised. Skinner and Pitzer (2012) likewise discuss students' poor levels of engagement and participation in academic support intervention programmes. While the collaborative referral system to student counsellors was acknowledged by those who consulted ADOs and mentors, the low access rates to the student counselling and development services remained a factor that was similarly reported in Norodien-Fataar and Daniel's (2016) study. The underutilisation of the Writing Place, a resource which assists students with academic and essay writing and referencing skills (as discussed in Chapter Two), was similarly reported in a study by Arbee and Samuels (2015).

Various contextual factors reported in the findings which seem to lower levels of engagement among students include some operational challenges, and also a lack of clarity on the roles and responsibilities of each of these services and how each portfolio could benefit their learning. Such factors seem to have caused confusion and increased frustration and disengagement. Gershenfeld (2014) also notes the significance of role clarification in the mentorship programme (mentor-mentee support). Operational challenges such as staff unavailability and poorly organised session, were found to negatively impact the utilisation of the UKZN support services. Evidently, the findings suggest that some AMS services—like those offered by mentors—were poorly coordinated, inadequately equipped, and inefficient, a concern that was similarly noted in Ramrathan and Pillay (2015). This potentially undermines students' confidence in the available support structures. Such disservice also calls into question the quality of training and the extent to which those at the helm are capacitated to effectively render such services. Nonetheless, peer mentoring seemed to play a role in influencing achievement among the medical students who participated in Hamid and Singaram's (2016) study. A US study by Colver and Fry (2016) found mentorship to be particularly beneficial "for first generation students" (p. 16).

The findings of this study show that student counselling services are not adequately used, despite the increasing prevalence of students in psychological distress, an issue also alluded to by Kalenga and Mngomezulu (2015). The participants showed an apparent tendency to avoid dealing with their personal difficulties in the therapeutic space, although such spaces would allow them to work through their painful experiences and feelings of being associated with being At-Risk. Swartz et al.'s (2018) study claims that students do not trust the system to keep their personal information strictly confidential. This contradicts the ethical code of conduct for psychologists who are professionally required by the HPCSA board to maintain privacy and confidentiality. Although some participants claimed to find professional psychological spaces uncomfortable, these services exist to facilitate students' overall mental health to enhance optimal functioning within the university learning space.

4.6 Conclusion

Evidently, these findings suggest that the participants' challenges continue to exist despite the various UKZN intervention programmes established to address under-preparedness among new students and to minimise the articulation gap among its diverse undergraduate cohort. The pattern of slow progression implies that these interventions may not be as effective as intended, or adequate in addressing under-preparedness and student learning deficits. The findings allude to the systemic and operational challenges within these programmes, which impact on the quality of engagement.

CHAPTER FIVE
PHASE TWO: QUALITATIVE RESULTS AND DISCUSSION

5.1 Introduction

The quantitative phase investigated various aspects of self-regulated learning (SRL) measured by the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich, et al., (1991) that are likely to have an effect on the academic performance and success of At-Risk students. The study also investigated the extent to which the participants engaged in procrastination, using the 16-item Academic Procrastination Scale (APS) by Tuckman (1991).

This chapter is divided into two sections. It begins with the presentation of the results, followed by a discussion on these results. Section one opens with the participants' sociodemographic characteristics, followed by the results of the Chi-Square tests, on the frequency distribution of the individual items for each instrument: 81-item MSLQ and the 16-item AP scale. A table showing the results of the Principal Component Analysis (PCA) factor analysis conducted on the MSLQ is then presented, followed by the results for the descriptive statistics inclusive of the psychometric properties of the MSLQ sub-scales that were compiled following the factor analysis and the AP scale.

Thereafter, the chapter presents the results of the following tests: the independent samples T-Test, and the One Way between groups analysis of variance (ANOVA), with post hoc multiple comparisons (Tukey's HSD) tests conducted between the sociodemographic groups and the measures (adapted MSLQ and AP); the Pearson correlation coefficients (r) test assesses the strength and direction of the associations between the measures and the scales and relevant subscales. This chapter also presents a hierarchical multiple regression model conducted using the original 81-item MSLQ (as independent variables) and AP (as a dependent variables) after controlling for the influences of the sociodemographic groups at Step 1.

The chapter concludes with the results in section five of the frequency distribution data relating to the participants' level of awareness and access to the following university intervention initiatives for undergraduate students: Academic Development Officers (ADOs), Mentorship Programme, Writing Place, and Student Support Services (student counsellors).

QUANTITATIVE RESULTS

5.2 Sociodemographic background characteristics of the At-Risk sample

The table below presents the sociodemographic characteristics of the At-Risk student.

Table 8

Sociodemographic profile of participants.

Variables	Categories	Frequency	Percent
Age*	< 18	10	2.2
	19 – 24	390	86.3
	25 – 29	51	11.3
	30 – 39	1	0.2
Gender*	Male	158	35.0
	Female	294	65.0
Race*	African	395	87.4
	Coloured	21	4.6
	Asian/Indian	32	7.1
	White	4	0.9
Residence	Home	141	31.2
	Private residence	112	24.8
	UKZN Residence	199	44.0
Funding	Self-funded	181	40.0
	Loan (NSFAS)	206	45.6
	Bank Loan	19	4.2
	Bursary/Scholarship	46	10.2
School Type	Rural School	145	32.1
	Township School	142	31.4
	Old Model C-School (mixed Race)	118	26.1
	Private School	47	10.4
Degree Type	Access Programme	14	3.1
	3-year degree programme	297	65.7
	4-year degree programme	141	31.2
College	College of Humanities	234	51.8
	College of Law & Management	90	19.9
	College of AES	128	28.3
Academic Status	Orange	293	64.8
	Red	159	35.2

Note: **NSFAS: National Student Financial Aid Scheme*

With respect to age, race and gender group distribution, the majority of participants were under 25 years of age (18-24 years); African (87.4%); and there were more female participants than males at a ratio of 1:2 (35% to 65%). Over two thirds (68.8%) resided away from home (private accommodation and UKZN residences). Self-funding and NSFAS were the most common systems of funding for their

university education. Only a very small number of participants matriculated from private high schools, and the highest number (close to a third) had attended either rural or township schools (the latter refer to schools in predominantly Black African residential areas). Most participants were enrolled in a three-year degree programme. The College of Humanities had the highest number of participants (51.8%) compared to the other two colleges. The majority of the participants were in the Orange At-Risk status.

5.3 Frequency distribution for the individual items of the instruments

A total of 452 respondents participated in the study. As explained in Chapter Three on the methodology, the self-administered questionnaires used to carry out this investigation comprised of the 81-item Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich et al. (1991), and the 16-item Academic Procrastination Scale (APS) by Tuckman (1991).

This section presents the frequency distribution for the individual items of the original 81-item MSLQ and the Academic Procrastination Scale. Only mean values and Standard Deviation (SD) statistics are presented in the frequency distribution tables for each item. The results for the frequency distribution will demonstrate differences in the scoring patterns relating to the levels of agreement and disagreement per statement across each option on the five-point Likert scale.

As discussed earlier in the methodology chapter (Chapter Three), the 81-item MSLQ (Pintrich et al., 1991) has two components:

The 31-item motivational orientation scale comprised of three components, namely the value, expectancy, and affective component, along with their respective sub-scales (see table 7), and

The 50-item learning strategies scale consisting of two components, namely the cognitive and metacognitive strategies, and the resource management strategies, along with their related subscales (see table 8).

5.3.1 Frequency distribution for the motivation scale

Table 9 presents the frequency distribution as well as the mean and standard deviation for each statement of the individual items of the six motivation subscales.

Table 9

Frequency distribution for the items of subscales of the motivational orientation scale.

Item No.	Statement	Mean (SD)	Strongly disagree N (%)	Disagree N (%)	Neutral /uncertain N (%)	Agree N (%)	Strongly Disagree N (%)
			Value components				
			Intrinsic Goal Orientation				
1	In class, I prefer course material that really challenges me so I can learn new things.	3.59 (1.001)	16 (3.5)	42 (9.3)	129 (28.5)	185 (40.9)	80 (17.7)
16	In lectures, I prefer course material that arouses my curiosity, even if it is difficult to learn.	3.64 (.971)	6 (1.3)	51(11.3)	134 (29.6)	172 (38.1)	89 (19.7)
22	The most satisfying thing for me in a module is trying to understand the content as thorough as possible.	3.94 (.885)	4 (0.9)	27 (6.0)	89 (19.7)	204 (45.1)	128 (28.3)
24	When I have the opportunity in a module, I choose assignments that I can learn from even if they don't guarantee a good mark.	3.39 (.981)	14 (3.1)	63 (13.9)	171 (37.8)	146(32.3)	58 (12.8)
			Extrinsic Goal Orientation				
7	Getting good marks in my modules is the most satisfying thing for me right now.	4.10 (.952)	10 (2.2)	20 (4.4)	63 (13.9)	180 (39.8)	178 (39.4)
11	The most important thing for me right now is improving my overall mark average, so my main concern in my modules is getting good marks.	4.35 (.829)	5 (1.1)	9 (2.0)	46 (10.2)	153 (33.8)	239 (52.9)
13	If I can, I want to get better marks in my modules than most of other students.	4.09 (.882)	2 (0.4)	25 (5.5)	72 (15.9)	187 (41.4)	166 (36.7)
30	I want to do well in my modules because it is important to show my ability to my family, friends, employer, or others.	4.03 (.988)	8 (1.8)	31 (6.9)	70 (15.5)	172(38.1)	171 (37.8)
			Task Value				
4	I think I will be able to use what I am learning in one module in other modules.	3.68 (.971)	16 (3.5)	29 (6.4)	124 (27.4)	198 (43.8)	85 (18.8)
10	It is important for me to learn the course material in these classes.	4.16 (.841)	3 (0.7)	17 (3.8)	58 (12.8)	199 (44.0)	175 (38.7)
17	I am very interested in the content of these modules.	3.80 (.885)	7 (1.5)	31 (6.9)	94 (20.8)	233 (51.5)	87 (19.2)

23	I think the course material in these modules is useful for me to learn.	3.86 (.914)	10 (2.2)	22 (4.9)	100 (22.1)	211 (46.7)	109 (24.1)
26	I like the subject matter of these modules.	3.69 (.911)	11 (2.4)	26 (5.8)	139 (30.8)	196 (43.4)	80 (17.7)
27	Understanding the subject matter of these modules is very important to me.	3.96 (.881)	7 (1.5)	19 (4.2)	91 (20.1)	209 (46.2)	126 (27.9)
	2. Expectancy Components						
	Control of Learning Beliefs						
2	If I study in appropriate ways, then I will be able to learn the course material.	4.00 (.901)	8 (1.8)	23 (5.1)	63 (13.9)	222 (49.1)	136 (30.1)
9	It is my own fault if I don't learn the course material in these modules.	3.94 (.988)	15 (3.3)	29 (6.4)	64 (14.2)	208 (46.0)	136 (30.1)
18	If I try hard enough, then I will understand the course material.	4.17 (.794)	2 (0.4)	12 (2.7)	63 (13.9)	207 (45.8)	167 (36.9)
25	If I don't understand the course material, it is because I didn't try hard enough.	3.51 (1.087)	22 (4.9)	61 (13.5)	121(26.8)	163 (36.1)	85 (18.8)
	Self-Efficacy for Learning and Performance						
5	I believe I will receive excellent marks in the modules I enrolled for.	3.68 (.935)	11 (2.4)	29 (6.4)	137 (30.3)	189 (41.8)	86 (19.0)
6	I'm certain I can understand the most difficult material presented in the readings for my modules.	3.39 (.987)	14 (3.2)	66 (14.6)	162 (35.8)	150 (33.2)	59 (13.1)
12	I'm confident I can learn the basic concepts taught in my modules.	4.14 (.837)	2 (0.4)	17 (3.8)	68 (15.0)	196 (43.4)	169 (37.4)
15	I'm confident I can understand the most complex material presented by the instructors for my modules.	3.48 (.916)	7 (1.5	48 (10.6)	184 (40.7)	150 (33.2)	63 (13.9)
20	I'm confident I can do an excellent job on my assignments and tests.	3.81 (.909)	5 (1.1)	29 (6.4)	117 (25.9)	194 (42.9)	107 (23.7)
21	I expect to do well in the modules for my degree.	4.11 (.826)	3 (0.7)	18 (4.0)	59 (13.1)	218 (48.2)	154 (34.1)
29	I'm certain I can master the skills being taught in the modules for my degree.	3.77 (.881)	7 (1.5)	29 (6.4)	120 (26.5)	207 (45.8)	89 (19.7)
31	Considering the difficulty of this degree, the lecturers, and my skills, I think I will still do well in my modules.	3.95 (.851)	6 (1.3)	17 (3.8)	91 (20.1)	220 (48.7)	118 (26.1)
	3. Affective Component						
	Test Anxiety						

3	When I write a test, I think about how poorly am doing compared with other students.	3.30 (1.205)	42 (9.3)	79 (17.5)	113 (25.0)	139 (30.8)	79 (17.5)
8	When I write a test, I think about items on other parts of the test I can't answer.	3.58 (1.017)	15 (3.3)	51 (11.3)	132 (29.2)	168 (37.2)	86 (19.0)
14	When I write tests, I think of the consequences of failing.	3.19 (.981)	8 (1.8)	35 (7.7)	93 (20.6)	178 (39.4)	138 (30.5)
19	I have an uneasy, upset feeling when I write an exam.	3.60 (1.091)	19 (4.2)	54 (11.9)	122 (27.0)	154 (34.1)	103 (22.8)
28	I feel my heart beating fast when I write an exam.	3.78 (1.101)	17 (3.8)	43 (9.5)	101 (22.3)	152 (33.6)	139 (30.8)

As shown in Table 9 above, all items had mean values greater than 3 (>3) and with the SD of 1 when rounded off, indicating that participants differed widely on their responses, as noted in the frequency distribution on the items. The responses indicate a high tendency to agree and strongly agree with the statements. The table also shows a substantial number of participants (about 20% average) who opted for the uncertain response option. The frequency distribution of each sub-scale is presented below.

a) Value components

In terms of the *four-item intrinsic goal orientation subscale*, almost three quarters (n=332, 73.4%) of students were in agreement with statement (22), indicating that engaging in the academic task for the reasons of understanding the material comprehensively was the most satisfying motivational belief. The two other statements (1 and 16) also had relatively higher levels of agreement, where more than half of the participants perceived engaging in challenging material that promotes learning a new skill as an advantage (n =265, 58,6%, item 1), and had a preference for course content that stimulates their curiosity, even if it is challenging to learn (n=261, 57.7%, item 16), indicating that these were their intrinsic reasons for engaging in the task. Less than half (n=204, 45.1%) reported valuing opportunities to engage in assignments or tasks that they could learn from, even if such efforts did not guarantee excellent results.

Regarding the *four-item extrinsic goal orientation subscale*, the vast majority (n=392, 86.7%) reported in statement (11) that their extrinsic goal for participating in the task was to improve their overall mark average, and obtaining good results was a priority. The remaining three items (7, 13, and 30) show that over three quarters reported their extrinsic goals for the academic engagements were to achieve good marks (item 7; n=358, 79.2%), attain better marks than others (item 13; n=353, 78.1%), and obtain good marks in order to demonstrate to family/significant others that they had the ability to achieve success (item, 30, n = 343, 75.9%).

The *six-item task value* subscale had a higher degree of positive responses (about 70% average). Item (10) had the highest number of positive responses, indicating that the vast majority (n=374, 82.7%) strongly valued learning their module course content during the class or lecture. Just above 70% of levels of agreement were reported in the three items (17, 23, and 27), indicating that most participants valued participating in tasks that they believed were important (item 27, n=335, 74.1%), interesting (item 17, n=320, 70.8%), and useful (item 27, n=320, 70.8%) to learn. The remaining two items (4 and 26) were also positively reported (60% average), indicating that these participants valued engaging in course material that had information which they could also apply or use in other modules (item 4, n=283, 62.6%), and that they liked (item 26, n=276, 61.1%). These results indicate that an affinity for the module content adds value to engagement in the academic environment.

b) Expectancy components

Regarding the *four-item control of learning beliefs subscale*, the vast majority of participants (n=374, 82.7%) reported in statement (18) being acutely aware that exerting an effort promotes a better understanding of the course material. Also, over three quarters expressed that they believed applying appropriate study methods would result in meaningful engagement with the content (item 2, n=358, 79.2%), and that it was their own fault when they didn't learn the module material (item 9, n=344, 76.1%). Just over half (item 25, n=248, 54.9%) believed that their failure to comprehend the course content was due to insufficient effort given to learning their tasks.

In terms of the *eight-item self-efficacy for learning and performance subscale*, the highest number of positive recordings were for items 21 and 12, indicating that many participants expressed higher levels of expectation in their ability to perform well academically (item 21, n=372, 82.3%), and had confidence in their ability to understand the basic concepts taught in their modules (item 12, n=365, 80.8%). Close to three-quarters (n=338, 74.8%) believed in their ability to still perform well even though they experienced challenges with the academic programme relating to the degree, the lecturers, and skills required. About two-thirds reported positive levels of confidence in their ability to perform well on assignments and tests (item 20, n=301, 66.6%), master the skills taught in the modules taken for their degree (item 29, n=296, 65.5%), and obtain excellent marks (item 5, n=275; 60.8%). Only two items with positive responses were just under half (50%): items 15 and 6. The results for item 15 show that 47.1% (n=213) expressed positive levels of confidence in their ability to understand the more complex material presented by their lecturers/instructors, while 40.7% (n=84) indicated levels of uncertainty on the same statement. Similarly, in item 6, about 46.2% (n=209) of participants expressed positive levels of confidence in the ability to understand the most difficult material presented in their readings, while about 35,8% reported levels of uncertainty on the same statement.

c) Affective component

According to Pintrich et al. (1991), test anxiety has a cognitive component (i.e. negative thoughts that disrupt performance) and an emotional component (i.e. affective and physiological arousal).

The results for the *five-item test anxiety subscale* showed that during their assessments, participants tended to be distracted by negative thoughts related to the ramifications of failing (item 14, n=316, 69.9%), sections in the question paper that they were unable to answer (item 8, n=254, 56.9%), and how poorly they were performing in comparison to their peers (item 3, n=218, 48.2%). They also experienced physiological reactions when writing exams, namely an accelerated heartbeat (item, 28, n=291, 64.4%), and an uneasy or upset feeling (item 8, n=257, 56.9%).

5.3.2 Frequency distribution results for the learning strategy use component

According to Pintrich et al. (1991), the learning strategy scale of the MSLQ (50 items) measures the students' use of cognitive and metacognitive strategies (31 items), and management of resources (19 items). Table 10 below presents the results for the mean values, SD, the response options on individual items per subscale, and the related components of the learning strategies.

Table 10
Frequency distribution of items per subscale and related components of the learning strategies.

Item No.	Statement	Mean (SD)	Strongly disagree N (%)	Disagree N (%)	Neutral/ Uncertain N (%)	Agree N (%)	Strongly Disagree N (%)
	Cognitive and metacognitive strategies						
	Rehearsal						
39	When I study for these modules, I practice saying the material to myself over and over.	3.72(1.000)	13 (2.9)	44 (9.7)	96 (21.2)	204 (45.1)	95 (21.0)
46	When studying for these modules, I read my class notes and readings over and over again.	3.76(.996)	11 (2.4)	43 (9.5)	94 (20.8)	199 (44.0)	105 (23.2)
59	I memorize key words to remind me of important concepts in the modules.	3.65(1.017)	17 (3.8)	46 (10.2)	101 (22.3)	204 (45.1)	84 (18.6)
72	I make lists of important items for my modules and memorize the lists.	3.46(1.065)	14 (3.1)	83 (18.4)	110 (24.3)	172 (38.1)	73 (16.2)
	Elaboration						
53	When I study for these modules, I put together information from different sources, such as lectures, tutorials, readings and discussions.	3.78(.970)	12 (2.7)	35 (7.7)	97 (21.5)	206 (45.6)	102 (22.6)
62	I try to relate ideas in one subject to those in other courses whenever possible.	3.66(.882)	4 (0.9)	46 (10.2)	119 (26.3)	217 (48.0)	66 (14.6)
64	When reading, I try to relate the course material to what I already know.	3.86(.884)	7 (1.5)	29 (6.4)	84 (18.6)	235 (52.0)	97 (21.5)
67	When I study for my modules, I write brief summaries of the main ideas from the readings and my class notes.	3.62(1.044)	13 (2.9)	62 (13.7)	97 (21.5)	191 (42.3)	89 (19.7)

69	I try to understand the course material by making connections between the readings & the concepts from the lectures.	3.68(.912)	10 (2.2)	36 (8.0)	113 (25.0)	222 (49.1)	71 (15.7)
81	I try to apply ideas from course readings in other class activities such as lecturers and discussions.	3.61(.915)	11 (2.4)	41 (9.1)	121 (26.8)	219 (48.5)	60 (13.3)
	Organisation						
32	When I study the readings for the modules I am taking, I outline the material to help me organize my thought.	3.67(.944)	9 (2.0)	43 (9.5)	114 (25.6)	206 (45.6)	80 (17.7)
42	When I study for these modules, I go through the readings and my class notes and try to find the most important ideas.	3.78(.913)	6 (1.3)	38 (8.4)	96 (21.2)	94 (20.8)	218 (48.2)
49	I make simple charts, diagrams or tables to help me organize course material.	3.17(1.081)	23 (5.1)	114 (25.2)	124 (27.4)	143 (31.6)	48 (10.6)
63	When I study for my modules, I go over my class notes and make an outline of important notes.	3.78(.926)	9 (2.0)	34 (7.5)	96 (21.2)	221 (48.9)	92 (20.4)
	Critical Thinking						
38	I often find myself questioning things I hear or read in these modules to decide if I find them convincing.	3.54(.977)	13 (2.9)	54 (11.9)	131 (29.0)	185 (40.9)	69 (15.3)
47	When a theory, interpretation or conclusion is presented in lectures or in the readings, I try to decide if there is good evidence.	3.41(.929)	10 (2.2)	66 (14.6)	143 (31.6)	191 (42.3)	42 (9.3)
51	I treat the course material as a starting point and try to develop my own ideas about it.	3.39(1.012)	19 (4.2)	69 (15.3)	138 (30.5)	172 (38.1)	54 (11.9)
66	I try to play around with ideas of my own related to what I am learning in the modules I enrolled for.	3.44(1.017)	20 (4.4)	59 (13.1)	134 (29.6)	182 (40.3)	57 (12.6)
71	Whenever I read or hear a statement or conclusion in lectures, I think about possible alternatives.	3.38(1.014)	19 (4.2)	65 (14.4)	146 (32.3)	168 (37.2)	54 (11.9)
	Metacognitive Self-Regulation						
33	During lecture times, I often miss important points because I am thinking of other things. (Reverse)	2.59(1.071)	69(15.3)	156(34.5)	141 (31.2)	62 (13.7)	24 (5.3)
36	When reading for these modules, I make up questions to help focus my reading.	3.29(1.054)	20 (4.4)	93 (20.6)	124 (27.4)	164 (36.3)	51 (11.3)
41	When I become confused about something I'm reading for these modules, I go back and try to figure it out.	3.66(.922)	10 (2.2)	42 (9.3)	111 (24.6)	218 (48.2)	71 (15.7)
44	If the readings are difficult to understand, I change the way I read the material.	3.47(.973)	8 (1.8)	69 (15.3)	141 (31.2)	171 (37.8)	63 (13.9)
54	Before I study new course material thoroughly, I often skim it to see how it is organized.	3.50(1.012)	14 (3.1)	56 (12.4)	144 (31.9)	162 (35.8)	76 (16.8)
55	I ask myself questions to make sure I understand the material I have been studying in the class.	3.54(.949)	10 (2.2)	53 (11.7)	134 (29.6)	192 (42.5)	63 (13.9)
56	I try to change the way I study in order to fit the module requirements and the instructor's teaching style.	3.33(1.022)	16 (3.5)	82 (18.1)	142 (31.4)	156 (34.5)	55 (12.1)
57	I often find that I have been reading for these modules but don't know what they were all about. (Reverse)	2.79(1.119)	57 (12.6)	138 (30.5)	136 (30.1)	89 (19.7)	32 (7.1)

61	I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.	3.47(.935)	12 (2.7)	56 (12.4)	138 (30.5)	198 (43.8)	48 (10.6)
76	When studying the course material, I try to determine which concepts I don't understand well.	3.65(.978)	16 (3.5)	43 (9.5)	101 (22.3)	218 (48.2)	74 (16.4)
78	When I study, I set goals for myself in order to direct my activities in each study period.	3.42(1.024)	16 (3.5)	75 (16.6)	122 (27.0)	182 (40.3)	57 (12.6)
79	If I get confused when taking notes in class, I make sure I sort that out afterwards.	3.45(1.054)	16 (3.5)	81 (17.9)	100 (22.1)	191 (42.3)	64 (14.2)
	Resource Management Strategies						
	Time and Study Environment						
35	I usually study in a place where I can concentrate on my course work.	3.77(.941)	9 (2.0)	35 (7.7)	101 (22.3)	209 (46.2)	98 (21.7)
43	I make good use of my study time for these modules.	3.30(1.048)	21 (4.6)	81 (17.9)	143 (31.6)	152 (33.6)	55 (12.2)
52	I find it hard to stick to a study schedule (Reverse).	2.26(1.035)	108(23.9)	188 (41.9)	100 (22.1)	40 (8.8)	16 (3.5)
65	I have a regular place set aside for studying	3.48(1.101)	23 (5.1)	79 (17.5)	78 (17.3)	205 (45.4)	67 (14.8)
70	I make sure that I keep up with the weekly readings and assignments for all my modules	3.35(1.070)	23 (5.1)	76 (16.8)	130 (28.8)	164 (36.3)	59 (13.1)
73	I attend all my modules regularly.	3.36(1.164)	32 (7.1)	82 (18.1)	99 (21.9)	165 (36.5)	74 (16.4)
77	I often find that I don't spend very much time on my own modules because of other activities (Reverse).	2.52(1.080)	82 (18.1)	165 (36.5)	111 (24.6)	79 (17.5)	15 (3.3)
80	I rarely find time to review my notes or reading before an exam (Reverse).	2.80(1.157)	53 (11.7)	162 (35.8)	96 (21.2)	106 (23.5)	35 (7.7)
	Effort Regulation						
37	I often feel lazy or bored when I study for these modules that I quit before I finish what I planned to do. (Reverse)	2.77(1.130)	64(14.2)	128(28.3)	137 (30.3)	92 (20.4)	31 (6.9)
48	I work hard to do well in these modules even if I don't like what we are doing.	3.65(.881)	7 (1.5)	47 (10.4)	95 (21.0)	247 (54.6)	54 (11.9)
60	When course is difficult, I either give up or study the easy part (Reverse).	2.78(1.118)	50 (11.1)	156 (34.5)	123 (27.2)	89 (19.7)	34 (7.5)
74	Even when course materials are dull and uninteresting, I manage to keep working until I finish.	3.45(1.004)	10 (2.2)	78 (17.3)	122 (27.0)	180 (39.8)	62 (13.7)
	Peer Learning						
34	When studying for these modules, I often try to explain the material to a classmate or a friend.	3.16(1.045)	24 (5.3)	112 24.8)	117 (25.9)	166 (36.7)	33 (7.3)
45	I try to work with other students from my classes to complete the assignments.	3.36(1.129)	31 (6.9)	72 (15.9)	116 (25.7)	166 (36.7)	67 (14.8)
50	When studying, I often set aside time to discuss course material with a group of students from the students that I take.	3.08(1.114)	37 (8.2)	113 (25.0)	117 (25.9)	146 (32.3)	39 (8.6)
	Help-Seeking						
40	Even if I have trouble learning the course material, I try to do the work on my own, without help from anyone. (Reverse)	2.39(1.032)	91(20.1)	181(40.0)	105 (23.2)	65 (14.4)	10 (2.2)
58	I ask the instructor/lecturer to clarify concepts I don't understand well.	3.15(1.159)	40 (8.8)	100(22.1)	113 (25.0)	146 (32.3)	53 (11.7)
68	When I can’t understand the course material, I ask another student in the same class for help.	3.58(1.054)	18 (4.0)	55 (12.2)	114 (25.2)	180 (39.8)	85 (16.8)
75	I try to identify students in my class whom I can ask for help if necessary.	3.49(1.133)	30 (6.6)	65 (14.4)	91 (20.1)	187 (41.4)	79 (17.5)

Similar to the previous table (Table 9), in Table 10 the relatively large standard deviation (SD) indicates that participants' responses varied, as noted in the frequency distribution. From the table above (Table 8), most statements have fairly high mean values (>3), particularly for the cognitive and metacognitive learning strategies (i.e. rehearsal, elaboration, organisation, critical thinking, and metacognitive self-regulation), suggesting that participants agreed with most statements. It should be noted that social desirability cannot be ruled out. Few items with neutral mean values under three are noted on the following subscales: metacognitive self-regulation (33, 57), time and study environment (52, 77, 80), effort regulation (37, 60), and help-seeking (40). Important highlights in scoring are outlined below.

Cognitive and metacognitive learning strategies

The results for the *four-item rehearsal subscale* had relatively higher levels of agreement in all four items, indicating that the majority of participants read the course material more than once (item 46, n=304, 67,3%), read and rehearsed to themselves many times (item 39, n=299, 66.2%), memorised important concepts of the module concerned (item 59, n=288, 63.7%), and listed items they perceived as important and memorised these (item 72, n=245, 54.2%).

The results of the *six-item elaboration subscale* show that all items had high positive recordings, at an average of above 60%. The results indicate that many participants reported using this strategy to relate the course material with what was already known (item 64, n=332, 73.5%), integrated information sources such as lectures, tutorials, readings and discussion (item 53, n=308, 68.1%), made necessary connections between the readings and the concepts from the lectures to increase their understanding of the course content (item 69, n=298, 64.8%), related what was already known across different modules (item 62, n=283, 62.6%), wrote brief summaries of the main ideas from the readings and class notes (item 67, n=280, 61.9%), and applied ideas gained from course readings in other class activities, such as lecturers and discussions (item 81, n=279, 61.7%).

In terms of the *four-item organisation subscale*, an average of over 60% of participants reported employing this learning strategy by using class notes when studying and outlining concepts they perceived as essential to learn (item 63, n=313, 69.2%), reading before consolidating the most salient concepts (item 42, n=312, 69%), and outlining the content as a useful strategy for organising their thought processing (item 32, n=286, 63.3%). Only item (49) was recorded below average (n=191, 42.2%), indicating that not many participants made use of charts, diagrams or tables to organise their module material, and about 30.3% (n=137) reported not engaging in this manner at all.

Regarding the *five-item critical thinking subscale*, the results show four items with positive responses indicating that just above half of the participants often engaged in critical evaluations and questions on the course content before deciding if the reading was convincing (item 38, n=254, 56.2%), brought their own ideas and previous knowledge, made connections with the content that they were reading (item 66,

n=239, 52.9%), critically evaluated the theory, interpretation or conclusion presented in lectures or in the readings, looked for good evidence that supported it (item 47, n=233, 51.5%), and used the course material as a starting point to help them develop ideas about the reading (item 51, n=226, 50%). Just under half (item 71, n=222, 49.1%) critically evaluated statements or conclusions made in lectures in order to find possible alternatives.

Moreover, the results for the *twelve-item metacognitive self-regulation subscale* indicate a relatively average number of positive responses in all statements. The two statements with the most positive recordings above 60% (items 76 and 41) indicated that about 64.6% of participants monitored their cognitive processing of the material when studying to determine the concepts that they didn't understand well (item 76, n=292), and when the reading was confusing, about 63.9% (item 41, n=289) usually went back to try to figure it out.

The results also show positive responses that were just above 50% on the following six items (55, 79, 61, 78, 54, and 44). About 56.4% (item 55, n=255) would create questions as they went through the course material, to ensure that they comprehended it, while less than half (item 36, n=215, 47.6%) reported creating questions as a way of increasing their focus on the readings. Also, when confused in class while taking notes, about 56.4% (item 79, n=255) often sorted out their lecture notes afterwards. About 54.4% (item 61, n=246) reported that self-reflecting on a topic first helped them decide on specific areas to focus on, while approximately 52, 9% (item 78, n=239) reported engaging in planning and structuring their academic activities according to each study period—here, about 27% were not consistent, and about 21.1% reported not engaging in this manner. Other average positive results show that about 52.7% (item 54, n=238) would skim through the material to see how it was organised before engaging comprehensively with the new work, and 51.8% (item 44, n=234) would adjust their study methods on the readings that they found challenging to understand. Also, about 46.7% reported on item 56 that they had the ability to control their study method and adjust according to the module requirements and their instructor's teaching style, while 31.4% were neutral on this matter.

Another interesting result on the reverse item 33 shows that almost half of the participants (n=225, 49.8%) disagreed with the statement, indicating that this group failed to control their preoccupation with other things during their lectures, such that they often missed important points presented in class, while almost a third (31.2%) were neutral about this issue. About 19% reported concerted efforts to pay attention during the lecture so as not to miss important points.

Resource management strategies

The results for the *eight-item time and study environment subscale* showed only two items with positive responses above 60% average (items 35 and 65), indicating that over two thirds (item 35, n=307, 67.9%) usually studied in an environment conducive for better concentration on their academic work, and about 60.2% (item 65, n=272) acknowledged having a regular place set aside for studying, while 22.6%

indicated not having such a space. Another significant positive response noted for item 73 showed that about 52.9%, (n=239) attended lectures regularly, while a quarter (25.2%) disagreed with this statement.

Interestingly, results on reverse statements (52, 77 and 80) showed relatively higher levels of disagreement with items compared to other response options (uncertain and agree, strongly agree), indicating that most participants experienced challenges related to managing their study schedules (item 52, n=296, 65.5%), spending enough time on their modules due to other activities (item 77, n=247, 54.6%), and finding time to go through their notes or readings before an exam (item 80, n=215, 47.6%).

The two items (43 and 70) that recorded below-average positive responses are explained by relatively higher levels of uncertainty on these items (see Table 8). The results on these items indicate that less than half of participants used their study time effectively (item 43, n=207, 45.8%), while 31.6% could not agree or disagree with this statement; about 49.3% (n=223,) on item 70 reported engaging in weekly readings and assignments for their modules, and 28.8% reported levels of uncertainty.

The results for the *four-item effort regulation subscale* show that participants persisted in engaging with their academic tasks in order to perform well, even if they did not enjoy their studies (item 48, n=301, 66.6%), or persisted until the task was complete, even if the material was dull and uninteresting (item 74, n=242, 53,5%), while over a quarter (27%) reported levels of uncertainty on this item (74). The scores for the other two items (37 and 60), which are reverse statements, had significantly higher levels of disagreement, indicating that most participants would either give up, or study the easy part of a challenging reading (item 60, n=206, 45.6%), or acknowledge their tendencies of laziness and boredom when studying, even giving up on their academic plans (item 37, n=192, 42.5%), while about 30.3% did not admit or disagree that they also had such tendencies.

In terms of the *three-item peer learning subscale*, positive responses that were just above average were for statement (45). The results showed that about 51.5% (n=233) of participants indicated that they made efforts to collaborate with classmates to complete assignments, while 25.7% reported levels of uncertainty on the use of this strategy. The positive responses for the two other items (34 and 50) were below average, with relatively higher levels of uncertainty (about 25%). The peer learning strategies reported involved explaining the course material to classmates or a friend (item 34, n=199, 44%), and setting aside time to discuss course material with a group of students doing the same module (item 50, n=185, 40.9%).

Lastly, the results of the *four-item help-seeking subscale* showed that about 60.2% (n=272) of participants disagreed with statement 40, which is a reverse item, indicating that many participants preferred to attempt to cope on their own rather than ask others for assistance on challenging tasks/readings, a sentiment also shared by 23.2%, who reported doing the same ‘sometimes’, and only a few (16.6%) who reported seeking help. Only 44% (item 58, n=199) reported seeking assistance from instructors/lecturers when experiencing difficulty in understanding their course content, while a quarter

(25%) specified seeking help from the lecturer 'sometimes'. Nearly a third (n=140, 30.9%) did not seek help from others at all. The other two help-seeking strategies (items 68 and 75) reported by more than half of the participants were that they identify students in their class for assistance when needed (item 75, n=266, 58.8%), and about 58.6% (item 68, n=265) would ask their classmates for help on the material that they were struggling with.

5.3.3 Frequency distribution for Academic Procrastination Scale (APS)

This scale measured the degree to which participants reported problematic procrastination tendencies on academic tasks (Tuckman, 1991). Table 11 presents the frequency distribution across the response options, as well as the mean values and SD of each item on this scale.

Table 11
Frequency distribution of response options of Academic Procrastination.

Item No.	Statement	Mean (SD)	Strongly disagree N (%)	Disagree N (%)	Sometimes N (%)	Agree N (%)	Strongly Disagree N (%)
1	I needlessly delay finishing jobs, even when they are important.	3.18 (1.040)	37 (8.2)	63 (13.9)	167 (36.9)	148 (32.7)	36 (8.0)
2	I postpone starting in on things I don't like to do.	3.52 (.957)	15 (3.3)	44 (9.7)	146 (32.3)	185 (40.9)	62 (13.7)
3	When I have a deadline, I wait till the last minute.	3.06 (1.080)	30 (6.6)	117 (25.9)	146 (32.3)	116 (25.7)	43 (9.5)
4	I delay making tough decisions.	3.21 (.984)	20 (4.4)	82 (18.1)	175 (38.7)	135 (29.9)	40 (8.8)
5	I keep putting off initiating new work activities.	3.23 (.921)	12 (2.7)	79 (17.5)	189 (41.8)	136 (30.1)	36 (8.0)
6	I manage to find an excuse for not doing my work.	3.01 (1.065)	39 (8.6)	107 (23.7)	151 (33.4)	125 (27.7)	30 (6.6)
7	I put the necessary time into even boring tasks, like studying.	3.23 (.980)	25 (5.5)	68 (15.0)	174 (38.5)	150 (33.2)	35 (7.7)
8	I am a major time waster.	3.11 (1.148)	38 (8.4)	98 (21.7)	154 (34.1)	100 (22.1)	62 (13.7)
9	I am a time waster now but I cannot do anything about it even if I try.	2.48 (1.088)	85 (18.8)	185 (40.9)	84 (18.6)	84 (18.6)	14 (3.1)
10	When something is too tough to tackle, I believe in postponing it.	2.89 (1.027)	47 (10.4)	111 (24.6)	167 (36.9)	107 (23.7)	20 (4.4)
11	I promise myself I will do something and then drag my feet.	3.28 (.989)	27 (6.0)	57 (12.6)	174 (38.5)	154 (34.1)	40 (8.8)
12	Whenever I make plan of action, I follow it.	3.24 (.907)	20 (4.4)	59 (13.1)	192 (42.5)	155 (34.3)	26 (5.8)
13	Even though I hate myself if don't get started, it doesn't get me going.	3.02 (.942)	22 (4.9)	112 (24.8)	178 (39.4)	119 (26.3)	21 (4.6)
14	I always finish important jobs with time to spare.	3.09 (.966)	28 (6.2)	82 (18.1)	189 (41.8)	128 (28.3)	25 (5.5)
15	I get stuck in neutral even though I know how important it is to get started.	3.16 (.855)	12 (2.7)	78 (17.3)	215 (47.6)	125 (27.7)	22 (4.9)
16	Putting something off until tomorrow is not yet the way I do it.	3.20 (.924)	18 (4.0)	69 (15.3)	201 (44.5)	131 (29.0)	33 (7.3)

Similar to the previous tables (Table 9 and Table 10), the mean values here are slightly greater than .3 on most items. This relatively large standard deviation indicates that participants' responses varied and thus caution should be taken when interpreting the mean scores. The two items (9 and 10) with mean values under three indicates a scoring pattern that leant more towards the level of disagreement.

In terms of the different scoring patterns, just over half (n=247, 54.6%) of the participants agreed with statement two, that they postpone commencing tasks they do not enjoy, while under a third (n=146, 32.3%) indicated possessing the inclination to postpone sometimes. On the other hand, more than half of the participants (n=270, 59.7%) disagreed with statement (90): "I am a time waster now, but I cannot do anything about it even if I try." Interestingly, only 21.7%, despite declaring themselves time wasters, had resigned themselves to not being able to improve the situation. A substantial group agreed and strongly agreed that they delay making tough decisions (item 4; n=175, 38.79%). In addition, a similar-sized group indicated that they sometimes delay making tough decisions (175, 38.7%). Evidently, participants are cognisant of the ramifications of being an academic procrastinator.

5.4 Factor structure of the MSLQ scale and psychometric properties

The original 81-item MSLQ instrument was subjected to confirmatory factor analysis to assess the validity and reliability of the instrument components for the target group seeing that previous research of this measure seems not to have explored this aspect as well as the general critiques to its measurement as outlined earlier. As discussed previously (Chapter 3, Table 5) the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) test (0.879) results on MSLQ that were greater than (> .50) and Bartlett's Test of Sphericity (sig. value, p=0.000), which was less than ($p < .05$), confirmed the suitability of the MSLQ data for factor analysis. The results of Principal Component Analysis (PCA) are presented in the table below.

Table 12

Rotated Factor Analysis pattern for the MSLQ data.

Item	Subscale	Statement	Factor 1	Factor 2
		Learning Strategies Subscales		
72	Rehearsal	I make lists of important items for my modules and memorize the lists.	0.506	
53	Elaboration	When I study for these modules, I put together information from different sources, such as lectures, tutorials, readings and discussions.	0.412	
62	Elaboration	I try to relate ideas in one subject to those in other courses whenever possible.	0.380	
67	Elaboration	When I study for my modules, I write brief summaries of the main ideas from the readings and my class notes.	0.446	
69	Elaboration	I try to understand the course material by making connections between the readings & the concepts from the lectures.	0.458	
81	Elaboration	I try to apply ideas from course readings in other class activities such as lectures and discussions.	0.392	
49	Organisation	I make simple charts, diagrams or tables to help me organize course material.	0.525	

63	Organisation	When I study for my modules, I go over my class notes and make an outline of important concepts.	0.397
47	Critical Thinking	When a theory, interpretation or conclusion is presented in lectures or in the readings, I try to decide if there is good supporting evidence.	0.472
51	Critical Thinking	I treat the course material as a starting point and try to develop my own ideas about it.	0.531
66	Critical Thinking	I try to play around with ideas of my own related to what I am learning in the modules I enrolled for.	0.570
71	Critical Thinking	Whenever I read or hear a statement or conclusion in these modules, I think about possible. alternatives.	0.538
36	Metacognitive Self-Regulation	When reading for these modules, I make up questions to help focus my reading.	0.516
44	Metacognitive Self-Regulation	If the readings are difficult to understand, I change the way I read the material.	0.460
54	Metacognitive Self-Regulation	Before I study new course material thoroughly, I often skim it to see how it is organized.	0.429
55	Metacognitive Self-Regulation	I ask myself questions to make sure I understand the material I have been studying in these classes.	0.493
56	Metacognitive Self-Regulation	I try to change the way I study in order to fit the module requirements and the instructor's teaching style.	0.515
78	Metacognitive Self-Regulation	When I study, I set goals for myself in order to direct my activities in each study period.	0.439
79	Metacognitive Self-Regulation	If get confused when taking notes in class, I make sure I sort that out afterwards	0.410
43	Time & Study Environment	I make good use of my study time for these modules.	0.516
65	Time & Study Environment	I have a regular place set aside for studying.	0.417
70	Time & Study Environment	I make sure that I keep up with the weekly readings and assignments for all my modules.	0.629
73	Time & Study Environment	I attend all my modules regularly.	0.421
48	Effort Regulation	I work hard to do well in these modules even if I don't like what we are doing.	0.427
74	Effort Regulation	Even when course materials are dull and uninteresting, I manage to keep working until I finish.	0.519
34	Peer learning	When studying for these modules, I often try to explain the material to a classmate or a friend.	0.446
45	Peer Learning	I try to work with other students from my classes to complete the assignments.	0.452
50	Peer Learning	When studying, I often set aside time to discuss course material with a group of students from the classes that I take.	0.566
58	Help-seeking	I ask the instructor/lecturer to clarify concepts I don't understand well.	0.426
68	Help-seeking	When I can't understand the course material, I ask another student in the same class for help.	0.503
75	Help-seeking	I try to identify students in my classes whom I can ask for help if necessary.	0.502
		Motivational Orientation Subscales	Factor 2

7	Extrinsic Goal Orientation	Getting good marks in my modules is the most satisfying thing for me right now.	0.473
11	Extrinsic Goal Orientation	The most important thing for me right now is improving my overall mark average, so my main concern in my modules is getting good marks.	0.703
13	Extrinsic Goal Orientation	If I can, I want to get better marks in my modules than most of other students.	0.564
30	Extrinsic Goal Orientation	I want to do well in my modules because it is important to show my ability to my family, friends, employer, or others.	0.396
10	Task Value	It is important for me to learn the course material in these classes.	0.579
17	Task Value	I am very interested in the content area of these modules.	0.467
27	Task Value	Understanding the subject matter of these modules is very important to me.	0.478
2	Control of Learning Beliefs	If I study in appropriate ways, then I will be able to learn the course material.	0.445
9	Control of Learning Beliefs	It is my own fault if I don't learn the course material in these modules.	0.460
18	Control of Learning Beliefs	If I try hard enough, then I will understand the course material.	0.625
12	Self-efficacy for learning & performance	I'm confident I can learn the basic concepts taught in my modules.	0.662
20	Self-Efficacy for Learning & Performance	I'm confident I can do an excellent job on my assignments and tests in these modules.	0.488
21	Self-Efficacy for Learning & Performance	I expect to do well in the modules for my degree.	0.521
29	Self-Efficacy for Learning & Performance	I'm certain I can master the skills being taught in the modules for my degree.	0.444
31	Self-Efficacy for Learning & Performance	Considering the difficulty of this degree, the lecturers, and my skills, I think I will still do well in my modules.	0.552

Note:
Motivation scales: Extrinsic Goal Orientation (FacMEGO4), Task Value (FacMTV3), Control of Learning Beliefs (FacMControlLB3), Self-Efficacy for Learning & performance (FacMSELPerf5).

Learning Strategies: Rehearsal (FacLRehea1), Elaboration (FacLElab5), Organization (FacLOrg2), Critical Thinking (FacLCT4), Metacognitive Self-Regulation (FacLMetCogSelfReg7), Time & Study Environment (FacLTStudyEnv4), Effort Regulation (FacLEffortR2), Peer Learning (FacLPeerL3), Help-Seeking (FacLHelpS3)

Results

The results of the PCA technique with Direct Oblimin rotation matrix computed for the MSLQ scale (81 items) resulted in forty-six (46) factor item loadings that fitted well in the model along the two components of interpretable MSLQ factors (1 and 2).

The other thirty-five (35) items of the MSLQ loaded poorly and were eliminated from future analysis as statistically insignificant for the data set. The two-factor loading structure resembles the original MSLQ (Pintrinch et al., 1991) in terms of the items loading in the same subscales that they were intended to measure in each scale (Motivation Orientation and Learning Strategies).

The tables show strong item loading values of .40 when rounded off, and greater on each item in Factor 1 (Learning Strategies, with a 31-item load), and Factor 2 (Motivational Orientation, with a 15-item load). This is within the recommended factorability of the correlation matrix value (r = .3 or higher), an indication of item suitability for the study.

Results from the parallel analysis show two components with eigenvalues exceeding the criterion value for data matrices. The two-component solution explained 21.3% of the total variance, with Factor 1 (Learning Strategies use) contributing 15.2% and Factor 2 (Motivational Orientation) contributing 6.1%.

The inter-item reliability coefficient results of the overall factor structure, measured using Cronbach's alpha ($\alpha = 0.884$), was greater than the recommended reliability value of 0.7 (Hair et al., 2013), indicating that the items measured the intended main aspects of the MSLQ.

Factor 1: Learning Strategy Scale: As discussed earlier, the learning strategy scale of the original MSLQ has 50 items (divided across all nine subscales) which measure the students' use of: a) cognitive and metacognitive strategies of learning, and b) the management of resources to facilitate positive learning and performance. There were 31 items of the original MSLQ for this factor that loaded well in the model, and 19 items that did not load well, were excluded.

Regarding the use of cognitive and metacognitive strategy (namely rehearsal, elaboration, organisation, critical thinking and metacognitive SR), the table shows a total of nineteen (19) factor item loadings ranging from .380 (item 62, elaboration) to .570 (item 66, critical thinking) that indicated an adequate model fit for this component (refer to Table 10). The Cronbach's alpha value ($\alpha = 0.83$) calculated for these factors, and was greater than the recommended value (0.7), indicating good reliability of these item factor loadings for the study. There were 14 items of the original MSLQ on this component that did not load well and were excluded.

In terms of the resource management subscales (namely, time and study environment, effort regulation, peer learning and help-seeking), twelve (12) items had significant factor loadings greater than 0.4, ranging from the lowest score .417 (item 65, Time and Study Environment) to the highest .629 (item 70, Time and Study Environment) (refer to Table 10). This scale also had a Cronbach's alpha ($\alpha = 0.775$) greater than the recommended value of 0.7 (Hair et al., 2013). This indicated a good model fit and reliability of these items for the study. Similar to above, seven (7) items of the resource management subscales in the original MSLQ loaded poorly and were excluded in further analysis.

Factor 2: Motivational Orientation Component: The Motivational Orientation Component of the original MSLQ scale has 31 items that measure the students' motivational beliefs for their degree programmes and modules in terms of their goals and value aspects, their expectancy levels (confidence

in skills to perform, self-efficacy beliefs) for success, and the affective test anxiety subscale, which measures the students' anxiety and physiological reactions towards assessments.

The table shows that only fifteen (15) items of this Factor 2 loaded well in the model, with matrix correlation values that ranged from .396 (item 30, extrinsic goal orientation) to .702 (item 11, extrinsic goal orientation) (refer to Table 10). These significant factor loadings greater than .40 when rounded off had a strong Cronbach alpha value ($\alpha = 0.816$) that is greater than the recommended value (0.7) (Hair et al., 2013). This demonstrated model fit and good reliability of the item factor loadings for the study. The sixteen (16) items from the original motivational scale (MSLQ) that loaded poorly in the factor analysis were removed. Among those removed due to poor factor loadings were the items that measure intrinsic goal orientation (4 items), and test anxiety (5 items). These items were however considered independently in the frequency distribution results discussed above.

5.5 Descriptive statistics of the instruments

The descriptive statistics results for the adapted MSLQ sub-scales (as per the factor loadings discussed above, with the exception of the one item loading factor for the Rehearsal strategy was not included in analysis) and academic procrastination scale (APS) are presented (see Table 12 below) in terms of the total number of respondents, range, mean values, standard deviation, variance, minimum and maximum values, skewness, kurtosis, and the inter-item reliability coefficients (i.e. Cronbach's alpha [α]), as well as the mean inter-item correlation coefficient in cases where the sub-scales had less than ten (10) items (Briggs and Cheek, 1986).

Table 4

Descriptive statistics and psychometric properties for the motivation orientation and the learning strategy sub-scales and AP scale (n=452).

Scales	N	Range	Mean	SD	Variance	Min	Max	Skewness		Kurtosis		α	r*
								Stats	Std Error	Stats	Std Error		
Motivational Orientation Subscales													
FacMEGO3	448	2.67	4.19	.632	.400	2.33	5.00	-.564	.115	-.217	.230	.603	.342
FacMTaV3	452	3.00	3.97	.611	.374	2.00	5.00	-.519	.115	-.177	.229	.490	.243
FacMControlLB3	451	3.00	4.03	.636	.405	2.00	5.00	-.574	.115	-.171	.229	.497	.248
FacMSELPerf4	451	3.00	3.97	.581	.337	2.00	5.00	-.240	.115	-.069	.229	.625	.293
Learning Strategy subscales													
FacLElab5	452	3.20	3.67	.576	.332	1.80	5.00	-.177	.115	.223	.229	.578	.216
FacLOrg2	452	4.00	3.48	.757	.573	1.00	5.00	-.137	.115	-.322	.229	.237	.136
FacLCT4	452	4.00	3.40	.657	.431	1.00	5.00	-.316	.115	.387	.229	.573	.251
FacLMetCogSReg7	451	3.29	3.43	.574	.329	1.71	5.00	.086	.115	.157	.229	.648	.209
FacLTStudyEnv3	452	4.00	3.34	.806	.649	1.00	5.00	-.403	.115	-.172	.229	.581	.317
FacLEffortR2	450	4.00	3.55	.736	.542	1.00	5.00	-.446	.115	.064	.230	.365	.225
FacLPeerL3	452	4.00	3.20	.820	.673	1.00	5.00	-.379	.115	-.211	.229	.608	.339
FacLHelpS2	452	4.00	3.53	.906	.821	1.00	5.00	-.415	.115	-.381	.229	.471	.233
Academic Procrastination Scale													
Proctrastination16	451	3.00	3.05	.529	.280	1.00	5.00	-.145	.115	.333	.229	.831	.231

Note: The analysis for the MSLQ is based on 41 item factor loadings:

1. The following four items were removed to improve the Cronbach alpha coefficient: Extrinsic goal (Item 30); self-efficacy for learning and performance (item 29); time and study environment (item 65) and help-seeking (item 58).

2. Mean Inter-Item Correlation coefficient *(r)*

As shown in the table, the analysis of the results is based on 41 item loadings of the MSLQ and AP. Table 13 above indicate mean values greater than the central measure (>3) in all subscales, implying that many participants agreed with a number of statements (that measure the same subscale) in each individual scale, covering motivational orientation, learning strategies, and academic procrastination. The motivational scale in particular showed very strong mean values compared to the other scales. Most of the standard deviation values were at approximately one (1).

As shown in the table, the Cronbach Alpha value of each subscale fell below the recommended value of 0.7 (Hair et al., 2008; Hair et al., 2013), but within the acceptable norm. The mean inter-item correlation test results were within the recommended acceptable range of between .2 to .4 (Briggs and Cheek, 1986), except for the organisation subscale that was not satisfactory (α =.237, *r* = .136). As shown in the factor analysis results (Table 10), the two items that measure the organisation strategy refer to students use of simple charts, diagrams or tables to organise their course material (item 49, factor loading .525), as well as going through class notes and outlining important concepts when studying (item 63, factor loading .397).These two items computed (item 49 and 63) failed to confirm the validity of this construct as a significant cognitive strategy which this sample would employ.

These reliability scores are lower than .70, yet adequate significant to conclude that the MSLQ is a fairly reliable instrument to be used to investigate the motivation and SRL strategies that influence the academic performance of this group. The lack of stronger reliability values (>.7) for the MSLQ data set that was subjected to factor analysis (refer to Factor Analysis Results) may indicate psychometric issues that would need to be further explored and refined. In a meta-analytic review of MSLQ, Crede and Phillips (2011) identified some psychometric problems relating to the content of some items, for example peer learning and help-seeking, which have been found to contain items that are "conditional content and ideal-point items" (p.342). These are psychometric concerns, and are likely to influence the reliability of the measures and thus conclusions. Other studies have associated low reliability scores to the number of items (81) and the fact that some subscales have very few items (peer learning, three items). However, when considering other studies (for example, a South African study conducted by Hamid and Singaram, 2016, among first-year medical students), obtained significantly higher Cronbach's alpha scores on a full MSLQ scale (ranging from .55 time and study environment; .56 help-seeking, to .88 self-efficacy for learning and performance). Their results were relatively similar to Pintrich et al.'s (1991) scores, ranging from .52, help-seeking to .93 self-efficacy for learning and performance.

The descriptive statistics results for the motivation subscales show higher mean values above the midpoint of the five-point Likert scale for all four subscales: extrinsic goal orientation 4.1(.632), control of learning belief 4.03 (.636), task value 3.97 (.611), and self-efficacy for learning and performance 3.97 (.58). These results indicate a tendency towards a strong response option of agreement with the statements. The two subscales—namely self-efficacy for learning and performance (α = .625), and extrinsic goal orientation (α = .608)—had relatively higher Cronbach alpha coefficients compared to the task value (α =.490) and control of learning beliefs (α = .497) subscales, as expected.

Although alpha values for the task value and control of learning beliefs were relatively low, the mean inter-item correlation coefficient was within the acceptable range as mentioned above (r = .243, r = .248

respectively), indicating that participants agreed with the items that measure these subscales (Brigg and Check, 1986).

In terms of the learning strategy subscales, the elaboration subscale has a higher mean score 3.67 (.576) compared to other learning strategies, indicating that many participants agreed with the statements. The metacognitive self-regulation (α = .648) and peer learning (α = .608) were the two subscales with relatively higher alpha values, compared to other subscales. The alpha value for time and study environment (α = .581), elaboration (α = .578).), and critical thinking (α = .573) are within an acceptable borderline range. Also, although the alpha score for help-seeking (α = .471) and effort regulation (α = .365) are relatively low, the mean inter-item correlation test values are within the recommended normal range (*r* = .233, *r* = .225 respectively).

The inter-item correlation coefficient Cronbach alpha value for the Academic Procrastination Scale (α = 0.831) is above the recommended Cronbach's alpha value of 0.70, and thus is satisfactory. This suggests that the scale is a reliable measure for procrastination. The mean value 3.05 (.529) indicates that similar numbers of participants leant towards a level of agreement with the statements on the five-point Likert scale, indicating a tendency to procrastinate.

5.6 Differences between the Sociodemographic groups and measures

This section presents the results of the analysis performed to assess the relationships between the sociodemographic factors and the measures (adapted MSLQ and AP).

5.6.1 Sociodemographic group differences regarding At-Risk groups and the mean scores on the measures

The Chi Square Test for independence assessed whether there were significant differences (calculated at p = .05) for the students with academic At-Risk status (Orange and Red, as described earlier) in relation to their sociodemographic characteristics (i.e. gender, secondary school type, residential type, funding system, degree programme, and college groups). The results show no statistically significant differences in scores for the orange and red groups in relation to these sociodemographic factors.

The results for the independent samples, T-test, and ANOVA test that were computed to establish whether there were significant differences on the mean scores of the measures (adapted 41-item MSLQ, and the APS (16-items) are presented below, commencing with the t-test results.

5.6.1.1 Independent samples T-test

Only the degree programme group (three-year and four-year) was found in the independent samples T-test (two-by-two table) to be statistically significant with respect to the measures. The mean test results

pertaining to the two-degree programmes and the measures are presented in Table 14 below. The Cohen's d effect size results are presented for each comparison.

Table 5

Independent sample T-test results for the degree programme groups with respect to the measures used.

Measures	Groups	N	Mean	SD	t-value	df	Sig.(2 tailed	95% CI for Mean		Mean Diff	D
								LB	UB		
Motivational Beliefs											
FacMTV3	3-yr	311	3.92	0.610	-2,420	450	.016	-0.271	-0.028	-0.149	.608
	4-yr	141	**4.07**	0.603							
Learning Strategies: Resource Management											
FacLTSE3	3-yr	311	3.27	0.787	-2,734	450	.007	-0.382	-0.062	-0.222	.800
	4-yr	141	**3.49**	0.829							
FacLPeerL3	3-yr	311	3.14	0.808	-2,499	450	.013	-0.369	-0.044	-0.207	.815
	4-yr	141	**3.35**	0.831							
FacLHelpS2	3-yr	311	3.47	0.914	-2,056	450	.040	-0.369	-0.008	-0.188	.903
	4-yr	141	**3.66**	**0.877**							

Notes: The mean difference is significant at the 0.05 level;
Cohen's d effect sizes: small effect d = 0.20, Medium effect d = 0.50, *Large effect d = 0.80
Confidence Interval for Mean (CI): Lower Bound (LB), Upper Bound (UB);
*Degree Programmes: 3-year (1), 4-year (2)

The independent samples' T-tests found significant group differences for the participants in the two (three-year and four-year) degree programmes regarding the mean scores on the subscales of the MSLQ and the full AP scale. As shown in Table 14, statistically significant differences exist for these degree programme groups in relation to the mean scores of the four MSLQ subscales: one motivational value component (task value), and three resource management strategies for learning (time and study environment, peer learning, and help-seeking).

In terms of the motivational orientation components, statistically significant differences exist between the degree programme groups (three-year and four-year) and task value: t (450) = -2.420, p =.016. The magnitude of the differences in the means (MD = -.149) at 95% CI ranges from -.271 to -.028. The high mean value for the four-year degree programmes (M = 4.07, SD = 0.603) compared to the three-year

degree group (M = 3.92, SD = 0.610) suggests that participants in four-year degree programmes engaged in their tasks or readings because they found it interesting, important, and that it was valuable to learn. These seem to be important sources of motivation, associated with positive academic engagement and performance.

With respect to the learning strategy sub-scales, statistically significant differences exist between the degree programme groups (three-year and four-year) and the three resource management learning strategies: time and study environment strategy use: t (450) = -2.734, p = .007, the peer learning strategy: t (450) = -2.499, p = .013, and the help-seeking subscale: t (450) = -2.056, p = .040. In all instances, the students in the four-year degree programmes show higher mean scores compared to those in the three-year programmes.

Regarding the relationship between the degree programme groups and time and study environment, higher mean scores are noted for those in the four-year programme groups (M = 3.49, SD = 0.829) than students in the three-year programmes (M = 3.27, SD = 0.787) indicating that participants in four-year programmes tend to associate managing their time and study environment with positive effects on academic engagement and performance, more so than those in the three-year degree programmes. A large effect size (d = .800) is noted.

Fairly higher mean values for four-year degree programmes (M = 3.35, SD = 0.831) than three-year degree programmes (M= 3.14, SD =0.808) pertaining to the use of peer learning strategies suggest that those in the four-year degree programme group scored higher on items covering levels of collaboration with peers, such as working in groups and consulting classmates for course content assistance, and associated these behaviours with positive learning and performance. A large effect size (d = .815) shows practical significance.

Also, the results in their use of help-seeking strategies show higher mean values for those participants in the four-year degree programmes (M= 3.66, SD= 0.877) than those in the three-year degree programmes (M= 3.47, SD = 0.914). This result suggests that participants in four-year degree programmes reported higher mean scores for help-seeking behaviours, such as requesting assistance on challenging module content from lecturers/tutors to gain clarity and enhance understanding, and associated these behaviours with positive effects on learning and performance outcomes. The contribution of this variable towards academic engagement was of large significance (d = .903).

5.6.1.2 One-Way Between Groups (ANOVA)

The One-Way Between groups analysis of variance (ANOVA) with post hoc (Tukey's HDS) test found statistically significant differences in the mean scores for the three sociodemographic groups: (College groups, Funding and Residential type) in relation to the measures (adapted MSLQ and AP). The results

are presented below, commencing with the relationship between the College groups and the measures. The effect size results calculated using eta squared are presented for each comparison.

Table 15 presents the statistically significant results of the ANOVA tests and post hoc multiple comparisons (Tukey's HSD) conducted for the participants in their different colleges in relation to the adapted MSLQ and AP scale. The majority (51.2%) were registered in the College of HUM.

Table 6

Mean differences between the college groups on measures used as per ANOVA tests with post hoc multiple comparisons (Tukey's HSD).

Measures	Groups	N	M	SD	Sig. Diff. Btn Grps	Mean Diff.	95% CI: LB	95% CI: UB	Sig.	Df	F	Posthoc comparison	η2
Motivational Orientation for College groups													
FacMEGO3	1.HUM*	231	4.11	0.675	HUM*AES	-0.257*	-0.42	-0.09	.001	2	**7.399**	1< 3	.032
	2. LMS	90	4.14	0.552	LMS*AES	-0.235*	-0.44	-0.03	.018			2 < 3	
	3.AES*	**127**	**4.38**	**0,571**									
FacMSELP4	1.HUM	233	3.98	0.574	HUM*LMS	-.207*	0.04	0.37	.011	2	**7.285**	1 > 2	.031
	2.LMS*	90	3.77	0.536	LMS*AES	-.297*	-0.48	-0.11	.001			2 < 3	
	3.AES*	**128**	**4.07**	**0.596**									
Learning Strategies for College group													
FacLElab5	**1.HUM***	234	3.61	0.565	HUM*AES	-.189*	-0.34	-0.04	.008	2	4.539	1 < 3	.020
	2.LMS	90	3.66	0.544									
	3.AES*	**128**	**3.79**	**0.600**									
FacLMetCogS	1.HUM	233	3.46	0.545	HUM*LMS	-.167*	0.00	0.33	.049	2	**3.489**	1 > 2	.015
elfReg7	2.LMS*	90	3.29	0.494	LMS*AES	-.191	-0.38	-0.00	.040			2 < 3	
	3.AES*	**128**	**3.48**	**0.659**									
FacLTStudyE	**1.HUM**	234	**3.42**	0.730	HUM*LMS	.318*	-0.55	-0.09	.004	2	**5.251**	1 > 2	.023
nv3	2.LMS*	90	3.10	0.816	LMS*AES	-.266	-0.52	-0.01	.042			2 < 3	
	3.AES*	128	3.37	0.898									
Academic Procrastination for College groups													
Proctrastinatio	**1.HUM***	232	**3.18**	0.463	HUM*LMS	0.132*	0.00	0.26	.009	2	**4.777**	3 > 1	.021
n16	2. LMS	90	3.05	0.409									
	3.AES*	125	3.05	0,.464	AES*HUM	-.133*	-0.25	-0.01					

1. Colleges: 1. Humanities (HUM); 2. Law & Management Studies (LMS) and 3. Agriculture, Engineering & Science (AES)

2. Effect size for Independent Samples t-test (Cohen, 1988, p.284-287): Small effect: = .01, moderate effect: =.06, large effect = .14

Table 15 shows significant mean differences between the college groups and the following variables: motivation factors (extrinsic goal orientation, and self-efficacy for learning and performance), two cognitive and metacognitive learning strategies (elaboration, and metacognitive self-regulation) and one resource management strategy (time and study environment) as well as the AP scale. In all instances, the magnitude of the effect sizes measured using the eta squared indicates a small difference between the college groups with little practical significance.

As shown in the table above, the mean group differences between the college groups on the two motivational belief subscales (extrinsic goal orientation, and self-refficacy for learning and performance) revealed the following:

Statistically significant differences exist in mean scores for the three college groups in relation to the extrinsic goal orientation: $F(2,448) = 7.399$, $p = .001$, $\eta 2 = .032$. Post hoc multiple comparisons (Tukey's HDS) results indicate that the biggest significant difference lies in the mean scores between the College of HUM (M = 4.11, SD =0.675) and AES (M= 4.38, SD = 0.571) as well as between LMS (M = 414, SD = 0.552) and AES (M =4.38, SD = 0.571). In both instances, the mean scores for the College of AES are higher than for the colleges of HUM and LMS. These results therefore suggest that compared to those registered in HUM and LMS, the AES participants scored higher on the items which covered beliefs that higher levels of engagement in an academic task for extrinsic reasons such as obtaining an overall pass is a motivating source for positive learning and performance.

The other statistically significant difference established in mean scores for the college groups pertains to the motivational expectancy component of self-efficacy for learning and performance: $F(2,451) = 7.285$, $p= .001$, $\eta 2 = .031$. Post hoc multiple comparisons (Tukey's HSD) results indicate that the biggest significant difference lies in mean scores for the College of HUM (M =3.98, SD = 0.5740 and LMS (M = 3.77, SD =0.536), as well as between LMS (M = 3.76, SD = 0.536) and AES (M= 4.07, SD = 0.596). Therefore, the higher mean value for the College of HUM compared to LMS, as well as for the AES than that of LMS, suggest that participants who registered in these two colleges (HUM and AES) perceived confidence and self-efficacy for learning and performance as important sources of motivation for positive learning and performance.

In terms of the significant differences that exist in the mean scores for the college groups and the learning strategy subscales, the results suggested the following:

Statistically significant differences exist between the college groups and use of the elaboration learning strategy: $F(2, 452) = 4.539$, $p = .011$, $\eta 2 = .020$, and the metacognitive self-regulation strategy: $F(2, 451) = 3{,}489$, $p = .031$, $\eta 2 = .015$.

In terms of the college differences with respect to elaboration strategy use, post hoc multiple comparison (Tukey's HSD) results indicate that the biggest difference in mean scores lies between the Colleges of HUM (M = 3.61, SD = 0.565) and AES (M =3.79, SD = 0.600). The higher mean value for the College of AES than that of HUM indicates that the AES participants scored higher on the elaboration subscale as a learning strategy they use to enhance performance outcomes in comparison with those from HUM.

The post hoc multiple comparison (Tukey's HSD) results for the college groups and metacognitive self-regulation strategy use revealed that the biggest significant difference in mean scores lies between the College of HUM (M = 3.46, SD =0.545) and LMS (M = 3.29, SD =0.494) and LMS (M = 3.29, SD = 0.494) and AES (M = 3.48, SD = 0.659). These results indicate relatively higher mean values for the HUM and for AES, suggesting that (compared to LMS) participants registered in these two colleges perceive that the higher degree to which one engages the metacognitive self-regulation processes and strategies—such as planning and organising the material that they need, and monitoring and regulating progress—will have a greater effect on positive learning and performance outcomes. A weak yet significant effect size result of this relationship on performance is noted.

Lastly, the statistically significant difference in the mean scores for the college groups was noted in relation to the resource management learning strategy component (time and study environment): $F(2,452) = 5.251$, $p = .006$, $\eta 2 = .023$. The post hoc comparison test (Tukey's HSD) indicates that the biggest significant difference in mean scores lies between the College of HUM (M = 3.42, SD =0.73) and LMS (M =3.10, SD = 0.816) and between LMS (M = 3.10, SD = 0.816) and AES (M =3.37, SD = 0.898). The higher mean values for the participants in the College of HUM compared to LMS and for AES than that of LMS suggest that the higher degree to which one manages time and controls distractions in their study environment when engaging with academic activities is perceived more so by participants registered in the Colleges of HUM and AES as pivotal for positive learning and performance than for those in LMS. The effect size show that the difference is however small.

The results in Table 15 showed a statistically significant difference in the mean scores of the college groups and the academic procrastination scale: $F(2,447)$ 4.777, $p = .009$, $\eta 2 = .021$. The post hoc comparisons (Tukey's HSD) results show that the biggest significant difference lies in the mean scores between the College of HUM (M = 3.18, SD = 0.463) and LMS (M = 3.05, SD = 0.409) and also between HUM (M = 3.18, SD = 0.463) and AES (M = 3.05, SD = 0.464). In both instances, the College of HUM has the higher mean value compared to LMS and AES groups, suggesting that HUM participants tended to score higher on the academic procrastination scale than the participants in the other Colleges. The effect size is however small.

The results from the ANOVA test performed for the two-by-three variables (i.e. funding, and the residential groups) in relation to the measures (adapted MLSQ and AP scale) are depicted in Table 16.

Table 16

Funding and Residential group Differences on MSLQ subscales as per ANOVA test results with post hoc multiple comparisons (Tukey's HSD).

Measures	Groups	N	M	SD	Sig. Diff. Btn Grps	Mean Diff.	95% CI: LB	95% CI: UB	Sig.	df	F	Posthoc comparison	η2
Learning strategy use among funding type groups													
FacLPeerL3	1.Self-Funded	181	3.07	0.852	SF*Loans	-0.211*	-0.40	-0.02	**.023**	2	**3.811**	1 < 2	.017
	2. NSFS	**225**	**3.28**	**0.782**									
	3.Bursary / Scholarship	46	3.31	0.823									
FacLHelpS2	1.Self-funded	181	3.40	0.956	SF* B/S	-0.390*	-0.74	-0.04	**.024**	2	**4.081**	1 < 3	.018
	2.NSFAS	225	3.58	0.889									
	3.Bursary/ Scholarships	46	3.79	0.696									
Motivational beliefs components among residential groups													
FacMEGO3	1.Home	141	4.14	0.621	Home*PR	-.206*	-0.39	-0.02	.028	2	4.165	1 < 2	.018
	2.PrivateR	110	4.35	0.595	PR*UKZN	.193						2 > 3	
	3.UKZN	197	4.15	0.649									
FacMControl LB3	1.Home	141	4.06	0.681	PR*UKZN	.177*	0.00	0.35	.049	2	2.975	2 > 3	.013
	2.PrivateR	111	4.14	0.647									
	3.UKZN*	199	3.96	0.588									

Notes:

1. The mean difference is significant at the 0.05 level.
2. Funding system:1. Self-funded (SF), 2. NSFAS. 3. Bursaries & Scholarships (B /S)
3. Residential Type: 1. Home, 2. Private Residences (PR), 3. UKZN

Table 16 above illustrates statistically significant differences in the mean scores of the funding source groups on the two resource management subscales of the MSLQ (i.e. peer learning, and help-seeking) as well as for the residential groups on the two motivational beliefs component sub-scales (i.e. extrinsic goal orientation, and control of learning beliefs). In all instances, the results of the effect size is however small.

Concerning the mean scores of the different *funding groups*, the most commonly reported source of funding was NSFAS (45.6%) and self-funded (40%).

The first ANOVA test results show significant differences in the mean scores for the funding groups in relation to the use of peer learning strategies: $F(2,451) = 3.811$, $p = .023$, $\eta 2 = .017$, and help-seeking strategies: $F(2, n = 451) = 4.081$, $p = .024$, $\eta 2 = .018$.

The post hoc (Tukey's HSD) results revealed that the biggest mean score difference lies between self-funded groups (M = 3.07, SD = 0.852) and the NSFAS groups (M = 3.28, SD = 0.782) for the peer learning sub-scale, and between the self-funded (M = 3.40, SD = 0.956) and bursaries and scholarships groups (M = 3.79, SD = 0.696) for the help-seeking sub-scale. In both instances, the results show that self-funded groups have lower mean scores when compared with the NSFAS funding group in terms of peer learning, and the bursary/scholarships group for the help-seeking strategy component. These results suggest that the NSFAS participants scored higher for collaboration with peers on module content with a greater degree of academic engagement, while the bursary/scholarship group strongly perceived seeking the assistance of lecturers and tutors on challenging module content as pivotal for positive learning and performance, as compared to the self-funded group, who do not seek help as much.

In terms of the *residential groups*, relatively higher number of participants reported residing at UKZN (44%), while just under a third (31.2%) stayed at home and 24.8% lived in private residences.

The ANOVA results demonstrate statistically significant differences in mean scores for the residential groups in relation to the two motivational belief components: extrinsic goal orientation $F(2, 451) = 4.165$, $p = .028$, $\eta 2 = .018$, as well as control of learning beliefs $F(2, 451) = 2.975$, $p = .049$, $\eta 2 = .013$.

Regarding the extrinsic goal variable, post hoc multiple comparison (Tukey's HSD) results indicate that the biggest mean score differences lie between the home group (M = 4.14, SD = 0.621) and private residential group (M = 4.35, SD = 0.595), and also between private accommodation (M = 4.35, SD = 0.595) and UKZN residences (M = 4.15, SD = 0.649). In both instances, the private residential group had a higher mean score as compared to those residing at home and those at UKZN residences. These results suggest that, unlike those residing at home and at UKZN, the private residence group perceived having stronger levels of extrinsic goals for the academic task (such as to obtain an overall pass) as an important motivational belief for positive learning and performance.

In terms of the control of learning beliefs, the post hoc multiple comparisons (Tukey's HSD) indicate that the biggest significant difference lies in the mean score between the private residence group (M= 4.14, SD = 0.647) and UKZN residences group (M= 3.96, SD =0.589). The higher mean scores for the private residential type compared to the UKZN residences group indicates that those in private residences valued the control of learning beliefs for positive learning and performance more than the others.

5.7 Correlations Among the Measures (MSLQ and AP)

The Pearson correlation coefficient (r) model was used to examine the significant relationships between the measures of the study (adapted MSLQ and APS). These results are shown in Table 16.

Table 17
Pearson's correlation coefficients between MSLQ and academic procrastination.

	Subscales	1	2	3	4	5	6	7	8	9	10	11	12	13
1	FacMEGO3													
2	FacMTV3	.423**												
3	FacMControlLB3	.487**	.453**											
4	FacMSELPerf4	.430**	.527**	.376**										
5	FacLElab5	.244**	.418**	.193**	.342**									
6	FacLOrg2	.077	.189**	.058	.122**	.490**								
7	FacLCT4	.117*	.207**	.032	.192**	.541**	.404**							
8	FacLMetCogSelfReg7	.120*	.252**	.070	.254**	.548**	.484**	.548**						
9	FacLTStudyEnv3	.116*	.244**	.030	.218**	.401**	.340**	.411**	.502**					
10	FacLEffortR2	.142**	.171**	.047	.213**	.351**	.272**	.361**	.394**	.449**				
11	FacLPeerL3	-.048	.108*	-.042	.055	.284**	.362**	.425**	.345**	.363**	.279**			
12	FacLHelpS2	.064	.176**	.056	.172**	.443**	.279**	.353**	.354**	.390**	.381**	.455**		
13	Proctrastination16	-.135**	-.166**	-.079	-.182**	-.324**	-.212**	-.178**	-.174**	-.228**	-.210**	-.021	-.111*	

Notes: Correlation is significant at p-value $p \leq 0.05$* (1-tailed) and at $p \leq 0.01$** (2-tailed).

This section will report the correlation results with a large ($r = \geq 0.50$) and medium ($r = \geq 0.30$) value. In the case of AP scale, the correlation values are small across all significant relationships, and therefore only the higher values at $r = \geq 0.20$ are reported.

5.7.1 Relationships among the motivational belief components

As expected, all motivational belief subscales correlated strongly (> .4) with each other (see PCA presented earlier). The results show a strong positive correlation between the extrinsic goal orientation and the task value, indicating that the participants who strongly perceived themselves as extrinsically

motivated to engage in their tasks for the reasons, such as, to obtain an overall pass, also reported that their engagement was driven by their strong perception of the task as valuable, interesting, and important to learn.

Another strong positive correlation (> .4) shown in the table between control of learning beliefs and the two other value components (extrinsic goals and task value) indicates that the participants who perceived themselves as having a higher degree of control of their learning beliefs also reported that their reasons for participating in a task were driven by their high extrinsic goals to obtain an overall pass, as well as their strong perception of a task as interesting, important, and useful to learn.

Moreover, the results for the self-efficacy for learning and performance show that this subscale correlated particularly strongly with task value (> .5), indicating that participants who reported higher levels of confidence and self-efficacy beliefs in their ability to learn and accomplish a task also scored strongly in the task value scale, as participants who felt motivated to participate because they perceived the task as interesting, important, and useful to learn. A strong positive correlation between self-efficacy for learning and performance and extrinsic goals (> .4) showed that participants who perceived themselves as highly confident in their ability to learn and who felt they had the self-efficacy beliefs to accomplish a task also reported higher extrinsic reasons to obtain an overall pass. Lastly, the moderate correlation between the two outcome expectancy components (i.e. self-efficacy for learning and performance, and control of learning beliefs) indicates that participants who reported moderate levels of belief that putting more efforts in their academics would result in positive performance outcomes, also reported moderate levels of confidence and self-efficacy in terms of their ability to learn and accomplish the task.

5.7.2 Correlations between learning strategies and motivational belief subscales

As shown in the Pearson correlation table 16 above, there is a positive association with moderate to stronger correlation coefficients among the learning strategies as expected, while all significant associations between the learning strategies and the motivation orientation subscales were relatively lower.

From the motivational component, the control of learning belief subscale (expectancy component of motivation scale) did not correlate with most of the learning strategies, except for the elaboration strategy—and this association was relatively weak. As discussed earlier, the control of learning belief assesses the student's beliefs that their learning efforts will yield positive outcomes, and the elaboration subscale measures the student's ability to paraphrase, summarise, and connect prior knowledge with new information when learning (Pintrich et al., 1991). It was also interesting to note that the extrinsic goal orientation subscale did not correlate significantly with peer learning and help-seeking. As noted earlier, the extrinsic goal orientation subscale measures the degree to which students perceived that their engagement in the task was for external reasons (such as to obtain an overall pass), while the peer

learning strategy is about collaborating with their peers to enhance their understanding, and help-seeking is about seeking assistance from other students in class on challenging content to enhance their understanding and positive learning outcomes.

As shown in the table, the elaboration subscale correlated positively with all four motivational orientation scales (extrinsic goals, task value, control of learning beliefs, and self-efficacy for learning and performance). The correlation found between elaboration and task value (> .4) subscales is relatively strong, indicating that the participants who reported using the elaboration strategy (such as paraphrasing or summarising course content) as a learning strategy to enhance comprehensions also reported being motivated by their strong perception of the module content as useful, important, and interesting to learn. A medium positive correlation between this cognitive learning strategy (elaboration) and the self-efficacy for learning and performance subscale indicates that those who reported employing the elaboration strategy moderately also reported moderate levels of confidence in their skills to learn and self-efficacy beliefs to accomplish the task. The correlation found between the elaboration subscale and the two motivation subscales (extrinsic goal orientation, and control of learning beliefs) was however relatively small, yet significant—indicating that the participants who reported lower levels in their employment of the elaboration strategy also reported a lesser degree in their motivational beliefs to engage in a task for extrinsic reasons to obtain an overall pass, as well as lower levels of belief that their ability to control their learning would yield positive performance outcomes.

The organisation subscale correlated strongly with the elaboration strategy (> .4), indicating that the participants who reported that they organise their work, gather information to learn, and make connections, also used the elaboration strategy (such as summarising or paraphrasing the course content) as a learning strategy, believing that it was likely to enhance their understanding of their readings and performance. This cognitive learning strategy (organisation) also correlated positively with two motivational subscales (task value and self-efficacy for learning and performance). The low, yet significant correlation levels shown in this relationship indicate that the lower degree to which participants employs the organisation strategy, the lesser the motivational levels for engaging in a task for the reasons that it is important to learn. Similarly, the results show that the lower the levels reported in using the organisation strategy the lesser the levels of confidence in their ability to learn and hold self-efficacy beliefs around performing and accomplishing the task.

The critical thinking strategy correlated strongly (greater than > .4) with the other two cognitive learning strategies (elaboration and organisation), and weaker with the three motivational subscales (extrinsic goal, task value, and self-efficacy for learning and performance). These results indicate that participants who reported a stronger degree in their use of critical thinking strategy (such as critically evaluating content as they read it, and critically connecting previous information with new information) also scored

significantly higher (> .50) on the elaboration subscale as a learning strategy they employ when engaging with their academic studies. In terms of the correlation with the motivational subscales, the low correlation results indicate that the participants who reported lower levels in the application of critical thinking strategies when engaging the content also scored lower on their motivational beliefs relating to engaging with the task (to pass, or because they perceived it as valuable to learn). Additionally, participants who reported lower levels of correlation on the use of critical thinking skills also reported lower levels of confidence and weaker self-efficacy beliefs in their ability to learn and accomplish the task.

The metacognitive self-regulated learning subscale correlated strongly with the three cognitive learning strategies (elaboration, organisation, and critical thinking) and weaker to small levels of correlation with three motivational subscales (extrinsic goals, task value, and self-efficacy for learning and performance). In particular, this subscale correlated strongly (>.50) with elaboration and critical thinking subscales, indicating that the participants who reported higher levels in application of the metacognitive self-regulation processes and strategies when learning, such as planning and organising learning material, monitoring comprehension and regulating progress, also scored higher in the use of paraphrasing, summarising content (elaboration), and making critical evaluations of what they were reading for both better comprehension and task accomplishment. Regarding the correlation of this subscale (metacognitive SR) with the motivation subscales, the results indicate that the lower levels reported in the employment of the metacognitive SR were also reported in their motivational beliefs for the task in terms of their extrinsic goals for task engagement, the value of the task, and their expectancy levels for success (self-efficacy for learning and performance).

Regarding the resource management strategies, the results show medium to higher positive correlation values for the time management and study environment subscale, and for all four cognitive and metacognitive SR strategies. These results indicate that those who reported stronger levels in their ability to manage time and regulate their study environment also scored higher on their application of elaboration, organisation, critical thinking, and metacognitive self-regulation strategies. Similar to other learning strategies, the results for this subscale (time and study environment) showed lower correlation values with the three motivational beliefs subscales (extrinsic goals, task value, and self-efficacy for learning and performance), indicating that those with who reported lower levels managing their time and controlling their study environment from distractions also reported lower motivational beliefs for learning, for reasons relating to obtaining an overall pass, valuing the task as important to learn, and their confidence in their skills to learn and self-efficacy beliefs to accomplish the task.

The correlation results for the effort regulation strategy show that participants who reported medium levels in employment of this strategy also scored moderately in their degree to which they manage their time and study environment, self-regulate their metacognitive beliefs, use critical thinking skills, and

employ the elaboration strategy as they engage with their readings. A relatively stronger correlation between effort regulation and time and study environment compared to others is noticed, indicating that those who scored higher on effort regulation also reported a stronger degree in their time management and ability to control their study environment.

Similar to the above, the use of the effort regulation strategy has lower correlation levels with the three motivational beliefs subscales (extrinsic goals, task value, and self-efficacy for learning and performance). These results indicate that those who reported lower levels in their ability to control and regulate their efforts to learn and focus—despite distractions and/or lack of interest in the task, activity, or reading—also reported lower motivational beliefs for learning, for reasons relating to obtaining an overall pass, valuing the task as important to learn, and their confidence in their skills to learn and their self-efficacy beliefs to accomplish the task.

Peer learning also correlated moderately with the other learning strategies (elaboration, organisation, critical thinking, metacognitive self-regulation strategies, time and study environment, and effort regulation). A relatively stronger correlation between peer learning and critical thinking compared to others is noticed, indicating that those who scored higher on effort regulation also reported a stronger degree in their application of critical thinking skills in their academic engagements. Only one of the motivation subscales (task value) positively correlated with peer learning, and the value is small. The results indicate that those who scored lower on seeking the assistance of peers to enhance their understanding of module content also reported lower levels of motivational beliefs for engaging in a task, for the reasons that they perceived the task as useful, interesting, and important to learn.

The help-seeking strategy also correlated positively with the other learning strategies (elaboration, organisation, critical thinking, metacognitive self-regulation strategies, time and study environment, effort regulation and peer learning). A relatively stronger correlation between peer learning and help-seeking is particularly noticed, indicating that those who scored higher on working with their peers to enhance their understanding of the material also reported higher levels of help-seeking behaviours on challenging course content from peers enrolled for the same module. Only two motivational beliefs subscales (task value, and self-efficacy for learning and performance) correlated positively with this learning resource (help-seeking), the levels were however also small. The results indicate that those who reported lower levels in seeking help from others (classmates) relating to module content also scored lower on the task value component.

The last results of the Pearson correlation procedure is presented and show the correlation coefficients between the academic procrastination scale and the MSLQ sub-scales below.

5.7.3 Relationships between AP and MSLQ measures

As shown in the Pearson correlation table 16 above, the academic procrastination scale correlated negatively with almost all the MSLQ subscales, with the exception of the control of learning beliefs and peer learning subscales (which were not statistically significant). Overall, the table shows relatively higher negative correlations between academic procrastination and the learning strategies subscales while those for the motivational belief components, are small, yet significant.

The correlation between academic procrastination and the learning strategy subscales, shows that the elaboration subscale has the higher (>.3) correlation negative value compared to the other significant associations with this scale. The negative results indicate that the participants who reported higher levels of procrastination tendencies on task engagement also reported lower levels in use of the elaboration strategy. Similarly, the negative correlation value (>.2) between academic procrastination and the three learning strategies (organisation, management of time and study environment, and effort regulation) indicates that those who reported higher procrastination tendencies also reported lower levels in use of the organisation strategy, management of time and study environment, and regulating their efforts to learn despite distractions.

5.8 Hierachical multiple regression model for predictors of academic procrastination

A hierachical multiple regression model was conducted to measure the ability of the MSLQ variables (i.e. motivational orientation and learning strategy scales) to predict levels of academic procrastination, after controlling for the influences of the sociodemographic groups at Step 1. The model as a whole explained 23% of the total variance in academic procrastination: $F(22, 451) = 7.158$, $p < .001$, as presented in Table 18 below.

Table 18

Significant Results from the hierachical multiple regression coefficients for predictors academic procrastination

Variables	Descriptive Stats		Stand.Coeff.	T	Sig.	95,0% CI: for B		Collinearity Stats	
	Mean	SD	Beta			Lower	Upper	Tolerance	VIF
Funding: Loan	.50	.501	-0.128	-2.734	0.007	-0.210	-0.034	0.775	1.290
Test Anxiety	3.63	.684	0.155	3.312	0.001	0.044	0.172	0.782	1.279
Elaboration	3.69	.571	-0.182	-2.829	0.005	-0.258	-0.047	0.411	2.436
Time & study Environment	3.11	.492	-0.124	-2.383	0.018	-0.220	-0.021	0.627	1.596
Effort Regulation	3.17	.597	**-0.268**	-5.743	0.000	-0.288	-0.141	0.783	1.278
Peer Learning	3.20	.819	0.125	2.421	0.016	0.014	0.132	0.637	1.570

Notes:

1. **Dependent Variable**: Academic Procrastination, *. Sig < .05

2. **Predictors:** Step 1 Degree, FundingLoan, MatricTownship, Age, MatricPrivate, FundingBursary, MatricModel-C; Step 2: Elaboration, Test Anxiety, Peer Learning, Intrinsic Goal Orientation, Effort Regulation, Extrinsic Goal Orientation, Rehearsal, Help-Seeking, Control of learning beliefs, Time & Study Environment, Cognitive Thinking, Self-Efficacy for Learning & Performance, Organisation, Metacognitive Self-Regulation, Task Value

The table above demonstrates that of all the variables entered, only six contributed significantly in the model. Using the hierachical order, from the strongest to the lowest beta values, the *effort regulation learning strategy recorded* a highest beta value (B = -.268, $p < .001$) in this list. This makes this resource management strategy the strongest predictor of academic procrastination tendencies among At-Risk groups. The negative beta value indicates that the lesser degree in self-regulating efforts to focus attention to learning, even when there are distractions or the reading is not interesting, the more one procrastinates on academic activities, and vice versa.

The *elaboration learning strategy* has the second highest beta value (B= -0.182, $p = .005$ as a predictor of academic procrastination, indicating that the less the levels of elaboration strategies used to engage with the module content, the higher the levels of academic procrastination tendencies, and vice versa. *Test anxiety* is the third highest predictor of academic procrastination, recording a positive beta value (B = 0.155, $p = .001$). This indicates that the lower the levels of test anxiety one experiences when facing assessments, the lesser the occurances of academic procrastination tendencies, and vice versa.

The *loan funding group* is the fourth in the list of significant predictors of academic procrastination, demonstrating a negative beta value (B = -.128, $p = .007$) in the model. This indicates that being funded externally, through systems, such as NSFAS, bursary and scholarships is more likely to lower the levels of academic procrastination tendencies.

The second to last significant predictor of academic procrastination is *peer learning*, recording a positive beta value in this model (B = 0.125, $p = .016$). This indicates that the lower the levels of engagement in peer learning, the lesser the degree of academic procrastination tendencies. The last statistically significant predictor of academic procrastination is the *time and study environment*, recording a small negative beta value (B = -0.124, $p = .018$). This indicates that the lesser degree in managing time and in controlling distractions in the study environment, the higher the levels of academic procrastination tendencies.

5.9 Awareness and access to UKZN intervention initiatives for students

The goal of this section was to establish participants' level of awareness relating to the university's student support initiatives beyond the lecture environment, and to determine which services At-Risk

participants had engaged with for academic-related and personal development reasons. The list consisted of: Academic Development Officers (ADOs), mentors, student counsellors, and the Writing Place. The majority (n=390; 86.3%) of participants reported that they were aware of such services. Less than half (47.1%) reported that they had used the services of an ADO, a third (33.7%) had consulted a student counsellor, and very few had consulted with mentors (14.4%) and the Writing Place (11.9%).

5.10 Summary

The quantitative results for the At-Risk group revealed no statistically significant differences between the academic progression categories (Orange and Red) and sociodemographic characteristics. Statistically significant mean group differences were found among different sociodemographic groups (degree programme, college, funding, and residential types) and measures (adapted 41-item MSLQ and 16-item AP). Independent samples T-test results found that students in the four-year degree programmes obtained higher mean scores than those in the three-year degree programme on three subscales that measure the use of learning strategies (time and study environment, peer learning, and help-seeking) and one motivational belief subscale (task value) for academic engagement and performance.

The One-Way Between groups analysis of variance (ANOVA) with post hoc (Tukey's HSD) test found significant differences for the At-Risk participants in relation to the college groups and the measures (MSLQ and academic procrastination), while funding sources, and residential showed statistically significant differences with some aspects of MSLQ. The Pearson's correlation analysis revealed positive association across most MSLQ variables. Small, negative correlations between academic procrastination and MSLQ subscales were also found.

The results of the hierarchical regression model to assess predictors of AP by socio-demographic factors and MSLQ revealed six predictors of academic procrastination, consisting of four learning strategies (effort regulation, elaboration, peer learning and time and study environment), one motivational belief component (test anxiety) and one sociodemographic group (funding loan system).

DISCUSSION OF QUANTITATIVE RESULTS

5.11 Introduction

This section discusses the factors (sociodemographic characteristics, MSLQ, and academic procrastination) associated with participants' capacity, or lack thereof, to systematically use SRL strategies. The factor analysis results of the MSLQ are discussed first, followed by the discussion of the

results on the descriptive and inferential statistical data analyses on the relationships among the measures. The goal was to understand the degree to which these factors influenced their academic At-Risk progression category.

5.12 Factor analysis.

Pintrich et al.'s (1991) Motivated Strategies for Learning Questionnaire (MSLQ) has been acknowledged by Zimmerman (2008) as one of the instruments used widely by researchers to assess SRL. However, it is important to note the applicability of the MSLQ instrument among the At-Risk sample in a South African context has received little attention.

As noted earlier, the results of the 81-item MSLQ scale by Pintrich et al. (1991) produced a factor loading structure along the two pathways that uses 46 of 81 items (57%) of the original MSLQ, suggesting just over half of the latent variables of the MSLQ were found to be the best model fit for the At-Risk sample. Although not all items loaded well, the factor loading structure was consistent with the original MSLQ (Pintrich et al., 1991). This factor loading structure for this sample indicated that the key SRL strategies for this sample that is likely to influence performance involved the combination of the following: the use of learning strategies (factor 1) that are cognitively (rehearsal, elaboration, organisation, and critical thinking), metacognitively (metacognitive self-regulation), behaviourally (time management and study environment, effort regulation, peer learning, and help-seeking) and motivationally orientated (factor 2) for engaging on the task were orientated towards extrinsic reasons, the task value, and the expectancy aspects (i.e. the control of learning beliefs, and self-efficacy for learning and performance). While the combination of these factor loadings broadly represents important SRL constructs that are often associated with academic performance and success, the results of the two motivational orientation scales (intrinsic goal: four items, and test anxiety: five items), that did not load meaningfully on the factor analysis and therefore were removed as specific scales for this sample was somewhat unanticipated. This result has implications for future studies these important motivational aspects of SRL that may influence learning and performance as indicated in Eum and Rice's (2011) study, which found that students who are motivated by intrinsic goals to perform experienced lower levels of test anxiety. From the SRL perspective, the activation and regulation of these academic motivation factors (intrinsic goals and test anxiety) in the forethought stage of Zimmerman and Moylan's cyclical phases of SRL (2009) is likely to encourage students to select strategies that will facilitate meaningful learning and the attainment of goals. A possible justification for the insignificant results could be situationally linked to the context of the participants' experiences of failure, which possibly left them feeling demotivated intrinsically and disengaged emotionally.

Another possibility which Pintrich et al. (1991) also comment on could be that participants responses to questions may have been influenced by their perceptions of specific modules which one likes or dislikes, rather than thinking about the degree programme in general. In the context of an academically

At-Risk student, there is a strong possibility that the composition of modules taken for their degree programme was extrinsically motivated. For example, due to academic failure, or lateral transfers, it is likely that the At-Risk students may be registered for modules at different levels (a mixture of first, second, or third-year levels) in order to acquire the required credits for progression. Under such situations and in line with Pintrich et al. (1991) argument, it is likely that the participants' responses on the motivational scale, may be based on a specific aspect of a module or activity or degree that they like which they perceive may influence academic performance and success.

5.13 Relationship between SRL strategies and performance

One of the most striking findings from the factor analysis that is worth noting is the insignificant result of the affective motivational scale (test anxiety). This result was particularly unexpected for this At Risk group and contrary to the findings of other studies (Rozental & Carlbring, 2014) which showed that the form of anxiety associated with assessments and evaluations tends to create the levels of fear of failure and procrastination tendencies, and that lower anxiety levels are acceptable as a motivation for meaningful engagement. Further investigation conducted on the original 81-item MSLQ in relation to academic procrastination using a hierarchical multiple regression model, suggesting that the students levels of test anxiety have a significant positive influence on their levels of procrastination behaviours towards their academic tasks which are likely to influence performance outcomes. This finding corroborated the finding of Rozental & Carlbring (2014). Evidently, underperforming students are likely to experience higher levels of anxiety due to preoccupation of fear of failing that can increase procrastination tendencies if left unregulated and consequently perpetuate failure.

5.13.1 Relationships between the sociodemographic characteristics and the measures

Regarding the relationship between the sociodemographic characteristics and the measures (adapted 41-item MSLQ and AP), the results found four sociodemographic factors (degree programme, college, funding, and residential groups) that were significantly associated with various aspects of SRL elicited using the adapted MSLQ and AP.

The results of the independent samples T-test suggest that the forethought phase (task value) and the performance phase (monitoring, controlling time and study environment, use of peer learning and help-seeking strategies) of Zimmerman and Moylan's (2009) cyclical phases plays an important role in the SRL process of four-year degree programme group. It seems that, unlike those in three-year degree programmes, the four-year degree programme groups are more likely to engage meaningfully in academic tasks that they perceive as important and valuable to learn and understand, while simultaneously managing and monitoring these three learning resources (time and study environment, collaboration with peers on tasks and/or assignments, as well as seeking the help of their peers). These key SRL aspects are more likely to positively affect performance. The motivational value aspect of the task was found in a study by Kahu et. al (2017) as a motivational belief that first-year students held to

enhance engagement. Also, the significant role of managing the three learning resources found in the results are consistent with the findings of Cotton et al. (2016) who acknowledge that the proper management of study time is a strategy that facilitates academic performance and success. The use of peer learning and help-seeking are important strategies that help SRL students to gain a better understanding of the module content and improve performance goals. (Pintrich, et al., 1991).

A possible explanation for three degree programmes results could be that, students' academic motivation may be negatively affected by the degree structure that is often less structured. The UKZN curriculum tends to be more flexible in terms of module choices and majors and less career oriented when compared to the four degree programmes (College Handbook, 2020). Finding a job with less structured degree is likely to be confusing and challenging and contribute to the high unemployment noted Stats SA (2020) and the Quarterly Labour Force Survey [QLFS] for the four quarters of 2022.

Furthermore, the significant results of the One-Way Between groups analysis of variance (ANOVA) with post hoc (Tukey's HSD) test found between the different *college groups,* and the measures (MSLQ and academic procrastination), suggest that the two motivational beliefs (extrinsic goals and self-efficacy for learning and performance), the use of cognitive skills (elaboration) and the metacognitive SR, as well as the management of academic behaviour (time and study environment and procrastination tendencies) are key SRL processes that influence the college differences in students' levels of learning and performance. The results suggest that when compared to the Colleges of HUM and LMS, those in the College of AES perceived being motivationally oriented to perform the task for extrinsic goals and having self-efficacy beliefs levels for performance and success, that are aligned with the use of elaboration and metacognitive SR learning strategies and the good management of study time and environment and lower levels of procrastination behaviours is more likely to promote positive learning. From the SRL perspective of Zimmerman and Moylan's (2009) cyclical model, these results imply that the forethought phase (extrinsic goals and self-efficacy for learning and performance) and performance phase (employing cognitive elaboration skills, monitoring metacognitive skills and managing time and study environment) are the key processes that are likely to influence the academic engagement and performance of the participants in AES college. These results may be partially explained by the fact that AES college offers Science, Technology, Engineering, and Mathematics (STEM) programmes which have been receiving more attention in the education landscape as an important aspect of the education transformation agenda to increase the number of graduates in these disciplines associated with scarce skills and employability aligned with the market trends (STATS SA, 2020). It seems that enrolling in a structured degree that has a clear career direction is likely to promote the students' motivational beliefs for engagement and the effective use of SRL strategies and performance. This result could also explain the college difference in procrastination tendencies, which shows that procrastination tendencies is more prevalent among the HUM group as compared to AES and LMS. As expressed above the degree programmes offered in HUM are mostly generic, less structured and flexible

module choices that do not have clear career direction. This is likely to impact negatively on their motivational beliefs for the degree and performance outcomes. Higher levels of academic procrastination tendencies have been associated with failure to effectively implement SRL Studies and poor performance (Akpur, 2020). The relationship between procrastination and performance is discussed further in section 5.13.3 below.

The results of the ANOVA with post hoc (Tukey's HSD) test also found a significant difference between the socioeconomic background factors of *funding sources* and *residential types* and MSLQ. Funding security and a conducive living environment are listed in the literature as important factors that facilitate students' positive learning and promote success (Bawa, 2019, CHE, 2016). Evidently, the interrelatedness in the current study suggest that the participants' financial status has repercussions for the residential type which is likely to negatively impact on the ability to adequately access and manage their learning resources, as also noted in Swartz et al. (2018) study.

Demographically, the results show that the majority of the participants are either self-funded or externally funded by NSFAS for their education. The ANOVA results show that the NSFAS group are more inclined to work with their peers/classmates as compared to self-funded participants. A study by Swartz et al. (2018) alludes to the challenges that students without funding face, such as lack of transport money to attend lecturers, which has an effect on their academic functioning. The NSFAS guidelines and procedures state that the recipients should obtain an average of 50% pass to remain funded within the stipulated period of their degrees (College Handbook, 2020). As stated earlier in Chapter One, those who fail to pass with 50% of their modules become At-Risk, and one of the consequences of being At-Risk is financial exclusions—which impact on access to a conducive learning environment. Likewise, the bursary and/or scholarship groups results showed a significant relationship with help-seeking strategy. This result can be explained by the fact that this group (bursary and/or scholarship) normally operate within the respective mandatory frameworks and is likely to be aware of the potential of losing their bursary/scholarship should they not perform.

Concerning the residential groups, over two thirds (68.8%) resided away from home (private accommodation and UKZN residences). The significant differences in the residential types on the mean scores of the MSLQ scales, show that in all cases, participants residing in private accommodation (away from home) identified the role of extrinsic goals and control of learning beliefs as important motivating factors for engagement —as compared to those residing at home and at UKZN residences. The current results suggest that those residing privately tend to be motivated to engage for external reasons to obtain a pass. A possible explanation is that in private accommodation, parents and/or significant others contribute to the rent or housing costs, so it may be essential to work diligently towards attaining a pass mark. Walsh & Robinson Kurpius (2016) study noted the significant relationship between the students' residential status, such as on-campus and the self-efficacy beliefs for learning as factors that predicted

students' decisions to persist in their studies. Another study (Webb & Turner, 2020) found that those who resided closer to the university were more likely to obtain higher performance results as compared to students who live far away from the university.

5.13.2 Significant relationships among SRL aspect of MSLQ

The Pearson's correlation results demonstrate the positive associations between the MSLQ variables, suggesting that the students motivational beliefs for the task (extrinsic goals, task value, control of learning beliefs and self-efficacy for learning and performance) and the use of learning strategies (elaboration, organisation, critical thinking, metacognitive self-regulation) and the management of learning resources (time and study environment, effort regulation, peer learning, and help-seeking) are likely to enhance positive learning and performance. The results support the available literature (Alvi et al., 2016; Koivuniemi et al., 2017) regarding the importance of actively engaging these aspects of SRL (learning strategies used and the motivational beliefs) on positive learning and performance. The use of SRL strategies have also been identified as essential for intentional goal-orientated learning by Zimmerman (2013). The motivational beliefs aspects of SRL (extrinsic goals, task value, control of learning beliefs and self-efficacy for learning and performance) were also strongly reported in Teng (2022) study, when students engaged in academic activities and class assessments.

Interrelated, these results also pertain to the cyclical phases of SRL theory (Zimmerman and Moylan, 2009). They demonstrate how these measures can be categorised further within the forethought and performance phases. The motivational components are within the forethought phase of this model, implying that these participants are extrinsically oriented towards obtaining a pass. Participants identified task value beliefs and confidence in their ability to engage as likely to facilitate performance and the attainment of learning goals. Learning strategies reported in the results are within the performance phase of Zimmerman and Moylan's (2009) SRL cyclical model, which consists of self-control and self-observation. From the results, these learning strategies relate.

5.13.3 Relationships between procrastination and SRL aspects of MSLQ

Another important aspect of this study is the investigation of the relationship between the aspects of SRL and academic procrastination and performance. An inverse correlation of values was found between academic procrastination and the following MSLQ scales: motivational beliefs (extrinsic goals, task value, self-efficacy for learning and performance) and the learning strategies (elaboration, organisation, critical thinking, metacognitive SR, time and study environment, effort regulation, and help-seeking). Although the significant correlation values were low, these results imply that At-Risk participants are at greater risk for procrastination, which is likely hinder their academic performance and success.

The results for the relationship between procrastination and motivational orientation suggest that procrastination concerns relate to the perceived ability (or lack thereof) to self-regulate their motivational goals and value beliefs for the degree (i.e. extrinsic goals, task value), and manage their expectations for success (self confidence in ability to perform and succeed). Evidently, the SRL capability can be facilitated or constrained by several contextual factors, such as student perceptions of the demands of the degree or task (Azevedo et al., 2016; Panadero, 2017), as discussed in Chapter Two. The negative correlation values established between procrastination and the three motivation domains suggest that participants perceived having low motivational beliefs for their academic studies as a contributing factor to levels of procrastination and performance. It seems possible that due to failing the module/s, the participants may have been challenged to effectively self-regulate their motivational beliefs for their degree programmes. An implication of low levels of motivational beliefs might undermine their ability to specifically select the learning strategies to use for the task at hand and the motivation to monitor the effectiveness of such strategies and adjust as needed to enhance understanding and desired academic outcomes. Hence, they display a maladaptive procrastination pattern. These results are consistent with the current studies (Abdi Zarrin, et al., 2020, He, 2017, Kandemir 2014) that found negative associations between the motivational aspects of SRL and procrastination.

The results further show the negative correlation between academic procrastination and various learning strategies of the MSLQ. The inverse correlation between academic procrastination and the cognitive (elaboration, critical thinking) and metacognitive learning strategies suggests that procrastination tendencies manifested behaviourally when participants do not exert efforts in collecting useful information to read from different reading sources, critically analyse content they are reading, and metacognitively monitor and reflect on their understanding of what they were reading. For example, Pintrich et al. (1991) describe the cognitive elaborative aspect of learning as a strategy that involves students gathering information from various sources such as class readings, lecture notes, and textbooks, and then using this information to, for example, make summaries, paraphrase, and connect new information to what is already known. Clearly this involves active engagement with the course content to ensure better comprehension of the task and the module, where the failure to do so may negatively affect the quality of their work and performance.

Furthermore, the negative correlations between procrastination and resource management strategies (namely time management, effort regulation and help-seeking) is characterised by avoidance tendencies, postponing tasks, and last-minute work behaviours, all of which are likely to hamper the ability to self-regulate efforts to engage and accomplish the task. In particular, the results implied that participants' challenges to manage study time wisely and control distraction in their study environment was a huge factor associated with academic procrastination. A study by He (2017) reported an association between poor management of time and maladaptive procrastination behaviour and poor

performance. Likewise, Brooker et al. (2017) reported that time management challenges for first-year students, hampered their academic engagement.

Seemingly, procrastination tendencies became a possibility when participants did not enjoy a task. Their challenges to regulate their effort to focus on academic activities—even with distractions, or if the reading was not interesting—increased avoidance tendencies. Solomon and Rothblum (1984) and Brownlow and Reasinger (2000) also attest to avoidance tendencies on challenging tasks as an aspect of academic procrastination. Avoidance tendencies seem to be associated with the challenge of proactively engaging in help-seeking behaviours. Similarly, Park and Sperling (2012) study found a negative correlation between help-seeking and procrastination. In HE, students are expected to be self-directed learners who can and will initiate help-seeking behaviours to enhance their understanding of the module content. However, a negative correlation between procrastination and help-seeking suggests that this learning resource was underutilised. Nonetheless, these learning strategies and resources are implemented in the performance phase of Zimmerman and Moylan's (2009) cyclical phases of SRL According to this model, to complete the cycle, SRL students engages in self-reflection process to establish if they met their goals set on phase one and adjust accordingly until the goals have been attained.

Lastly with regards to the predictors of procrastination in support to some of the results above, it is clear that the significant levels of worrisome thoughts and emotions associated with financial constraints deflect students' focus on tasks, increasing academic procrastination behaviours. This finding supports previous research (Rozental and Carlbring, 2014) that found the negative association between procrastination and financial stress.

5.14 Conclusion

The results suggest that participants perceived their motivational beliefs (namely, extrinsic goal orientation, task value, control of learning beliefs, and self-efficacy for learning and performance), the implementation of various learning strategies (elaboration, critical thinking, metacognitive SR) and management of learning resources (time and study environment, effort regulation, peer learning, and help-seeking) and lower procrastination levels are likely to improve their performance and success.

CHAPTER SIX
INTEGRATED DISCUSSION OF QUALITATIVE AND QUANTITATIVE RESULTS, RECOMMENDATIONS AND CONCLUSIONS

6.1 Introduction

The primary purpose of this study was to examine the psychological and contextual factors influencing the SRL strategies used by students identified as At-Risk of academic failure, at the University of KwaZulu-Natal (UKZN). The study contextualised the At-Risk participants' experiences by utilising Bronfenbrenner's (1979) bio-ecological systems theory, the Self-Regulated Learning (SRL) theory, and Zimmerman and Maylon's (2009) cyclical model to understand the barriers to academic success which kept these students under At-Risk status despite the existing intervention initiatives at UKZN. Theoretically the SRL strategies were elicited using Pintrich et al.'s (1991) Motivated Strategies for Learning Questionnaire (MSLQ) in the quantitative phase. Due to the bio-ecological systems framework, some salient factors in this chapter are pervasive across all three research objectives, and are presented as such where appropriate. It should be noted that some repetition from the previous discussions is likely to occur in this chapter.

This chapter commences with a brief integrated discussion of the qualitative and quantitative results, followed by recommendations for consideration by the UKZN institution and within the broader SA education landscape. It then offers recommendations for future studies, before ending with the final conclusions.

6.2 Integrated Discussion of Qualitative and Quantitative Results

Demographically, both the qualitative and quantitative sample had a higher representation of Black students. This contextual factor supports the existing reports (DHET, 2019; Post-School Education and Training Monitor, Macro-Indicator Trends, 2021), which confirmed that, despite slight improvements in graduation rates, slow progression and throughput rates are still racially skewed towards Black students in South Africa. This study further suggests that despite this large proportion of Black participants being At-Risk, academic failure (failing module/s, major), and ultimately becoming academically At-Risk at university, is pervasive across all sociodemographic variables investigated, namely age, gender, race, school type, funding source, kind of accommodation or residential type, degree type, and the college of registration.

Equally important, statistically significant differences among the four sociodemographic groups (degree programmes, colleges, funding systems and residential types) in relation to the study's measures

(students' motivational beliefs, learning strategies used and academic procrastination behaviours) and performance, provided further explanations to the qualitative study. These are discussed further below.

An interesting quantitative finding that is worth mentioning is the insignificant result for the school type in relation to the measures (MSLQ and AP) which seem to challenge the perception that students from less resourced Basic Education (BE) school backgrounds (rural and township schools) perform poorly in HE compared to those from well-resourced schools (Model-C mixed race and private schools). This logical structural expectation has been addressed in the under-resourcing of the two BE systems (public and private schools) within this context on South African education (CHE, 2013, 2016; Spaull and Kotze, 2015). The systemic BE barrier (namely low English language proficiency) associated with the school type reported by few participants (two) in the qualitative study suggested the BE systems failure to assist learners taught in vernacular to master English language skill which is a medium of instruction at University. However, this challenge (English language barrier) seem to manifest in lack of self-confidence and low self-efficacy beliefs in their capacity to understand and comprehend the module content, as well as the fear of not meeting their academic requirements timeously which consequently impact on performance. The study (both qualitative and quantitative results) also suggest that the challenges to manage their study time effectively, (which includes - managing high workload compared to that at high school level, capitalising on help seeking resources such as lectures, tutors, classmate for better comprehension) and regulating their academic motivational self-efficacy beliefs, are not peculiar to those with English language proficiency challenges, but affects the majority of students as elaborated further below.

6.2.1 Systemic Factors that hindered performance

The systems perspective of Bronfenbrenner's spheres of influence framed the qualitative research, demonstrating the interplay of Basic Education (BE) and Higher Education (HE) and the related systemic challenges that affected the students' low progression rates and consequently placed them on academic At Risk statuses. On the other hand, the quantitative results demonstrated various aspects of SRL (motivational factors and learning strategies) that were associated with their academic performance. This study (both the qualitative and quantitative results) finds that students can and do fail and face academic exclusion at university despite differences in their sociodemographic backgrounds.

6.2.1.1 Under-preparedness in terms of career guidance and underdeveloped SRL skills

This study supports evidence from previous studies on HE, globally (Ajjawi et al., 2020; Tinto, 2017, Scott, 2018), which confirmed that many students experience academic failure at university and that there are various complex interrelated contributing factors that hinders their success. One such

influencing factor, which is also consistent with the literature (CHE, 2017; Scott, 2018) was that the participants entered the university system underprepared for its demands and expectations.

One of the systemic factors that highlighted the consequences of the BE and HE systemic interdependence in the qualitative findings suggest that first-year students are more likely to enrol for degrees and modules of which they are not always well informed. The findings revealed that inadequate career guidance education at BE level consequently affects the quality of engagement and performance in HE. Career decision making process is important as it enhances the individual's career knowledge and skills that empowers them to make a more realistic career choice (Akkermans et al., 2018). An informed degree choice also promotes positive learning and success (Moodley and Singh, 2015). The findings also revealed the influential role of parents and significant others on participants' career choices which is consistent with the literature (Maphosa et al.'s, 2014). The findings suggest that pursuing degrees not intrinsically motivated by participants' personal career goals is a challenge that perpetuated the fear of failure, as students battle to honour their parents' wishes and expectations while navigating their personal goals. Akkermans, et al. (2018) study demonstrated that students who are satisfied with their career choices are more likely to achieve positive outcomes. The current findings suggest that students' difficulties in sustaining passion for their degree and module choices that were not well-informed leads to despondency, which negatively affected their performance in their first year at university. The study implicates the limitations of SRL strategy use that can be seen as stemming from poor BE systems and the lack of HE to deliberately invest in developing and supporting the teaching and development of SRL skills. Particularly, self-motivation, independent learning and critical thinking—which is arguably an essential skill for comprehensive engagement with critical reading and writing. The Minister of Basic Education's 2017 and 2021 reports on NSC results also identified the underdeveloped learning skills that hampered the learners' performance, noting specific areas such as problem solving and critical thinking—all crucial skills for success at university.

The findings seem to also suggest that while the BE system failed to adequately equip students with career knowledge and skills, HE systems of support (such as the services of ADOs, Student counsellors) also failed to adequately address this gap during the participants' first year at university. It also seems students do not capitalise on the services to develop more realistic goals when contemplating study options. A possible explanation for this, which also corroborates the finding of Zepke and Leach (2016) is that student engagement is generally minimal across all support services. This is notwithstanding any attempts from the University support systems to strengthen their efforts towards student engagement.

6.2.3 Factors that influenced At Risk students' academic motivation and performance

Evidently, being academically At Risk, further minimised the participants' chances of completing within the required timeframe for the three-year and four-year degree programmes, as indicated in the

qualitative findings. This pattern validates the prevailing challenges of students' low retention and throughput rates in Higher Education (CHE, 2016). Further, the costs are not only systemic, but also have psychological implications, as indicated in the qualitative findings.

The qualitative findings suggest that the repercussions of academic and financial exclusions on students' psychological wellbeing and academic careers had shaming and humiliating effects, which disrupted the participants' efforts to regulate learning, and heightened procrastination habits. These intersecting factors are deliberated upon next, commencing with the role of funding as a hindrance to the appropriate application of SRL strategies and performance outcomes.

The qualitative findings suggest that discovering meaning in adversity and maintaining focus to meet academic demands and perform is a daunting task for students who remain academically At-Risk post-first year. This indicates that because of the stigma associated with At Risk status, which is also noted in Mngomezulu and Ramrathan's (2015) study on the experiences of At Risk students, the students may feel more susceptible to the evaluations and judgements that their At-Risk status implies. This situation seems to lower their ability to intrinsically understand their own learning goals, values, strengths, and weaknesses, hence the activation of their motivational goal-orientated mindset for success becomes a challenge. In particular the preoccupation with fear of failing that increases the levels of anxiety and consequently heighten academic procrastination tendencies in the current study, corroborates Kandemir (2014) findings.

Another important finding in the qualitative study clearly show that the Robot System allows students an opportunity to return—but many returns to university without funding and accumulates debt. This situation impacts not only the university's financial viability (CHE, 2016) but also on the students themselves. The qualitative findings also suggest that this systemic issue ultimately impacts on other social systems of support, such as residing in an environment conducive for learning. Bawa (2019) adds that lack of funding and accommodation during the term impact students' positive engagement and performance.

Relationship between the financial status, residential types and MSLQ

Both qualitative and quantitative results demonstrated that National Student Financial Aid System (NSFAS) and self-funding were the most common funding sources for the participants. The NSFAS is a South African government funding initiative created to redress socioeconomic inequalities and promote access to university and success (CHE, 2016). The qualitative findings suggest that while some participants were funded by NSFAS when they joined the university, being funded did not influence good academic performance, implying that the provision of financial aid alone is not enough to facilitate students' academic progress and promote success. This finding supports the study done by Scott (2017) which alluded to other systemic factors that have an effect on students learning and performance. Mngomezulu et al. (2017) found that some NSFAS recipients drop out in their first year.

The qualitative findings showed that, when the Robot System provides At Risk students the opportunity to continue with the studies, some remained in the system without funding support. This limitation of the Robot System was hugely problematic for the participants, who relied mostly on external funding systems (NSFAS, bursaries and scholarships). Returning without access to the funding support seem to have psychological and emotional implications that consequently increase their academic vulnerability to academic failure. In this instance, the function of the Robot System may not be perceived as a catalytic system which affords the At-Risk student the desired opportunities or motivation to propel academic progress. As established, the participants' emotional reactions (such as, shame, guilt, and despondency) to being at the centre of a financial situation which further compromised their family's financial status seemed to increase their preoccupation with financial insecurity. This preoccupation in turn affected their concentration levels, increased their procrastination levels, hindering their academic motivation and performance, and ultimately perpetuating the pattern of an At-Risk status quo. Rozental and Carlbring (2014) also attest to the ramifications of excessive stress and the preoccupation with financial constraints on performance.

The quantitative results specifically suggest a significant relationship between the two funding systems (NSFAS, and bursaries and scholarships) and the participants' capacity—or lack thereof—to employ peer learning and help-seeking strategies as outlined in the previous chapter. Ideally, both of these learning resources facilitate positive engagement with content outside the classroom for better comprehension, which in turn increases learning outcomes, an earlier argument by Pintrich et al., (1991). It seems, unlike self-funded participants, those who are funded externally by NSFAS, bursary and scholarships identify peer learning and help-seeking respectively as resources that they engage in to enhance their understanding of the module content. As established in the qualitative findings, the participants lack of initiative, commitment, and accountability in engaging these methods of learning (peer learning and help seeking) hindered strategic learning necessary for meaningful and comprehensive engagement with their modules. This fact raises the question of what more needs to be done to make the teaching and learning system more conducive for students to access the available academic support services (such as, lectures, tutors) instead of seeking ad hoc academic assistance from their peers? Zimmerman and Moylan's (2009) cyclical model also indicates that SRL learners proactively initiates task engagement and take responsibility for their learning to attain desired personal goals.

The study also suggested that the intersectionality of other contextual factors acknowledges a burden on the families of students who cannot afford to pursue HE, as Swartz et al. (2018) also acknowledge. Evidently, financial exclusions have broad ramifications for At-Risk students' financial security, which the qualitative findings infer is an essential aspect of their continued stay in residential environments conducive for learning. Students' alternative options in these situations—such as returning home, which Swartz et al. (2018) raise as a way of minimising costs, or shared private accommodation—were not

always reported to be conducive study environments. Such a situation further compromises the family's financial status, which some students described in their narratives as leading to feelings of guilt and humiliation, given that they had once again become a financial burden to their parents.

The qualitative findings further suggest that residing at home or off-campus may be a further barrier to performance, due to the incumbent challenges regarding access to resources (e.g. library, computer, internet, and the time and money expected to spend on travel). This situation seems to negatively affect students' ability to commit to group activities such as the Supplementary Instruction (SI) sessions, as participants in this group often had to rely on public transport, which also has cost implications. This group settings have been acknowledged in the literature (Malm, et al., 2015; Paideya & Bengasai 2017) to facilitate positive academic engagement that promotes deeper understand of the content and is therefore likely to improve students' performance. This contextual factor may also be explained by the quantitative results, which suggest motivational differences between students who reside in private accommodation and those who reside at home. From these results, students in private accommodation perceive external evaluation by others as motivating factors to engage in academic activities and attain an overall pass mark. The results also suggest that they may have a stronger ability to control their learning beliefs to accomplish task goals, and to use this as a motivating factor to influence performance. Walsh & Robinson (2016) noted the positive effects of residing on-campus residences on the student's self-efficacy beliefs and confidence in their ability to learn which is likely to positively influence their decision to persist with the academics.

Relationship between the SRL strategies and performance

Contextually, the qualitative findings suggest the Robot System facilitates lateral transfers which ultimately appear to be the only option for At-Risk students in trouble to remain in the system. The findings show that lateral transfers within colleges and between colleges to another tends contributes to slow progration rates that impact negatively on the institution's throughput rates in the South African HE context. Such an implication, captured in the DHET (2017a) demonstrates that nationally, under 30% of students graduate in regulated time, under two-thirds graduate within six years, and one-third have not graduated after ten years.

As noted in both the qualitative and quantitative data, the College of Humanities (CHUM) had the highest number of participants compared to other colleges (LMS, AES), a similar trend noted nationally (SAHET, 2019) and locally (AMS 2017). Various factors impact on this scenario. One such factor, as noted in the qualitative findings, suggests that the CHUM often become an alternative route to obtain a degree once excluded from all other colleges. The spillover is evident in the two colleges (LMS and AES), where Mathematics is a core component of their degrees. Looking back toward BE, the Minister NSC reports (2017, 2021) acknowledges the basic application of "mathematical skills" as a pervasive,

ongoing challenge. Siyepu and Ralarala (2014) also alluded to the challenges in mathematical language and application skills that negatively impact on university students' performance.

As established, when these students enter the college of HUM, many already have one or two years as registered students with fewer or no credits to help them fulfil the first year requirements of their generic degree options. This situation ultimately extends the number of years to degree complete, and consequently prolongs their entry into the labour market even further. The qualitative findings pose key question regarding the value of a generic degree at both a personal level and in terms of potential employment. By implication, engaging in generic degree options does not provide a focused qualification for a clear career path, and in fact raises further fears relating to employability upon graduation. Within the South African context, the Quarterly Labour Force Survey [QLFS] for the four quarters of 2022 reported that the unemployment rates among graduates between 2012 and 2022, has doubled "4,4% in 2012 to 10.6% in 2022" (p. 14) emphasing that there is no guarantee of employment directly after graduation. Those entering the job market with generic degrees are therefore more compromised, as evidence by Stats SA (2020).

Further, the migration across programmes is likely to have several ramifications on the university systems, such as having students in programmes that they are not really motivated to complete. This predicament is also likely to consequently impact on their psychological wellbeing and furthered their feelings of guilt and shame associated with slow progress. The qualitative findings suggest that At-Risk students often arrive already despondent and disillusioned by their stigmatising probation status, bearing a sense of shame and humiliation which heightens procrastination behaviour. In fact, while the study (qualitative and quantitative results) reveals that academic procrastination is pervasive among At-Risk students, the quantitative results find that those in CHUM tend to procrastinate more as compared to CAES and CLMS. Existing literature (HE, 2017; Rozental and Carlbring, 2014) also alludes to high levels of academic procrastination among the general student population. In particular, both the qualitative and quantitative results suggest a tendency among students to intentionally procrastinate on modules and academic activities which they deem uninteresting, monotonous, and tedious, a finding echoed by Adachi and Adachi (2021). As established in the qualitative findings, it seems that despite being aware of their procrastination tendencies and intending not to procrastinate, students nevertheless fail to capitalise on this 'rational belief' (Balkis, et al., 2012).

Furthermore, both the qualitative and quantitative data identified various learning strategies and resources that are likely to influence the levels of student engagement and performance. The quantitative results particularly suggested that the CAES participants perceived the application of learning strategies (namely elaboration, metacognitive SR learning strategies, and management of time and study environment), as significantly important in enhancing positive engagement and performance than those in the colleges of HUM and LMS. In particular, the four-year degree programme groups, (mostly in

AES college) seem keenly aware of the importance of using study time wisely and of learning in a conducive environment to enhance performance, as compared to three-year programme groups, (mostly in the CHUM and CLMS. It seems their lack of motivation for their initial degrees—which were not intrinsically oriented towards their personal goals—affected their capacity to strategically apply their learning skills and manage their workload and their environment. In particular, these more complex SRL (such as cognitive strategies like elaboration and critical thinking skills, and the metacognitive SRL strategy and learning resources such as monitoring study time and environment, peer learning, and help-seeking) are all crucial aspects of SRL that are likely to promote academic success. These measures (categorised within the study by Zimmerman & Moylan, 2009) refer to the forethought and performance cyclical phases for effective engagement and successful goal attainment.

The qualitative findings suggest that the failure to manage study time manifests behaviourally in failure to commit to deadlines, postponing or leaving work to the last minute, and ultimately missing deadlines for assignments and writing tests. Ronningtam and Baskin-Sommer (2013) associate perfectionism with the fear of incompetence and failure, noting how it consequently increases vulnerability to failing and academic exclusion. The qualitative findings further emphasise that students' fear to make decisions and commit to deadlines until the last minute (at which point cramming and rote learning become the only option) consequently exacerbates anxiety levels. The untenable workload seems to contribute to students failing their modules and heightens the intentional avoidance of engaging with tasks, i.e. academic procrastination. The students' challenge in managing their work load (Kyndt, 2014) has been noted in the literature and has been associated with the students challenges in managing their study time and environment. Evidently, being At-Risk infers failure, and being confronted with the possibility of exclusion and dropping out exacerbates fear of failure and students' procrastination habits.

Another salient factor revealed that attending lectures is perceived important to gain a better understanding of their module content than to study alone, which was not always productive. Class attendance was also positively associated with better understanding of the coursework and performance among Accounting students in Almutawa. and Suwaidan (2020) study. However, other systemic factors within the university environment such as, class environment (overcrowded lecture venues), lack of class interaction, lecturer accent and pace, unapproachable, are reported in the qualitative finding as demotivating and increasing absenteeism. The findings on the relationship between absenteeism and performance also accords with other studies, on students in a SA university (Randa, 2020) and abroad (Almutawa, and Suwaidan 2020). Swartz et al. (2018) study also notes that these factors discourage student engagement. Missing lectures invariably contributes to academic failure, as students are challenged to self-regulate their academic space and engage with the lecturers' notes and module content. As noted by Jarvela and Jarvenoja (2011), individual learning consequently influences students' procrastination tendencies, which are also prominent in this study.

In addition, the study (both the qualitative and quantitative) finds that a substantial number of participants preferred learning with their peers and their classmates on challenging module content. Seeking academic support from peers rather than lecturers appears to be linked to their perception of lecturers as intimidating, unapproachable, and inaccessible, which Swartz et al. (2018) also note. Central to these reasons are power dynamics and lack of confidence in personally interacting with lecturers. Power dynamics clearly do determine communication patterns, as the qualitative findings suggest that the participants who lacked the confidence to interact with their lecturers possibly were aware of the unequal power relations, to the extent that this positionality impeded the opportunity to elicit support.

The complexity of group dynamics when working with peers on tasks is also noted in Theobald, et al. (2017) as a hindrance to constructive learning. The qualitative findings seem to suggest that learning with peers, without a formal structure, tends to devolve into a social event instead of a productive study opportunity. Formal sessions like the Supplementary Instruction (SI) sessions offered in the CAES have been found to be effective in the facilitation of peer learning and promotion of academic success, particularly for students who attend lessons regularly, which is consistent with Paideya and Bengasai's (2017) study.

Furthermore, in both the qualitive and quantitative study reported their motivational belief for engaging in their degrees as being for extrinsic reasons to pass all their modules. One can speculate that the focus on passing their modules after repeated academic failures became more critical, superseding other, intrinsic reasons such as to gain knowledge and master a skill—a lifelong approach to learning as outlined by Zimmerman and Schunk (2011). Nonetheless, the process to achieve this extrinsic goal to obtain an overall pass is justified in the quantitative data. Unlike three-year degree programmes (e.g. B. Com, BSc. general, BA/B. Social Science general), those participants in four-year degree programmes (e.g. Engineering, LLB, social work) reported the high significance that learning course material they perceived as relevant and valuable to their degrees had on positive learning and promoting success. Student perceptions of task value in higher education is also emphasised by Tinto (2017), who notes the importance of motivational belief as a driving factor that encourages persistence and increases the capacity to comprehend the learning material. Task value analysis is further noted as an important facet of SRL that occurs in the forethought stage of Zimmerman and Moylan's (2009) cyclical phases of SRL and is likely to influence the students' decision to engage in the academic activities or not. These study findings offer a potential learning space for At-Risk students to emulate these skills, suggesting a need for them to receive guidance in appropriately and realistically self-reflecting on their learning strategies and intentions. It seems that students need a deeper understanding of their degree expectations in terms of the quality of content in their assessments to ensure a pass and to align specific learning strategies to these for better learning and progress since these are unlikely to yield positive outcomes by itself.

6.3 University support initiatives for undergraduate students

Other noteworthy contextual factors pertain to the participants' experiences, perceptions, and confidence in the intervention programmes provided for all At-Risk students. These include the support of namely lecturers, tutors, supplementary instructors, Academic Development Officers, mentors, Writing Place tutors, and student counsellors. As discussed in Chapter Two, these essential resources articulate the UKZN vision and mission of student-centredness, and facilitate the Robot System's intentions to monitor, support, and develop positive learning experiences towards academic success. However, the findings indicate that many students do not utilise these services which particularly mandatory for those identified as academically At Risk and would rather consult their peers for help or not ask for any assistance and rely on themselves to manage the situation. Ajjawi, et al. (2019), study also noted a similar pattern among students who failure academically. The pattern of slow progression noted in the qualitative findings implies that the university intervention support may not be as effective as intended, or indeed adequate in addressing At Risk students' different needs, that contributed to them failing and becoming At Risk. Mayet (2016) study on At Risk students in a SA university, suggested a need for intervention programmes that facilitates the development of learning and personal skills which that positively affect learning and success.

The study acknowledges that At Risk students have a co-responsibility to maximise access to the existing academic monitoring support and development services and structures instituted by UKZN designed to assist them. Nonetheless, it seems that these services are not accessed and utilised adequately. This finding supports previous research (Mngomezulu and Ramrathan, 2015, AMS report, 2015), which likewise note that many students identified as At-Risk fail to use these services as often as they should, even though they are specifically designed to support and monitor student progress and promote success.

The qualitative findings suggest that At-Risk students are reluctant to seek assistance for various reasons that are particularly associated with the operational and structural issues that seem to undermine their confidence in engaging with these support services. It seems that students will be more likely to be encouraged to engage actively and responsible if they gain more clarity about each support structures regarding their roles and responsibilities, the benefits of engagement between At Risk students and the university in enhancing positive learning outcomes. The findings also suggest that the students' dissatisfaction with the quality of the service provided and the level of support when a student At-Risk seeks any level of support negatively impact on sustainable engagement directed at positive learning outcomes. Otherwise, ineffective interventions compromise the systemic commitment UKZN makes.

Previous studies found a negative relation between help seeking behaviours and achievement, (Fong, et, at., 2021), and likewise, the current study suggested that the participants avoided seeking help from the university support spaces, citing various factors such as fear of being judged and deemed incompetent, instead preferring to elicit support from peers. It is therefore imperative to demystify the entire process of academic help-seeking, precisely because the quantitative results establish that a substantial number of participants prefer seeking assistance from their peers. Compounding this issue, students often perceive their lecturers as unapproachable and inaccessible, a factor which Swartz et al., (2018) also note. It seems, improving the levels of engagement with these services will contribute to the at-risk students' adjustment and positive learning experience. In essence, the value of these services is likely to contribute to developing a student who takes the initiatives and becomes an autonomous agent of their own learning.

Another essential point, associated with seeking help in academic and support spaces, in the qualitative findings is that of power dynamics in the student-lecturer-student-support personnel relational interaction. The intersectionality of the power dynamic between those who bear the At-Risk label and the BE systems' failure to effectively inculcate self-confidence, self-discipline, critical thinking skills, and problem-solving skills, contributes insights into students' choices where they decide not seek help from lecturers on their academic challenges and instead collaborate with their peers. The qualitative findings also suggest that power dynamics could be both a hindrance and a positive factor, as students also have their own knowledge and awareness of their own needs, and this gives them the power to either engage or not ask for assistance.

The power dynamic issue inherently stems from BE teacher-driven teaching and learning methods that fail to adequately develop effective and appropriate skills that prepares the learners for an autonomous HE engagement, consequently contributed to students' lack of confidence in their own pre-existing knowledge and skills, and lack of self-regulated help-seeking behaviours. This creates further notable dynamics in the student-centred HE space, where lecturers have a different role to play and responsibility to carry. The importance of this findings further supports the development of SRL skills as a means to facilitate effective engagement with various academic support and developmental services. The findings suggest that students' awareness of the role of the lecturer as well as that of other support programmes at the university is essential to increasing opportunities where students proactively seek help. This is particularly relevant when these intervention programmes are promoted as complementary and equal, with the recognition that academic concerns impact students' overall wellbeing which is acknowledged in the 2017-2021 and 2023–2032 strategic plans of the University' vision and mission statement.

Once again, this links to the systematic interdependency discussed above which lies within the BE and HE contexts. More specifically, this finding identifies how systems sometimes do not work

collaboratively, creating the fragmented experience that is supported by the qualitative findings. This compelling evidence brings into question the need for transparency of the working parameters of each of these support services and collaborative engagement. In addition, the findings suggest that, given their psychological reaction to being At Risk, the presence of fear of failure and engagement on degree and module choices that were not always intrinsically informed, the assumption that students will rationally approach their learning difficulties by seeking help cannot be understood to be, a rational premise. This points to a fundamental conflict between the expectation that students can and ought to function autonomously in HE environments, and the realities of students' lack of readiness to meet that expectation, especially those academically At-Risk.

In conclusion, a significant reflection of the implications of research findings on theory, policy and practice, highlights some significant points:

The findings supported the value of the theories used (bioecological systems theory and Self-regulated learning), in addressing the research questions and drawing significant conclusions related to the findings. The use of both models provided significant implications for understanding the challenges faced by At-Risk students, despite the existing support and intervention programmes. The findings suggest the significance of investing in programmes that will help students develop and master SRL skills in the context of SA to improve performance and success. Given that the development of SRL skill is a process, the findings have implications for the SA education landscape, suggesting that teaching the SRL skill at BE level is a necessity since it ultimately impacts on, HE engagement and learning outcomes. The UKZN support systems and intervention programmes should promote this skill to enhance performance.

In addition, the importance of the findings draws to our attention the paradoxical nature in that the UKZN policy was implemented to bring awareness so that students identified as At Risk can be supported and succeed. However, it is paradoxical because it creates crisis at personal level and at macro level. The findings suggest direct implications on the interventions suggested in the CHE 2016 report in terms of a) funding access; b) academic resources and staffing; c) Governance support structures and d) Teaching and Learning Support. In particular, the findings show that being At Risk has consequences for increasing the academic years which impact on students' financial status, psychological wellbeing, retention and throughput rates as well as dropout rates. At Risk status is perceived of as a potential source of stigmatization and labelling and consequently heightened the avoidance tendencies which influence the degree of motivation to engage or disengage with an academic activity in a given timeframe. The findings also demonstrated that At Risk students found the quality of support as inadequate and the roles and responsibilities of support systems as confusing and frustrating particularly at the start of the semester. This has implication for the quality of engagement, as it seems that the

system does not allow participants enough time for self-discovery and self-reflection that is likely to inform the quality of decisions made thereafter once identified as At Risk due to time constraints in terms of the academic programme engagement. The findings are inviting new conversations around current practices and support. It is a suggestion to use a language that is appropriate, clear, concise and understandable.

6.4 Summary

The current study suggests various contextual aspects that may be most important for understanding the reasons behind At-Risk students' slow academic progress. The findings confirm and clarify the complex weave of interrelated factors seen in the South African educational landscape, pointing to the limitations At-Risk students face in competently self-regulating their academic activities as they navigate the demands and expectations of higher education in order to meet their desired personal and academic goals. Through the lens of the systems theory, the interrelated nature of the contextual and psychological factors at play demonstrates how the cyclical pattern of the At-Risk status quo continues to perpetuate despite existing intervention initiatives at the University of KwaZulu-Natal.

The quantitative results specifically find that these contextual factors implicate the students themselves in their ability to self-regulate other aspects of their personal lives such as motivation, emotions, thoughts, attitude, and behaviour towards their studies. This heightens their procrastination tendencies and creates further consequences, which inhibit their academic performance, resulting to the pattern by which the At-Risk status quo implicates itself.

6.5 Recommendations

To comprehensively address the persistent issues that prevail in HE, the study supports the recommendations in previous studies for systemic changes (Scott, 2017) and interventions (Bawa, 2019), as these have significant implications for understanding how the At-Risk status quo remains despite university intervention strategies. Systemic changes will necessitate a collaborative space to interrupt this cycle, and keep it from further perpetuating the dysfunctional systems which transfer from BE to HE. The following are suggestions to that end.

- First year students should be individually assessed to ascertain their specific SRL skillset. Early identification of SRL skillset when students enter university as a proactive approach to facilitate aligned interventions that may assist those students who lack basic SRL skills, taken as pre-emptive action allowing for a clearer trajectory instead of following a reactive and seemingly ineffective remedial process.

- Teaching and promoting some basic SRL strategies and skills at BE level to increase the development of critical thinking and problem-solving skills in students, as well aiding self-confidence, with the overall view to enhance their efficacy for learning and performance. This invariably will influence how well they manage within the HE system.
- Within the HE context, intervention programmes should reassert the value of SRL skills in assisting students to engage proactively in self-monitoring and self-evaluation of their academic, personal, and social barriers. This process will generally increase their capacity to recognise their own strength for success, and also the value of the university's intervention support spaces which facilitate their positive learning experiences and the accomplishment of their learning and personal goals. An added benefit is that these skills are transferable to other aspects of their lives, as noted in Chapter Two.
- The study expands on the current practices of the Robot System to propose that the first-year programme should promote the value of SRL processes and strategies in navigating the system for success. A student-centred ethos within the Robot System should be re-iterated. In particular, such academic monitoring, support, and development spaces should communicate the Robot System from an SRL perspective that validates the student's resilience, minimises any negative connotations while simultaneously reaffirming its purpose.
- Reframe academic procrastination behaviours and maximise academic productivity. The existing intervention modalities need to expand and strengthen their collaborative effort to assist students in minimising procrastination habits. Such spaces should purposefully interrogate the functionality of academic procrastination tendencies in order to facilitate optimal learning and success. Student counsellors should assist with cultivating self-reflection skills which specifically focus on opportunities to increase students' SRL skills and minimise procrastination habits. Commitment to this process will arguably further develop self-reflection and self-assessment skills and promote the capacity to identify areas that require adjustments early in the student's degree programme, before the At-Risk cycle could potentially commence. Invariably, within this process exists the space to develop SRL skills.

The current evaluation process requires deliberate engagement and consensual agreement on what future interactions will entail, and re-evaluating the strategies that promote help-seeking behaviours is essential. The following are suggestions to that end.

- Ensure more comprehensive support for At-Risk students. While acknowledging the support presently provided by the Writing Place, the critical thinking component of SRL should be deliberately inculcated in different teaching and learning spaces, such as lectures and tutorials.
- In support of Arbee and Samuel's (2015) suggestion that the Writing Place services be linked to lecturers as "as an integral component of the module" (p. 62), lecturers could—over and above the present teaching load on content and learning skills development—deliberately

initiate and re-emphasise the significance of this skill from first year. Tutors extending support for module content should further cultivate students' critical thinking by teaching the actual skill.

- To strengthen quality for impact and sustainability, tutors should require support from lecturers in promoting and developing complex critical thinking skills in students. This institution should consider a dedicated section and perhaps identify an expert within the pre-existing structure (Writing Place) to offer a more intensive process that focuses on assisting students in the development of logic and critical thinking skills as a foundation module for all first year students as well as for at risk students to enhance their academic writing and learning.
- Comprehensive lecturer feedback, specifically on how to address specific questions, should be available to better assist students in emulating the skills required. This would also build self-confidence in approaching assessments, offer learning from experience to be better prepared for the next assessment, and may also assist in reducing test anxiety.

The potential exists to expand such interventive strategies through re-evaluation, re-negotiation, and strengthening the pre-existing services. This interrelatedness is elaborated hereunder.

Maintaining and sustaining intervention initiatives to continue enhancing engagement

This section presents pertinent aspects of awareness and access to the essential services (i.e. Mentorship, ADOs, Student Counsellors, Writing Place Tutors, SIs) as reciprocal and interconnected. There are three fundamental recommendations that guide this section:

1. Revisiting roles and responsibilities
2. Promoting and sustaining collaboration to reinforce the present services
3. Revisiting and redesigning existing evaluative mechanisms

Revisiting the roles and responsibilities of all relevant portfolios to ensure coherence.

- The relationship among these essential services should be strengthened, since they target different aspects of At-Risk students' lives. This includes examining current marketing strategies, such as first-year orientation presentations, websites, and pamphlets, with the intention of solidifying their role in facilitating awareness of their functions, particularly in empowering students with skills to navigate the university environment and success. This will ensure open communication to comprehensively facilitate and promote students' deeper understanding of how such services will benefit them and meet their diverse needs. This may assist in building students' confidence in engaging with and benefitting from what these systems offer.
- Strategies to interrupt problematic power dynamics should be deliberately promoted by assisting students to recognise their ability to engage within these intervention spaces that

provide academic monitoring, support and psychosocial life skills development. The essential focus of student-centredness can be reaffirmed as a priority. In a collegial and facilitative spirit, a more comfortable, yet still professional engagement is recommended that At-Risk students may perceive the space as less adversarial and more supportive.

Promoting and sustaining collaboration to reinforce the present services

- Existing collaborative information sessions coordinated by the Teaching and Learning AMS office for first-year students at the beginning of the first semester could occur more regularly. This could be piloted in one college and, following an evaluation of its functionality and results, be considered across all colleges.
- Operationally, revisiting the AMS programme is crucial. A coordinated programme should be guided by and designed to complement the academic calendar, that students may plan accordingly and still prioritise their academic engagement, rather than being overwhelmed by conflicting schedules.
- Continued and consistent support and skills development programmes for these support systems should be mandatory, especially for newly appointed staff to ensure best practice. The quality of the training offered should be prioritised, allowing the recipients of their service maximum benefit.
- To further strengthen the university's student centeredness, At-Risk students should capitalise on the Ombudsman offices and voice their concerns relating to the institutional issues that hamper access to quality engagement. The study supports Swartz et al.'s (2018) acknowledgement of this office.

Revisiting and redesigning existing evaluative mechanisms

- A re-negotiation and re-conceptualisation of the Robot System via an extensive evaluation process that engages all significant stakeholders within the system will promote a more inclusive and less alienated approach, as also noted by Bazana and Mogotsi (2017).
- Student housing should deliberately engage students on the relevant and helpful procedures should they become At-Risk academically. Detailed information on these services should be constantly updated on the various platforms to encourage students to access the necessary information at any point.
- Similar to Bawa (2019), the study reiterates that the funding policy's rules and responsibilities outlined in the contractual funding agreement be reframed to facilitate the completion of the degree. The funding office should revisit and re-evaluate its present relationship with other stakeholders in the university's ecosystem, and re-establish and strengthen collaboration to promote better awareness of the implications of failing and the resources available to prevent this situation. The funding office should restate the information relating to required tuition fees

as per college rules to pass both semesters if the student remains registered while financially excluded.

- Despite the structural and operational issues such as, staff inaccessibility, unacceptability, At-Risk students must continue to receive high-quality support from these offices in order maintain the Robot System's intended goals.

6.6. Limitations and Recommendations for Future Studies

The study acknowledges three limitations:

First, the current study was confined to one university (UKZN) and specifically focused on undergraduate students in the At-Risk academic progression category determined by the University's AMS and Exclusion Policy (2009, 2012). Even though the demographic representation reflected the UKZN undergraduate student profile and the realities of a South African student in the HE context, caution should be used in generalising the results, as they may not account for the experience of the At-Risk student population in other universities.

Second, the university's intervention programmes were only evaluated qualitatively by At-Risk participants. Future studies should examine, qualitatively, the experiences and perceptions of all eco-systems of support for undergraduate students, particularly focusing on the quality of support for At-Risk students.

Third, the evaluation of undergraduate student intervention programmes was not part of the study.

Recommendations for future studies:

Future studies should broaden the scope and examine these results for At-Risk students in other SA universities to offer a more comprehensive perspective of the challenges face by At-Risk students in this country.

An investigation that comprises At-Risk students and the portfolios that promote their academic development and support (e.g. lecturers and tutors, including the Writing Place tutors) and AMS for curriculum support staff (e.g. ADOs and mentors) and the psychosocial, mental health, career counselling, and life-long skills development (student counsellors) will offer a more comprehensive understanding of undergraduate students' challenges. An exploratory study devoted solely to the challenges and experiences of support staff engaging with At-Risk students will provide a more holistic understanding of pertinent gaps within the system.

Future studies should conduct and explore the quality of these support services to maximise student engagement, particularly for those At-Risk. An evaluation of the quality of intervention programmes

by both students and providers of these services may be useful in determining the programme's relevance to students' unique lived experiences, using a mixed-methods research design.

While some professional offices (i.e. the offices of student counsellors) are audited externally by the professional board, a promising practice is for the institution to consider external evaluators to offer an objective overview of these systems. This could be done in addition to the research produced when exploring better methods to assist students in optimising their learning and success.

Future studies should expand the scope of research in this area to all public universities in South Africa, to consider holistic, systemic, and comprehensive support interventions.

More research is needed to refine the MSLQ scales and sub-scales for SA's student population. This research should particularly be administered to the post-first year general student population in a controlled lecture environment to explore their experiences of academic engagement in terms of motivational beliefs and learning strategies used. Comparisons across colleges can then be made to understand differences in performance.

6.6. Conclusion

The chapter deliberately considered key aspects of the study's findings, particularly relating to understanding how the At-Risk status quo remains steady despite university intervention strategies. Framed by Bronfenbrenner's (1979) bioecological systems perspective, this study reiterated that any dysfunction in one system (e.g. macro-level education landscape) exacerbates the dysfunctionality in the next system (BE), which impacts the next system (HE). The inter-relationships between At-Risk students and the social systems of support in their immediate environment are compounded by various complex institutional and psychosocial factors that influence the quality of engagement and service delivery. There is value in addressing SRL and academic procrastination in the HE setting, as these have consequences in academic success and later career paths. Operationally, improving the quality of the services provided for At-Risk students in the higher education environment is essential.

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Appendix 1
Gate Keepers letter for data collection

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

25 February 2016

Ms Ayanda Nosipho Zondo (SN 931313073)
School of Applied Human Sciences
College of Humanities
Howard College Campus
UKZN
Email: zondoa2@ukzn.ac.za

Dear Ms Zondo

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

"Understanding psychological and contextual influences on Self-Regulatory Learning (SRL) among 'at risk' undergraduate students: A Mixed Methods study".

It is noted that you will be constituting your sample as follows:

- by performing interviews with students from all Colleges on the Westville, Howard College, Edgewood and Pietermaritzburg Campuses.

- with a request for responses on the website. The questionnaire must be placed on the notice system http://notices.ukzn.ac.za. A copy of this letter (Gatekeeper's approval) together with the ethical clearance must be simultaneously sent to (govenderlog@ukzn.ac.za) or (ramkissoonb@ukzn.ac.za). You are not authorized to distribute the questionnaire to staff and students using Microsoft Outlook address book.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

Appendix 2
Ethical Clearance for the study

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

11 April 2016

Ms Ayanda Nosipho Sotshongaye Zondo (931313073)
School of Applied Human Sciences – Psychology
Howard College Campus

Dear Ms Sotshongaye Zondo,

Protocol reference number: HSS/0375/016M
Project title: Understanding psychological and contextual influences on Self-Regulatory Learning (SRL) among at-risk undergraduate students: A mixed method study

Full Approval – Expedited Application

In response to your application **received** on 08 April 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

[redacted]

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Professor Anna Meyer-Weitz
Cc Adademic Leader Research: Dr Jéan Steyn
Cc School Administrator: Ms Ayanda Ntuli

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

Appendix 3

Invitation letter and Informed Consent for Qualitative Interviews

Invitation Letter

University of KwaZulu Natal
School of Applied Human Sciences
Discipline of Psychology
College of Humanities, Durban 4000

Dear Participant

Research Title: Understanding psychological and contextual influences on Self-Regulated Learning (SRL) among "at-risk" undergraduate students. A Mixed Methods study.

Re: Invitation to participate in a PhD research study

Good morning / good afternoon, my name is Ayanda Sotshongaye (Zondo). I work as a Student Counsellor (Psychologist) at Student Support Services, under the College of Humanities, at Howard College Campus. I am also a PhD student registered with the School of Applied Human Sciences in the Discipline of Psychology at Howard College Campus, UKZN. My study is under the supervision of Professor Anna Meyer-Weitz (Please see contact details below). I am conducting a study with undergraduate students, identified as academically At Risk in probation (RSK2 and underperformance) category from 4 Colleges: a) Humanities; b) Agriculture, Engineering & Science; c) Law & Management; and d) Health Sciences in the following Campuses: Howard College; Westville; Edgewood and Pietermaritzburg.

I would like to invite you to consider participating in a one-on-one discussion for approximately 1 hour long. The purpose of the study is to explore the psychological and contextual factors that have an influence on academic performance of academically At Risk undergraduates on academic probation and to identify the Self-Regulated Learning (SRL) strategies that they use when engaging with their studies. The findings will contribute significantly to recommendations on guidelines and practices for instructional intervention on appropriate SRL strategies that can be used by students to achieve success. The study has been reviewed and approved by the UKZN Humanities and Social Sciences Ethics Research Committee (Approval Ref No: HSS/0375/016M). I do not anticipate any risks to you participating in this study.

If you agree to participate in the study, I will give you the Informed Consent form to read prior to the interview session and the declaration to sign to indicate that you were not forced to participate. You

will not be given any monetary payment for participating in the study. Your participation is completely voluntary. You may refuse to participate or withdraw from the study at any time without any negative consequence to yourself. I will ask for your permission to audio record your responses before the interview begins.

The interview process consists of: i) Socio-demographical information sheet which asks you about, e.g. your age group, gender, degree programme, college who registered under, funding type, residential & At Risk category, etc. and ii) semi-structured open ended-questions about: your academic At Risk experiences, study methods, your reasons and contributing factors to your current academic performance, your perceptions of UKZN intervention programmes offered in your campus. This interview will be conducted by myself in English, in a venue and time that is convenient for you (not clashing with your timetable and academic activities) at your Campus. I am also fluent in Zulu and Xhosa should you wish to mix when expressing yourself. Your responses and your records will be kept anonymous and confidential at all times and will be used for the purpose of the study and destroyed after a period of 5 years in accordance with the university's regulations. I will create a file and assign a special code to store all your information safely in a locked area that has been arranged by my Supervisor (Prof. Meyer Weitz) in the Discipline of Psychology.

Your information will then be analysed together with other participants' responses and arranged collectively into themes. The discussion of the findings will be at group level and your individual answers will not be traceable. In discussing the research findings, I will also make reference to relevant research and come up with possible recommendations that might be of benefit to you and other students regarding the research topic. If you find the interview process overwhelming, I will contain you and then refer you to the Student Support Services - Counselling offices in your campus, for counselling to help you deal with issues that triggered the emotional pain.

If you require more clarity or you have concerns related to the study, you may contact me or my supervisor using the contact details below.

Thank you

Contact details of Researcher

Ms Ayanda Nosipho Sotshongaye (Zondo)
School of Applied Human Sciences (AHS)
Howard College Campus
University of KwaZulu-Natal
Email: [redacted]
Tel: [redacted]

Supervisor

Prof. Anna Meyer-Weitz
SAHS -Psychology
Howard College Campus
University of KwaZulu-Natal
Email: [redacted]
Tel: 031-2607618

If you have concerns about your rights as a participant, you may contact the **University of KwaZulu-Natal Humanities & Social Sciences Research Ethics Committee,** using the Research Office contact details below:

Mr. P. Mohun
HSSREC Research Office
Tel: 031-2604557
Email Address: [redacted]

Informed Consent

Terms of Agreement: By signing this consent form, I confirm that I have read and understood the purpose and procedures of the study and I had the opportunity to ask questions and were answered to my satisfaction. Instruction: Please tick on the Box:

Yes (1) if you **Agree** **OR** **No (2)** if you **Disagree**.

Statement	Yes	No
1. I agree to participate and provide an explanatory response to questions asked.	1	2
2. I agree to the interviews been audio recorded.	1	2
3. I understand that the researcher will maintain strict confidentiality with regards to all my information obtained and will keep my identity anonymous at all times.	1	2
4. I agree to attend a 30 min follow up session to verify researcher's interpretation of my information.	1	2
5. I declare that my participation is completely voluntary and I am at liberty to withdraw from the study at any time should I so desire, without incurring any penalties.	1	2
6. I understand that if the interview process overwhelms me, I will be contained by the researcher and then referred to the Student Support Services - Counselling offices, for counselling to help me deal with issues that triggered the emotional pain.	1	2
7. I acknowledge and agree to information I provided, been used collectively with other participants' responses in the form of a completed theses; for conference purposes and to be published in a recognised journal.	1	2
8. I understand that if I have questions or concerns about the study or my rights as a participant, I may contact the Researchers Supervisor or the UKZN Humanities & Social Sciences Research Ethics Committee Office.	1	2

DECLARATION OF PARTICIPANT

I…….(name) hereby confirm that I have read and understand the contents described above and the nature of the research study and my questions have been answered to my satisfaction. I give my informed consent to participating in the research study. I understand that my participation is completely voluntary and I am at liberty to withdraw from the study at any time, should I so desire, without incurring any penalties. I acknowledge and agree to information I provided, been used collectively in the form of a completed theses, for conference purposes and for publication in a recognized journal.

I hereby provide consent to:

Audio record my interview: **YES** OR **NO**

_____	_____	_____
Signature of participant	Date	Personal Email: (e.g. Gmail.)
_____	_____	_____
Signature of researcher	Date	[redacted]

Appendix 4

Qualitative Interview Guide

Sociodemographic Information Sheet

Thank you for participating in the study. Your time and support of this research study is highly appreciated. Please complete the following set of questions below which will help me understand some general characteristics about you as the participant in the study. All the Information that is collected will be kept confidential and anonymous.

1. Which category below includes your Age?

a) 18 or younger	b) 19 to 24	c) 25 to 29	d) 30 to 39	e) 40 +

2. Gender:

Male	1	Female	2

3. How would you describe yourself?

1. African	2. Coloured	3. Asian/Indian	4. White	5. Other (Please Specify)

4. Where do you reside?

1. Home	2. Private Residence	3. UKZN Residence	4. Other? (Specify)

5. How are you funding your studies?

1. Self-funded	2. Loan (NSFAS)	3. Bank Loan	4. Bursary / Scholarship	5. Other? (specify)

6. How would you describe the school in which you matriculated?

1. Rural school	2. Township School	3. Missionary School	4. Old model C-school (mixed race)	5. Private School	6. Other? (specify)

7. Current Degree type (please tick appropriate block)

a. Access Programme	b. 3 year degree	c. 4 year degree programme	d. Other? _____

8. In which academic year are you currently? (please tick appropriate block)

1. First year	2. Second year	3. Third year	4. Fourth year

9. Name of Degree: _____

10. Academic standing (Please tick appropriate block below):

1. Green	2. Orange	3. Red

11. How would you describe your academic progress thus far? Please mark the appropriate box.

1.Not satisfactory at all	2.Somewhat satisfactory	3.Satisfactory	4.Very Satisfactory

12. Are you aware of any Student Support Office that offer intervention programmes in your College in your Campus?

YES OR NO

13. Which of the following offices you have been to for academic related support? Please mark the appropriate box.

1. ADO	2. Mentor	3. Writing Place	4. Student Support Services - Counselling offices

Open ended questions

1. Student's perceptions about their academic performance:

- May you please tell me about how feel about your chosen degree?
- Please tell me what it means for you to be on academic probation in (RSK2-Orange & Red category?
- What can you say has had a major effect on your current academic performance status?
- What are your challenges as a student in academic probation "?
- What do you find most challenging about being a student in "Red" category?
- How has this situation (being in "Red" category) changed your behaviour towards your studies? Please elaborate?
- How has this situation (being in the "Red" category) inhibited your study habits and academic progress? Please elaborate?
- What actions did you take to manage the obstacles that inhibited your success?
- What changes would you make to improve your performance?

2. Psychosocial influences

- May you please tell me about the factors that contribute to your motivation to study?
- What motivates you to get started on a task like an essay, or studying for a test or exams?
- How long does it take you to get started on a task?
- Why do you delay your work?
- What learning strategies do you use to study?
- Please identify learning strategies that have been working for you?
- Please identify learning strategies that have not been working for you and why?
- What adjustments have you made so far?

3. Interpersonal relationships

- Is there anyone (friends, family or significant others) aware that you are on academic probation and you have been identified as underperforming (RSK2 and RED). If not, please elaborate on their support and involvement in your education.
- If yes, how your situation affects your relationship with people around you?
- If your relationship has remained the same, what kind of support are you receiving from them?
- If the relationship has changed, please tell me more about their behaviour and attitude towards you?
- How has this situation enhanced your study methods?
- Why has this situation inhibited your ability to use your learning strategies effectively?

4. Contextual factors

- How do you perceive your current academic status?
- What would you have wanted to hear from the administrators, that was not address?
- Would you go back to them for help? If yes or no, please elaborate?

Perceptions of the College & Schools' administrators and lecturers

- How did your lectures contribute to your academic needs and your learning outcomes?
- What type of support from the lectures would have been beneficial to you

Perceptions of UKZN Intervention support services (Mentors; ADOs & SSS (counselling services)

- Are you aware of any support initiatives in your College at your Campus?
- Were you referred to receive academic / personal counselling to any of these 4 offices: the Writing Place; Academic Development Officer (ADO's); Mentorship officers / Student Support Services – the Student Counselling? Which one?
- How accessible are they?
- How effective did you find the services in dealing with your needs? Which one? Please elaborate
- Would you go back to either of these services for support? If yes, which one? please elaborate on what benefited you from attending these particular services?
- What would you have wanted to be addressed in order to enhance your learning needs and your study habits?

THANK YOU FOR YOUR PARTICIPATION IN THE STUDY

Appendix 5

Quantitative Study: Invitation letter and informed consent form

Invitation letter

University of KwaZulu Natal
School of Applied Human Sciences
Discipline of Psychology
College of Humanities, Durban 4000

Dear Participant

Research Title: Understanding psychological and contextual influences on Self-Regulation Learning (SRL) among "at-risk" undergraduate students. A Mixed Methods study.

Re: Invitation to participate in a PhD research study

Good Day, my name is Ayanda Sotshongaye Zondo. I am a PhD student at the University of KwaZulu-Natal (UKZN), in the Discipline of Psychology, under the School of Applied Human Sciences, at Howard College Campus, Durban. My study is under the supervision of Professor Anna Meyer-Weitz (Tel:031-2607618 or email address: meyerweitza@ukzn.ac.za). I would like to invite you to consider participating in the quantitative research study. The purpose of the study is to investigate the psychological and contextual factors that have an influence the Self-Regulated Learning (SRL) strategies used by UKZN undergraduate students. The study aims to identify the effect of the relationship between the student's sociodemographic factors and the aspects of SRL (motivational beliefs, learning strategies, academic procrastination tendencies) on performance outcomes. The findings will contribute significantly to recommendations on guidelines and practices for instructional intervention on appropriate Self-Regulatory Learning (SRL) strategies that can be used by students to achieve success.

The study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (Ref No: HSS/0375/016M). I do not anticipate any risks to you participating in this study. You will not be given monetary payment for participating in the study. Your participation is completely voluntary. Your responses and your records will be kept confidential at all times. Your identity won't be traceable, you will remain anonymous. The duration of your participation if you choose to enrol and remain in the study is expected to be 15 -20 minutes. You are requested to first read the Informed Consent form and sign the declaration form before to complete the questionnaire.

Informed Consent form

Statement	Yes	No
1. I agree to participate and provide an explanatory response to questions asked.	1	2
2. I understand that the researcher will maintain strict confidentiality with regards to all my information obtained and will keep my identity anonymous at all times.	1	2
3. I declare that my participation is completely voluntary and I am at liberty to withdraw from the study at any time should I so desire, without incurring any penalties.	1	2
4. I understand that if the interview process overwhelms me, I will be contained by the researcher and then referred to the Student Support Services - Counselling offices, for counselling to help me deal with issues that triggered the emotional pain.	1	2
5. I acknowledge and agree to information I provided, been used collectively with other participants' responses in the form of a completed theses; for conference purposes and to be published in a recognised journal.	1	2
6. I understand that if I have questions or concerns about the study or my rights as a participant, I may contact the Researchers Supervisor or the UKZN Humanities & Social Sciences Research Ethics Committee Office.	1	2

DECLARATION OF PARTICIPANT

I……...(name) hereby confirm that I have read and understand the contents described above and the nature of the research study. I give my informed consent to participating in the research study. I understand that my participation is completely voluntary and I am at liberty to withdraw from the study at any time, should I so desire, without incurring any penalties. I understand that my information will remain anonymous and confidential as is required by the Ethics Committee of the University of KwaZulu-Natal who has provided the ethical clearance of the study. I acknowledge and agree to information I provided, been used collectively in the form of a completed theses; for conference purposes and the findings may be published in a recognised journal.

_____ _____ _____

Signature of participant Date Email Address: (e.g. gmail)

_____ _____ _____

Signature of researcher Date zondoa2@ukzn.ac.za

Appendix 6

Quantitative Research Instruments

1. Sociodemographic Information Sheet

Please complete the following set of questions. This information will help me understand some general characteristics about the participants in the study.

1. Which category below includes your Age

a. 18 or younger	b. 19 to 24	c. 25 to 29	d.30 to 39	e. 40 +

2. Gender:

Male	1	Female	2

3. How would you describe yourself?

1. African	2. Coloured	3. Asian/Indian	4. White	Other (Please specify) _____

4. Where do you reside?

1. Home	2. Private Residence	3. UKZN Residence	4. Other? (Specify)

5. How are you funding your studies?

1. Self-funded	2. Loan (NSFAS)	3. Bank Loan	4. Bursary / Scholarship	5. Other?

6. How would you describe the school in which you matriculated?

1. Rural school	2. Township School	3. Missionary School	4. Old model C-school (mixed race)	5. Private School	6. Other?

7. Degree type (please tick appropriate block)

a. Access Programme	b. 3 year degree	c. 4 year degree programme

8. In which academic year are you currently?

1. First year	2. Second level	3. Third year	4. Fourth year

9. Name of Degree: _____

10. Academic standing: (Please tick appropriate block)

1. Green	2. Orange	3. Red

11. How would you describe your academic progress thus far? Please <u>mark</u> the appropriate box.

1.Not satisfactory at all	2.Somewhat satisfactory	3.Satisfactory	4.Very Satisfactory

12. Are you aware of any Offices that offer academic related support programmes for students in your College at your Campus? 1. Yes Or 2. No

13. Which of the following offices you have been to for academic related support?

1. Writing Place	2. Mentor	3. ADO	4. Student Counsellor – Student Support Service	5. None

4. What are your perceptions of the support interventions offered by these offices? **……**

2. Motivated Strategies for Learning Questionnaire (MSLQ)

Part A. Motivation

Instructions: Please indicate your level of agreement for each of the statements below by ticking the response that best describes you using the scale ranging from **Strongly Disagree (1**) to **Strongly Agree (5)**. Remember there are no "right or wrong" answers, your opinion on each statement is important.

Item Statements	Strongly Disagree	Disagree	Uncertain	Agree	Strongly
1. In class, I prefer course material that really challenges me so I can learn new things.	1	2	3	4	5
2. If I study in appropriate ways, then I will be able to learn the course material.	1	2	3	4	5
3. When I write a test, I think about how poorly I am doing compared with other students.	1	2	3	4	5
4. I think I will be able to use what I am learning in one module in other modules.	1	2	3	4	5
5. I believe I will receive excellent marks in the modules I enrolled for.	1	2	3	4	5
6. I'm certain I can understand the most difficult material presented in the readings for my modules.	1	2	3	4	5
7. Getting good marks in my modules is the most satisfying thing for me right now.	1	2	3	4	5
8. When I write a test I think about items on other parts of the test I can't answer.	1	2	3	4	5
9. It is my own fault if I don't learn the course material in these modules.	1	2	3	4	5
10. It is important for me to learn the course material in my classes.	1	2	3	4	5
11. The most important thing for me right now is improving my overall mark average, so my main concern in my modules is getting good marks.	1	2	3	4	5
12. I'm confident I can learn the basic concepts taught in my modules.	1	2	3	4	5
13. If I can, I want to get better marks in my modules than most of the other students.	1	2	3	4	5
14. When I write tests I think of the consequences of failing.	1	2	3	4	5
15. I'm confident I can understand the most complex material presented by the instructors for my modules.	1	2	3	4	5

16. In lectures, I prefer course material that arouses my curiosity, even if it is difficult to learn.	1	2	3	4	5
17. I am very interested in the content area of these modules.	1	2	3	4	5
18. If I try hard enough, then I will understand the course material.	1	2	3	4	5
19. I have an uneasy, upset feeling when I write an exam.	1	2	3	4	5
20. I'm confident I can do an excellent job on my assignments and tests.	1	2	3	4	5
21. I expect to do well in the modules for my degree.	1	2	3	4	5
22. The most satisfying thing for me in a module is trying to understand the content as thoroughly as possible.	1	2	3	4	5
23. I think the course material in these modules is useful for me to learn.	1	2	3	4	5
24. When I have the opportunity in a module, I choose assignments that I can learn from even if they don't guarantee a good mark.	1	2	3	4	5
25. If I don't understand the course material, it is because I didn't try hard enough.	1	2	3	4	5
26. I like the subject matter of these modules.	1	2	3	4	5
27. Understanding the subject matter of these modules is very important to me.	1	2	3	4	5
28. I feel my heart beating fast when I write an exam.	1	2	3	4	5
29. I'm certain I can master the skills being taught in the modules for my degree.	1	2	3	4	5
30. I want to do well in my modules because it is important to show my ability to my family, friends, employer, or others.	1	2	3	4	5
31. Considering the difficulty of this degree, the lecturers, and my skills, I think I will still do well in my modules.	1	2	3	4	5

Part B. Learning Strategies

Instructions: Please indicate to what extent you agree or disagree with each of the statements below by ticking a response that best describes you using the scale ranging from **Strongly Disagree (1**) to **Strongly Agree (5)**. Remember there are no "right or wrong" answers, your opinion on each statement is important.

Item Statements	**Strongly Disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**
32. When I study the readings for the modules I am taking, I outline the material to help me organize my thoughts.	1	2	3	4	5
33. During lecture times, I often miss important points because I'm thinking of other things.	1	2	3	4	5

34. When studying for these modules, I often try to explain the material to a classmate or a friend.	1	2	3	4	5
35. I usually study in a place where I can concentrate on my course work.	1	2	3	4	5
36. When reading for these modules, I make up questions to help focus my reading.	1	2	3	4	5
37. I often feel so lazy or bored when I study for these modules that I quit before I finish what I planned to do.	1	2	3	4	5
38. I often find myself questioning things I hear or read in these modules to decide if I find them convincing.	1	2	3	4	5
39. When I study for these modules, I practice saying the material to myself over and over.	1	2	3	4	5
40. Even if I have trouble learning the course material, I try to do the work on my own, without help from anyone.	1	2	3	4	5
41. When I become confused about something I'm reading for these modules, I go back and try to figure it out.	1	2	3	4	5
42. When I study for these modules, I go through the readings and my class notes and try to find the most important ideas.	1	2	3	4	5
43. I make good use of my study time for these modules.	1	2	3	4	5
44. If the readings are difficult to understand, I change the way I read the material.	1	2	3	4	5
45. I try to work with other students from my classes to complete the assignments.	1	2	3	4	5
46. When studying for these modules, I read my class notes and the readings over and over again.	1	2	3	4	5
47. When a theory, interpretation, or conclusion is presented in lectures or in the readings, I try to decide if there is good supporting evidence.	1	2	3	4	5
48. I work hard to do well in these modules even if I don't like what we are doing.	1	2	3	4	5
49. I make simple charts, diagrams, or tables to help me organize course material.	1	2	3	4	5
50. When studying, I often set aside time to discuss course material with a group of students from the classes that I take.	1	2	3	4	5
51. I treat the course material as a starting point and try to develop my own ideas about it.	1	2	3	4	5
52. I find it hard to stick to a study schedule.	1	2	3	4	5
53. When I study for these modules, I pull together information from different sources, such as lectures, tutorials, readings, and discussions.	1	2	3	4	5
54. Before I study new course material thoroughly, I often skim it to see how it is organized.	1	2	3	4	5

55. I ask myself questions to make sure I understand the material I have been studying in the class.	1	2	3	4	5
56. I try to change the way I study in order to fit the module requirements and the instructor's teaching style.	1	2	3	4	5
57. I often find that I have been reading for these modules but don't know what they were all about.	1	2	3	4	5
58. I ask the instructor / lecturer to clarify concepts I don't understand well.	1	2	3	4	5
59. I memorize key words to remind me of important concepts in the modules.	1	2	3	4	5
60. When course work is difficult, I either give up or only study the easy parts.	1	2	3	4	5
61. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.	1	2	3	4	5
62. I try to relate ideas in one subject to those in other courses whenever possible.	1	2	3	4	5
63. When I study for my modules, I go over my class notes and make an outline of important concepts.	1	2	3	4	5
64. When reading, I try to relate the course material to what I already know.	1	2	3	4	5
65. I have a regular place set aside for studying.	1	2	3	4	5
66. I try to play around with ideas of my own related to what I am learning in the modules I enrolled for.	1	2	3	4	5
67. When I study for my modules, I write brief summaries of the main ideas from the readings and my class notes.	1	2	3	4	5
68. When I can't understand the course material, I ask another student in the same class for help.	1	2	3	4	5
69. I try to understand the course material by making connections between the readings and the concepts from the lectures.	1	2	3	4	5
70. I make sure that I keep up with the weekly readings and assignments for all my modules.	1	2	3	4	5
71. Whenever I read or hear a statement or conclusion in lectures, I think about possible alternatives.	1	2	3	4	5
72. I make lists of important items for my modules and memorize the lists.	1	2	3	4	5
73. I attend all my modules regularly.	1	2	3	4	5
74. Even when course materials are dull and uninteresting, I manage to keep working until I finish.	1	2	3	4	5
75. I try to identify students in my classes whom I can ask for help if necessary.	1	2	3	4	5

76. When studying the course material, I try to determine which concepts I don't understand well.	1	2	3	4	5
77. I often find that I don't spend very much time on my modules because of other activities.	1	2	3	4	5
78. When I study, I set goals for myself in order to direct my activities in each study period.	1	2	3	4	5
79. If I get confused when taking notes in class, I make sure I sort that out afterwards.	1	2	3	4	5
80. I rarely find time to review my notes or readings before an exam.	1	2	3	4	5
81. I try to apply ideas from course readings in other class activities such as lectures and discussions.	1	2	3	4	5

3. Procrastination Scale

Instructions: Please read each question carefully and indicate to what extent you agree or disagree with each of the statements below by ticking the response that best describes you using the scale ranging from **Strongly Disagree (1**) to **Strongly Agree (5)**. Remember there are **no "right or wrong"** answers, your opinion on each statement is important.

Item Statements	Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
1. I needlessly delay finishing jobs, even when they are important.	1	2	3	4	5
2. I postpone starting in on things I don't like to do.	1	2	3	4	5
3. When I have a deadline, I wait till the last minute	1	2	3	4	5
4. I delay making tough decisions.	1	2	3	4	5
5. I keep putting off initiating new work activities.	1	2	3	4	5
6. I manage to find an excuse for not doing my work.	1	2	3	4	5
7. I put the necessary time into even boring tasks, like studying.	1	2	3	4	5
8. I am a major time waster.	1	2	3	4	5
9. I am a time waster now but I cannot do anything about it even if I try.	1	2	3	4	5
10. When something is too tough to tackle, I believe in postponing it.	1	2	3	4	5
11. I promise myself I will do something and then drag my feet.	1	2	3	4	5

12. Whenever I make a plan of action, I follow it.	1	2	3	4	5
13. Even though I hate myself if I don't get started, it doesn't get me going.	1	2	3	4	5
14. I always finish important jobs with time to spare.	1	2	3	4	5
15. I get stuck in neutral even though I know how important it is to get started.	1	2	3	4	5
16. Putting something off until tomorrow is not the way I do it.	1	3	3	4	5

THANK YOU FOR YOUR PARTICIPATION IN THE STUDY