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An exploratory analysis of higher education student funding and graduate employability: A case study of a University of Technology in South Africa

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Declaration

DECLARATION

I Absolom Innocent Manashe declare that

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List of Acronyms

CHE	Council on Higher Education
DHET	Department of Higher Education and Training
EFA	Exploratory Factor Analysis
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
HAUs	Historically Advantaged Universities
HDUs	Historically Disadvantaged Universities
HEIs	Higher Education Institutions
HESA	Higher Education South Africa (Universities South Africa)
ICT	Information and Communication Technology
ILO	International Labour Organization
NDP	National Development Plan
NSFAS	National Student Financial Aid Scheme
OECD	Organisation for Economic Co-operation and Development
PSET	Post-Secondary Education and Training
SA	South Africa
SDG4	Sustainable Development Goal on Quality Education
SETA	Sector Education Training Authority
SPSS	Statistical Package for Social Science
STEM	Science, Technology, Engineering, And Mathematics
TVET	Technical and Vocational Education and Training
UKZN	University of KwaZulu Natal
UNESCO	United Nations Educational, Scientific, and Cultural Organization
WIL	Work Integrated Learning

Definition of key terms

Graduate employability refers to the set of achievements, skills, understandings, and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations. It encompasses the ability to find, create, and sustain meaningful work that benefits the individual, the workforce, and the community.

Graduate employment rates are statistical measures that indicate the proportion of graduates who are employed within a certain period after completing their studies. These rates are often used to assess the effectiveness of higher education institutions in preparing students for the labour market.

Graduate employment refers to the actual employment status of graduates, including the types of jobs they hold, the sectors they work in, and the alignment of their roles with their field of study. It involves coordination, regulation, and management of graduates' working lives.

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Abstract

With a focus on a particular KwaZulu-Natal higher education institution, this study examined the effect of student funding for higher education on graduate employability in South Africa. The purpose of the study was to determine whether more funding increased employability by establishing a connection between graduate employment rates and student funding. The study employed a quantitative research technique to examine data from 176 graduates who received funding from a range of sources, including self-funding, private sponsors, Private Bursaries, and the National Student Financial Aid Scheme (NSFAS). The findings revealed a weak positive correlation between the source of funding and employment status, suggesting that while funding aided in access to higher education, it did not significantly guarantee employment. The study highlighted the need for comprehensive support systems, including work-integrated learning (WIL) programs, to enhance employability. Additionally, it underscored the importance of addressing disparities in basic education to ensure equitable access to higher education and subsequent employment opportunities.

The research concluded that while increased funding had led to higher enrolment and graduation rates, it had not proportionately reduced graduate unemployment. The study recommended improving basic education quality, aligning higher education curricula with labour market demands, and enhancing support services for students to bridge the gap between education and employment.

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Chapter 1: Introduction to the study

1.1 Background

The importance of higher education in reducing poverty and increasing shared prosperity has been well documented and acknowledged. Both individuals and society at large continue to benefit from it (Nortje, 2023). In addition to being more productive and employable, people with postsecondary education earned more than those without. According to Branson, Ardington, Lam, and Leibbrandt (2013), completing secondary and postsecondary education has continued to yield a good relative value. According to a Chinese study by Mou (2023), income increases progressively as education levels rise. Those who have completed graduate school earn 0.86% more than those who have only completed college, while those who have completed college earn 0.42% more than those who have only completed high school.

According to the World Bank (2018) a country's ability to meet its present and future needs depends on its workforce's level of education. It is essential that this workforce is sufficiently prepared to maintain its competitiveness in the global market (NSFAS, 2012). The goal of financial aid programmes at Higher Education Institutions in South Africa is to transform students' lives by helping them obtain the credentials necessary to enter the workforce, which would boost the nation's economy (Mabuza, 2020). The National Student Financial Aid Scheme (NSFAS) has helped over 2 million students since its founding in 1999, but this could not be deemed successful as only 19% of them graduated, 48% dropped out, and 33% took longer than the required number of years to complete the qualification (e.g., taking five years to complete a three-year qualification) (NSFAS, 2018).

The goal of higher education in a knowledge-driven world is to mobilize human potential and talent via lifelong learning to support the intellectual, cultural, social, and economic life of a rapidly changing society, according to the 1995 White Paper on Education and Training in South Africa, which examined the need for a strategic approach to education funding (White Paper, 1995).

Exactly thirty years have passed since South Africa transitioned from apartheid to democratic governance. Simultaneously, access to higher education has drawn significant attention, considerably more so since 1994 (Mlambo, Saul, and Buys, 2024). The population and unemployment rates have increased due to intensifying globalisation; thus, having a degree is

no longer a guarantee to get a job (Li, Xue, and Wei, 2024). Education, however, continues to be essential for people's upward mobility because it enables them to engage in a knowledge-based economy, especially for the underprivileged. Higher education is thought to be the route to a respectable career, yet it is becoming more and more costly in many nations (Allais, 2016).

One of the primary strategies for attaining social upward mobility in South Africa is admittance to higher education, which is becoming more widely recognised. To address the rising issue of underprivileged students' limited access to higher education, South Africa's newly elected post-apartheid government launched the Tertiary Education Fund for South Africa (TEFSA) in 1996, now branded the National Student Financial Aid Scheme (NSFAS). According to Wildschut, Rogan, and Mncwango (2020), the key objectives of NSFAS were to help students who could not afford higher education, to enhance access and prospects for everyone, and to change the historically unequal racial makeup of higher education participation.

According to Wildschut, Mncwango, Rogan, Rust and Fongwa (2023), there is increasing evidence that NSFAS financing has improved students' access to, success in, and advancement through Post-Secondary Education and Training (PSET). Understanding the labour market results of the scheme's beneficiaries remained a crucial knowledge vacuum in the South African context, despite the clear transformation, social mobility, and restitution aims supporting public funding for access to higher education.

Additionally, concerns about the transformational potential of higher education and issues of equity in employment opportunities and outcomes were brought up by the sudden increase in student finance allocations.

National growth is significantly influenced by education (Kioupi and Voulvoulis, 2019). South Africa needs a workforce with education because it is a developing country. With the highest Gini coefficient in the world at 0.67, South Africa has high levels of income inequality (Friderichs, 2021). The gap between the rich and the poor will be closed in part by education. With a recorded unemployment rate of 31.9%, South Africa likewise had to deal with a high unemployment rate (StatsSA, 2023). With a 32% unemployment rate in South Africa (60.8% for those aged 15–24, 41.7% for those aged 25–34, 28.7% for those aged 35–44, 20.7% for those aged 45–54, and 12.5% for those aged 55–64) (Statistics South Africa, 2024), education may help people become more employable.

The idea behind providing free higher education to the poor was that education would lead to equality since it would enable individuals who had previously been marginalized to pursue higher education, which would lead to gainful employment and better economic circumstances (DHET, 2018). Nonetheless, South Africa is a developing nation with several issues (such as job creation, Healthcare, Infrastructure development; Land reform, ect) that require the government's focus and resources. As a result, in order to address previous backlogs and imbalances, the limited resources must be stretched. According to results from the long-run model estimation and findings of an Ethiopian study by Dachito, Alemu, and Alemu (2020), public spending on education had a negative and significant impact on the graduate unemployment rate.

1.2 Purpose

The funding allocation to PSET increased from R90.3 billion in the 2019/20 financial year to R106.1 billion in the 2020/21 financial year, mainly due to student funding allocations administered by NSFAS on behalf of the Department of Higher Education and Training (DHET) (Khuluvhe and Netshifhefhe, 2022). With increased funding and, consequently, access and hopefully graduation rates, it was imperative to establish if the graduate employment rate had been affected and the extent of such an effect.

Despite South Africa's low per-capita educational expenditures, the country also faces one of the lowest graduate employment rates (Baldry, 2016). This issue is particularly pressing given the high youth unemployment rate and poor graduate employment outcomes, as highlighted by Statistics South Africa (2023). The study of graduate unemployment is, therefore, both important and timely.

By examining graduate unemployment rates in South Africa contrasted with increased higher education student funding, the researcher contributes to the body of existing material. This study would help policymakers determine the effect of increasing PSET funding on the employability of graduates. By thoroughly understanding this impact, the government could develop and implement plans to ensure that its investment in PSET generated the intended returns.

The study aimed to establish whether there was a connection between rising student higher

education spending and graduate job placement rates in South Africa, focusing on a specific Higher Education Institution in Kwa-Zulu Natal

1.3 Scope

The study's goal was to establish the impact of increased higher education funding for students on graduate employability in South Africa. The study, however, concentrated on one university in KwaZulu Natal, South Africa. Students who received diplomas or degrees were eligible to participate in this study.

1.4 Research objectives

1. To establish a link between student higher education funding and graduate employment rates.
2. To determine the benefits of student higher education funding on graduate employment.
3. To identify the challenges of student higher education funding on graduate employment.

1.5 Research questions

1. Is there a link between student higher education funding and graduate employment rate?
2. How does increased student higher education funding impact graduate employment outcomes?
3. What challenges arise from increased student higher education funding on graduate employment?

1.6 Significance of the study

With the increasing investment in student higher education funding from the South African government, it is imperative for taxpayers to establish the positive effects of such an investment. One of the major questions this study attempted to answer was whether there was a relationship between student higher education funding and a graduate's chance of employment. "Did increasing the investment in higher education, which increased access to higher education, increase chances for graduate employment?". This study aimed to shed more light on the connection between student funding and graduate career prospects.

Funding for higher education has increased in South Africa since the inception of NSFAS, from R441 million in 1996 to R47.6 billion in 2024 (NSFAS, 2024), yet the link between student funding for higher education and graduate employment rates has yet to be clarified. In a study conducted by Wildschut, Rogan, and Mncwango (2020), a graduate employment rate between 80% and 85% was found for students aided by NSFAS from 2010 to 2015. The funding allocation for NSFAS had since increased tremendously, so it was necessary to ascertain if this increase had impacted graduate employability.

A rising body of research suggested that NSFAS funding had improved student access, advancement, and PSET performance (De Villiers et al., 2013). Despite the program's evident transformation, social mobility, and restitution goals, there has been a crucial knowledge gap in the South African context regarding the labour market outcomes of its grantees (Baldry, 2016). While NSFAS financing has demonstrably enhanced student access, advancement, and performance in PSET, there remains a significant gap in understanding the labour market outcomes for its recipients. Addressing this gap is crucial to fully evaluate the programme's impact on social mobility and economic restitution in South Africa.

As a result of an excess of skilled labour that is not being countered by an increase in demand, it is thought that the high graduate joblessness is a result of the higher education system's rapid growth over time (Graham, Williams, and Chisoro, 2019). The general skills mismatch between the educational system and the labour market is another aspect that kept coming up in the research as a cause of graduate unemployment (Rogan and Reynolds, 2019). The claim was that companies were unwilling to hire graduates due to the costs involved in upskilling them, as the educational system needed to effectively prepare graduates for future employment and market demands (Graham, Williams and Chisoro, 2019). The university-industry partnership has a probability to bridge this gap by contributing towards curriculum development, WIL, and internships.

Low economic growth rate, skills mismatch, spatial inequalities, labour market inefficiencies are some of the causes that contributed to the excessively high rates of teenage joblessness in South Africa, but one of the most significant one was the so-called skills mismatch in the labour market

(Habiyaremye, Habanabakize and Nwosu, 2023). Employment was increasing in fields that required more advanced skills, such as financial services, while it had been declining in fields that favoured entry-level abilities, such as agriculture. In South Africa, graduates did better in the job market than youth without postsecondary education and training because of the premium that is placed on qualifications due to this skills mismatch (Baldry, 2016). The South African government lost an opportunity when it increased student funding to audit the skills needed by industry, collaborate and fund only scarce skills, such as STEM qualifications.

The national rates of enrolment in Universities and TVET colleges are still low compared to those of other middle-income countries, such as Brazil, Mexico and Argentina, despite the government spending more money on post-secondary education. This study aims to explore the relationship between higher education student funding and graduate employability at a University of Technology in South Africa. Despite various funding mechanisms such as bursaries, scholarships, and loans, many graduates struggle to secure employment post-graduation. In 2021, the South African government increased its higher education spending by R5 billion (Department of Higher Education and Training, 2021), and the National Student Financial Aid Scheme (NSFAS) disbursed over R35 billion to support more than 700,000 students (NSFAS, 2021). However, the overall unemployment rate in South Africa was 32.1% in the third quarter of 2024, with a graduate unemployment rate of 9.8% (Statistics South Africa, 2024). This research will investigate how different types of student funding influence employability outcomes, identify the challenges faced by graduates in the job market, and propose strategies to enhance the effectiveness of funding programs in improving employability.

1.7 Overview of methodology

The research evaluated the effects of increased higher education student funding on graduate employment in South Africa from 2021. The quantitative study included 176 respondents. Descriptive analyses were conducted to present the findings, and further analysis was performed using SPSS version 29.

1.8 Ethical considerations

While concentrating on ethical behaviour is essential in particular fields, it is also becoming

more widely accepted across all research-related disciplines (Sivasubramaniam, Dlabolová and Kralikova, 2021). According to the World Health Organization (2021), following ethical principles is crucial to safeguarding study respondents' welfare, rights, and dignity. The reliability of the supporting evidence is what matters most in research activity. This called for the validity of the data sources, the analytic process, and the candour of the researcher. The researcher adhered to all UKZN ethical clearance laws and regulations.

1.9 Limitations of the study

The problem statement focused on examining the impact of student higher education funding on graduate employment rates. This study was conducted at a higher education institution in South Africa, specifically within the KwaZulu-Natal region, at a University of Technology. The geographical scope of the study included The KwaZulu-Natal region of South Africa and a University of Technology.

Constraints were encountered during the study, such as, the Ethical Clearance process was delayed due to conflicting requirements from gatekeepers and the University of KwaZulu-Natal (UKZN) and the return of questionnaires was slower than anticipated

1.10 Study outline

1.10.1 Chapter One – Introduction to the study

The first chapter presented the study's direction and orientation. The chapter covered the following topics: introduction, background of the study, statement of the problem, purpose of the investigation, research questions, significance of the study, limitations, and conclusion.

1.10.2 Chapter Two – Literature review

The second chapter provided an overview of higher education, including funding models, industry collaboration, and graduation rates. The study also looked at trends outside of South Africa, including in other developing countries.

1.10.3 Chapter Three – Research methodology

The chapter discussed the research methodologies. Specifically, the introduction, research design, research questions and hypotheses, setting and sample, data collection, analysis, and conclusion.

1.10.4 Chapter Four – Presentation of research findings

This chapter discussed and compared the findings and their analysis to the study's literature. The chapter presented findings structured by research questions, compared findings to the literature, discussed developments in other emerging countries, and provided a conclusion.

1.10.5 Chapter Five – Recommendations

The final chapter of the dissertation summarized its results and emphasized its strengths. The introduction, findings summary, conclusions (organized according to research questions or hypotheses), discussion, suggestions for additional research, and conclusion comprised the chapter's components. Lastly, the results of the study can open up new avenues for investigation.

1.11 Chapter summary

The chapter had already set the scene of the study. The focus of the study was to investigate the impact of increased student higher education funding on graduate employment in South Africa. Questionnaires were sent to graduates who completed undergraduate qualifications. There were five chapters included in the thesis. The next chapter focused on the literature review of the higher education sector.

Chapter 2: Literature review

According to the human capital theory, which informs the mainstream view in the Western world, education is viewed as a typical investment, and the primary motivation for spending time and money on higher education is the high returns anticipated from the corresponding wage premium when one enters the workforce (Kromydas, 2017). In reality, things are more complicated, and this pattern of events is unlikely to continue, particularly during recessions. This personal decision may have an economic foundation, but the intrinsic idea allows for more individualized impulses that are not always influenced by financial conditions.

2.1 Higher Education in South Africa

Universities and Technical and Vocational Education and Training (TVET) colleges make up South Africa's post-school educational system. Eleven general academic institutions, nine comprehensive universities (a combination of traditional universities and technical colleges), and six universities of technology make up the 26 public universities that make up the university sector (de Villiers, 2023). In this study, the 26 public universities are referred to as higher education institutions (HEI).

Some of the inequalities in the contemporary educational system could be attributed to Apartheid-era discriminatory policies that targeted large sectors of the population (Mabokela and Mlambo, 2017). Following the establishment of democracy in 1994, a new government was formed with the intention of guaranteeing universal access to education.

Although institutions have checks and balances (via councils and other governance mechanisms), the South African government and DHET play a crucial role. Through the National Development Plan (NDP), the government outlines several objectives it hopes to accomplish. This policy document's main goal is to create an inclusive economy in order to eradicate poverty and reduce inequality by 2030 (National Planning Commission, 2011). It also seeks to improve youth's chances of employment. According to the NDP, education is crucial to achieving other development objectives (Mlambo, Saul and Buys, 2024).

Government grants, student tuition and other private income, such as donations, are the three main sources of funding for South African public higher education institutions (Wangenge-Ouma

and Cloete, 2020). According to Ramasu and Kanakana-Katumba (2024), government grants account for 42% of the funding for public higher education, while student tuition and other fees account for 33% and other private sources for 25%. This demonstrates the significant role that the government plays in providing money for public universities.

The government of South Africa spends about 0.9% of GDP on education, which is not very impressive when compared to other emerging nations like Brazil and Chile, which spend 1.1% and 1.26% of GDP, respectively (Yende and Mthombeni, 2023). Government funding for South Africa's higher education system has decreased recently, which has put more of a strain on students. Student tuition fees now account for 35% of higher education institutions' revenue, up from 24% in 2000 (DHET, 2018). It is crucial to remember that a portion of the funds used by students for their higher education come from government coffers. For instance, in 2015, NSFAS accounted for almost 40% of student fees (DHET, 2018).

2.2 South Africa's Higher Education Policy Development

Under the Apartheid regime, policy initiatives and government measures led to the creation of 19 education departments with a racially and ethnically diverse student body (Kallaway, 2002). Higher education institutions were required to clearly identify the racial group they served under the National Party apartheid regime. The majority of funds went to white universities, which also had greater resources than those for other racial groupings, historical records of South Africa's apartheid era provide credence to this (Kallaway, 2002). Institutions serving white students received substantially more funding from the government during this time than did those serving Indian, Black, and coloured students (Kallaway, 2002). Apartheid policies were reflected in the disparity in higher education participation rates: whites made up 70% of the population but only 10% of the black population, while blacks made up 80% of the population but only 9% of it, coloured made up 13%, and Indians made up 40% (Sehoole and Adeyemo, 2016).

South Africa's post-Apartheid governments have attempted to undo the Apartheid State's practices. To this end, several policies have been issued (Mzangwa, 2019). These regulations were created to guarantee both equitable access to higher education and affordability for the impoverished and the disenfranchised (Akala, 2023). These include The National Plan for Higher Education (Akala, 2023; Sehoole and Adeyemo, 2016), the National Student Financial Aid Scheme

Act, 1999 (Act No. 56 of 1999), and Education White Paper 3.

Increasing access to and participation in higher education regardless of an individual's age, gender, ethnicity, or ability was one of the main goals of Education White Paper 3, which was published in 1997. The policy also aimed to end prejudice and address the consequences of Apartheid. The approach is seen as having been somewhat successful because traditionally marginalized groups have expanded their engagement. Nonetheless, there are still obstacles for certain populations to participate in higher education, such as individuals with impairments (McKinney and Swartz, 2022).

A loan and bursary program was established for qualifying students from low-income households by the NSFAS Act (Act No. 56 of 1999). Low-income households and historically underserved groups have been able to enrol thanks in large part to the NSFAS loan and bursary program. In 2018, the loan program was converted to a bursary program to benefit students from households earning less than R350 000 (DHET, 2018).

In order to provide a framework for the implementation of policies like Education White Paper 3, the National Plan for Higher Education was released in 2001. The goal of the strategy was to guarantee that everyone in South Africa would have access to higher education (Akala, 2023).
One of the most crucial tools the Apartheid administration employed to guarantee the accomplishment of predetermined policy objectives was funding (Akala, 2023). South Africa's post-Apartheid administration has acknowledged that using financing as a tool is necessary to undo the harmful consequences of Apartheid laws.

2.3 Access to higher education

The South African government's plans to address historical prejudice are detailed in Chapter 5 of the Higher Education Act (No. 101 of 1997). This chapter emphasizes ensuring representativeness, equal access, and the promotion of each student's potential while valuing diversity. By 2030, equal access to higher education shall be achieved in accordance with the Sustainable Development Goal on Quality Education (SDG4) of the UN.

By providing possibilities for studying in specific fields of study, tertiary education expands upon

secondary education. It aims to learn at a high degree of complexity and proficiency. The World Bank (2022) states that satisfactory completion of secondary school is frequently a prerequisite for admission to higher education, regardless of whether the student is pursuing an advanced research degree. Both advanced vocational or professional education and conventional academic education are included in tertiary education.

A nation's standing internationally in terms of graduate production is greatly influenced by its level of tertiary education participation. According to the National Planning Commission (2011), the South African higher education system is a mid-level performer in terms of knowledge output by international standards, while having low participation rates and an efficient operation.

Evidence from around the world indicates that economic progress and the degree of higher education participation are correlated (Ntshoe and de Villiers, 2013). For high-income nations, the average gross participation rate in higher education is slightly over 40%; for middle-income countries, it is slightly over 20%; and for low-income countries, it is 5% (World Bank, 2000).

"To ensure an adequate supply of high-level human resources for social and economic development, an increased participation rate to 20% of the age group 20-24 in public higher education should be the target over the next 10-15 years," the Council on Higher Education (CHE) recommended in 2000 (CHE 2000: 65-66). According to DHET (2015), this relatively modest goal, which was expected to be accomplished during the next ten to fifteen years, was considered reasonable by the Ministry.

The massification of higher education is a result of the National Plan on Higher Education (NPoHE), which states that one of their main policy objectives that are essential for financing South African higher education is to produce the graduates required for social and economic growth (Ministry of Education, 2001).

In addition to fostering social cohesiveness and boosting trust in social institutions, tertiary education is unquestionably crucial for facilitating nation-building and promoting democratic involvement through free and open discourse. Higher education in South Africa expanded rapidly between 1995 and 2005 under the policy tenet that "the more is better," which was later reframed

as "more was not affordable" because of budgetary limitations (Mlambo, Mlambo and Adetiba, 2021). Later, the policy was embraced as "more equity, but not more." The government's inability to finance education and the resulting subpar production led to the policy's shift to "more is not better" in response to the sharp rise in demand for higher education between 2000 and 2004 (Ministry of Education, 2001).

One commonly used proxy for postsecondary education participation rates is the Gross Enrollment Ratio (GER). Internationally, the GER is frequently used to compare the educational attainment of individuals in various nations. The effectiveness of various nations' educational systems is gauged by these comparisons. Additionally, they serve as indicators of a nation's competitiveness relative to other nations. This metric is widely used by investors to assess a nation's investment potential (Nayak, 2021). The number of students enrolled in postsecondary education, regardless of age, divided by the population of the age range constitutionally allocated for university education, and then multiplied by 100, is the GER (sometimes called the participation rate) for higher education (UNESCO, 2022). The five-year age group immediately following upper secondary education is anticipated to be the population with the official age for postsecondary education, according to the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The population in South Africa between the ages of 20 and 24 is used to compute the GER (Nayak, 2021).

It is important to keep in mind that the GER does not evaluate the level of participation in post-secondary education among individuals in a particular age group. Instead, it evaluates participation rates irrespective of the age of the respondent.

From 2017 to 2020, South Africa's GER in higher education remained consistently lower than that of other comparable middle-income nations, such as China, Colombia, Algeria, and Malaysia, despite notable advancements over the years. Compared to China (58.4%), Colombia (54.2%), Algeria (52.5%), and Malaysia (42.6%), South Africa's tertiary GER in 2020 was a much lower 27.2% (Khuluvhe and Netshifhefhe, 2022). South Africa's tertiary education participation rate was higher than Ghana's and comparable to India's between 2017 and 2020 (Khuluvhe and Netshifhefhe, 2022). According to Khuluvhe and Ganyaupfu (2023), this indicates that higher postsecondary education participation rates are necessary in South Africa.

South Africa's tertiary education participation rates are still much lower than those of similar middle-income and rising countries like China, Colombia, Algeria, Malaysia, and the Philippines, despite notable improvements in recent years. The necessity for legislative measures to increase the population's access to higher education is highlighted by South Africa's subpar performance abroad (Khuluvhe and Ganyaupfu, 2023).

Khuluvhe and Netshifhefhe (2022) discovered that there were more female students enrolled in South African higher education institutions than male students using the GER indicator. In 2017, the GER rates for male and female students were 18.4% and 26.4%, respectively. In 2018 and 2019, they stayed relatively constant at roughly 19% and 28%. However, these figures are significantly lower than the average GER for OECD countries in 2018, which was around 76.9% overall, with 74.2% for males and 79.6% for females.

By 2007, women already made up a larger percentage of South African university students than men, at 55% and 44%, respectively (Matsolo et al., 2018). Thus, in South African higher education institutions, gender equitable transition has occurred more quickly.

Mtshweni (2022) contends that historically disadvantaged universities' (HDUs') ongoing economic inferiority is one consequence of the racial isolation that Apartheid maintained in South Africa. Thus, historically advantaged universities (HAUs) like Nelson Mandela University, North West University, University of the Free State, University of Johannesburg, and WITS are seeing an increase in equity scores as more Black students are switching from HDUs to these institutions (Govinder, Zondo, and Makgoba, 2013).

According to a study by Wanti, Sari, and Nugroho (2022), factors such as gender, rurality, ethnicity, linguistic status, economic status, and geographic location significantly contribute to the issue of inaccessibility in higher education. Their research, which examined access and equity challenges across Europe, Australia, and America, revealed that industrialized nations had notably higher access rates compared to developing nations, based on 2018 OECD data.

To address the issue of affordability and to better align the student demographic at South African universities with the nation's overall demographics, the National Student Financial Aid Scheme

(NSFAS) was established (de Villiers, 2023). The NSFAS has played a crucial role in increasing access for students from low-income families, as evidenced by the steady rise in the number of Black students attending these institutions. According to Garrod and Wildschut (2021), 95% of NSFAS grantees enrolled in South African universities during the 2019 fiscal period were Black.

Essop (2020) contends that the availability of NSFAS funding and the history of unequal funding and resource distribution in favour of historically disadvantaged universities has led to the current phenomenon of Black students leaving historically underprivileged universities in pursuit of better facilities. The number of NSFAS-funded students at all historically advantaged universities is rising annually. The NSFAS has been successful in altering the physical composition of public institutions in terms of the percentage of students from disadvantaged backgrounds, as equity of access is the first step toward equity and restitution.

Due to high dropout and low graduation rates, prior research suggests that increased access to higher education for students from low-income families has not always resulted in success for the majority of those individuals (Tjønneland, 2017).

2.4 Higher education funding

At the beginning of the twenty-first century, there has never been a greater demand for higher education from both governments, who see it as a means of enhancing the social, cultural, and economic well-being of nations, and from individual students and their families, who see it as a means of achieving a particular social and occupational status (Tomlinson and Watermeyer, 2020). However, higher education is very costly, especially when its high unit or per-student costs are compounded by rapidly rising enrollment demands (Johnstone, 2004).

At public universities, funding contributes to the promotion of access, equity, and redress.
Literature has demonstrated that public university finance in many parts of the world follows one of three models: cost sharing, dual track, or totally subsidized (Laderman, Cummings, Lee, Tandberg and Weeden, 2020). When comparing the three models, it can be seen that in a subsidized model, government financing is the primary source of finance, while in a cost-sharing model, tuition fees from private sources supplement government funding. Both industrialized and developing nations have adopted a dual-track strategy; South Africa's National Student Financial

Aid Scheme (NSFAS) is one example (Mbhalati, 2023).

The government was under pressure to make higher education in South Africa more accessible to students from underprivileged communities under the new political regime (Mabokela and Mlambo, 2017). Higher education institutions had to raise tuition by more than the rate of inflation in order to "balance their books" since government appropriations fell in real per capita terms while the expense of higher education rose sharply. Although many things had begun to change before 1994, racial criteria were eliminated after that year. However, a significant portion of students from underprivileged neighbourhoods faced a new financial obstacle as a result of high tuition costs at HEIs (de Villiers, 2023).

As government funding faces increasing budgetary constraints, current trends indicate that students and their families are progressively shouldering the cost of education in most countries. In Africa, particularly in sub-Saharan Africa, the state continues to subsidize the higher education sector despite insufficient public funding (Teferra, 2013). According to the agency theory, which describes the relationship between two parties: (the principal and the agent). In the context of public colleges, the government (principal) provides funding to the colleges (agents) with the expectation that they will fulfill certain societal needs, such as providing accessible and quality education, public colleges that receive government funding are obligated to meet societal demands to fulfill their role as agents (Teferra, 2013).

Government subsidies and the NSFAS's distribution of bursaries and loans to academically and financially worthy students from working-class and impoverished households have increased in South Africa's higher education sector in recent years (Wildschut, Megbowon, and Miselo, 2020). The NSFAS was created in accordance with the NSFAS Act (Act 56 of 1999 as modified), as stated in the NSFAS Annual Report 2019/2020. Its goal was to address the inequities of the pre-1994 system by offering financial aid to undergraduate students from working-class and impoverished households so they may pursue post-secondary education.

When the NSFAS was first established, it was in charge of distributing money for loans and bursaries to qualified students and overseeing loan repayment. With a bursary component, the NSFAS functioned as an income-contingent loan. Depending on the student's academic

performance, up to 40% of the original 100% loan award could be converted into a bursary (Wildschut, Megbowon, and Miselo, 2020). Most literature agrees that NSFAS financing has significantly facilitated the enrollment of students from low-income families in South Africa's public universities (Matyana, 2023; NSFAS, 2016; Universities South Africa, 2023). However, there is ongoing scholarly debate regarding its impact on equity of outcomes, particularly in terms of redress and success.

Although the NSFAS offers qualifying students free higher education in some form, South Africa has a history of cost sharing for higher education, in which the government splits the expense of higher education with either parents or students. It's fascinating to notice that wealthy European countries are not the only ones offering free higher education. Countries in South America (Argentina, Brazil, Panama, and Uruguay), Asia (Malaysia), and Africa (Egypt, Morocco, and Kenya) that have free higher education in place were listed in the World Population Review (2022). Elbasir and Siddiqui (2018) highlight that politicians in Africa often leverage free higher education for political purposes.

According to the World Bank (2022), South Africa's GDP is $405 billion, or US$6766 per person. South Africa's GDP per capita is low when compared to other affluent nations that provide free education. The gap between South Africa's economic realities and those of the industrialized world raises the question of whether the country is prepared for free education in the long run. Both proponents and opponents of tuition-free higher education have presented strong arguments for this controversial topic.

Targeted free tuition (TFT) is expensive but is seen to have the potential to be equal. With this strategy, a sizable portion of the population that exhibits both financial need and academic potential would be the target of free tuition. In order to balance the financial burden and encourage a more equitable distribution of educational possibilities, those who can afford it would directly contribute to tuition fees.

There is potential for a well-managed cost-sharing strategy for funding higher education. Even though some academics might object, this kind of strategy guarantees that the wealthy contribute to university funding while simultaneously expanding access to higher education (Johnstone, 2003).

If the national affordability criteria are satisfied, the idea that fairness depends only on fully "free" education is legitimate. However, cost-sharing systems, particularly those that postpone expenses, have been demonstrated to improve access and success in circumstances where full funding is unfeasible due to government economic constraints, such as a regressive tax system (Johnstone, 2003). However, sufficient finance is crucial for a cost-sharing approach to be effective, especially when implemented through a loan program (Oketch, 2023).

Sufficient funding is the most important component of a successful higher education loan program. The goals of increasing equity, quality, and accessibility will not be met in the absence of adequate financing. Formal employment rates and the difficulty of recovery are closely related, especially when considering the sizeable informal work sector (Johnstone, 2003). It becomes crucial to create a finance strategy that takes these things into account. How can a system be created that takes into account people who are prepared to pay but do not have work prospects to make the repayment? Governments need to address this crucial issue (Oketch, 2023).

When used properly, loans can improve access, but they also need to have specific qualities. First and foremost, they ought to be large enough to pay for all related expenses (Mezza, Ringo, and Sommer, 2019). Second, they must be made to be reasonably priced, with low or non-existent interest rates and well-planned payback plans over time. Finally, an effective method, like integration with the tax system, should guarantee their recoverability. It is crucial to avoid viewing student loans as a panacea for the financial difficulties that plague higher education (Mezza, Ringo, and Sommer, 2019).

Due to the government's limited resources, which are required in many areas of the economy, free education in South Africa is too expensive and necessitates challenging trade-offs (Human Sciences Research Council, 2024). In a developing nation like South Africa, free education can be "financially, empirically, and morally wrong." Affordable higher education for everybody should be the main topic of discussion, not universal free education. This implies that students from various socioeconomic backgrounds ought to pay varying amounts. Requiring those in poverty who make less than a specific amount to pay for higher education is morally unacceptable. Additionally, it is morally unacceptable for wealthy people to forgo funding for higher education (Ramasu and Kanakana-Katumba, 2024).

The number of students receiving financial aid from NSFAS increased significantly over time. In 1994, just 7.6% of university pupils received funding from NSFAS; by 2020, that number had risen to over 46% (de Villiers, 2023). In 1995, NSFAS awards were worth R154 million; by 2015, that amount had grown to R7.2 billion. Even though this appears to be a significant increase, it is important to keep in mind that these figures are merely nominal and do not account for the significant rise in school expenses during this time frame.

The number of college students getting NSFAS funding increased significantly starting in 2015, going from over 179,000 in 2015 to over 504,000 in 2020 (an 181% increase). At the same time, the amount of money distributed to university students went from R7.2 billion to R30.8 billion. University students accounted for 83.2% of NSFAS funding in 2020, and the average NSFAS grant value was R61 562. A total of R144.5 billion in NSFAS support was given to 4,172,650 university students between 1995 and 2020 (de Villiers, 2023).

Since the NSFAS was established in 1995, the government has paid a total of R248.7 billion, with almost 82% of that sum flowing since 2016. It is undeniable that the government wants to use NSFAS scholarships to help disadvantaged students afford higher education. The question that this study intends to answer is whether the increase in investment translates to increased graduate employment for beneficiaries.

2.5 Higher education outputs – graduate

Higher education institutions have two goals: they must guarantee that students graduate on schedule and make higher education available to all qualifying students. It is arguable that a country's ability to survive depends more on the calibre of its university graduates than on the number of graduates it produces each year (Mvuyana, 2024). To meet the present need for highly qualified managerial and professional capabilities, short- to medium-term initiatives to boost graduate output must be implemented in addition to the long-term objective of raising the general participation rate.

A lack of good and excellent education will inevitably lead to issues because it is the cornerstone

of moral renewal and restoration in a community. Education should be viewed as a continuous process that allows a person to reach their full potential and serve the community as well as themselves.

When Full-Time Equivalent (FTE) students finish on time, they do so within the allotted "time-to-degree" for their program, which is three years for a diploma and four years for a bachelor's degree. With enrollment on the rise, increasing SA student success continues to be a significant issue for South African higher education (Roos, 2022).

The goal of higher education is to raise participation, graduation, and throughput rates. According to recent South African studies, undergraduate students have low graduation and high dropout rates and often take longer than expected to complete their degrees. The success and accessibility of students are directly related to funding for higher education. There has been a noticeable increase in students' access to higher education, and institutions of higher learning ought to give increasing student achievement their full attention. Therefore, in order to provide the assistance required for academic achievement, higher education institutions need to understand the elements that either facilitate or hinder on-time graduation (Roos, 2022).

For HEIs in South Africa, increasing graduation rates and on-time graduation are priorities. This widespread issue has sparked a lot of studies, especially those looking at what causes or hinders academic performance. Graduation rates have historically been used by HEIs as a metric to assess students' academic performance. However, the impact of the underlying issues that affect students' capacity to succeed on time is not explained by these numbers. Since there is a greater emphasis on accelerating student graduation, HEIs need to know how these characteristics either help or hinder students' performance (Roos, 2022).

Research shows that students who received NSFAS funding performed better than those who did not. Fewer of them leave the higher education system without a degree, and a larger proportion of them earn qualifications (de Villiers, 2023). The financial aid offered by NSFAS, which entails fewer risks than conventional loans from financial institutions, seems to encourage students to stay in the higher education system for longer, despite the possibility that they may not be successful at first. This is supported by the fact that fewer NSFAS students drop out before

finishing their education (de Villiers, 2023).

Since all of the existing NSFAS grants are bursaries, NSFAS student progress will need to be rigorously watched to make sure the funds are still going to successful students (de Villiers, 2023).

2.5.1 Dropouts

The phrase "drop-out" describes a student who leaves a training program leading to a higher education degree before completing it. A complicated, multifaceted systemic occurrence that might be interpreted as a cause-and-effect scenario, a training process failure or reorientation, a mandatory reaction or option, or a gauge of the calibre of the educational system (Kehm, Larsen, and Sommersel, 2019).

Over the past three decades, the phenomenon of student dropout in higher education has garnered significant attention from the academic community, government, and various social actors. This is due to its high prevalence, diverse causes, and the profound impact it has on individuals, families, Higher Education Institutions (HEIs), society, and the state (Guzmán, Barragán, and Cala Vitery, 2021).

This concept encompasses the models developed as well as the variable analysis. Its use, therefore, makes it possible to comprehend the theoretical framework of student dropout as a whole, considering the perspectives of the academic community, social agents, and the state. A multidisciplinary approach to the study of dropouts has resulted from this synthesis of perspectives, with a focus on the sociological, interactionist, organizational, psychological, and economic methods (Lázaro Álvarez, Callejas, and Griol, 2020). As a result, elements that are both intrinsic and external to the student have been analysed and categorized into four determinants: individual, academic, institutional, and socioeconomic.

The economic approach has prioritized the socioeconomic context of the student and his or her family by evaluating the cost-benefit ratio of continuing or stopping higher education, the effect of family income on the likelihood of not completing the educational process, and social class as a barrier to the development of social capital, among other factors (Guzmán et al., 2021).

Various efforts have been made to identify the factors contributing to current dropout rates and the reasons why students fail to complete their higher education. Given the multifaceted nature of dropout, diverse perspectives and methods, such as the systemic approach, school community collaborations, safe learning environments, Early Interventions, mentoring and tutoring, alternative schooling and professional development for educators, have been developed to provide decision-makers with a comprehensive understanding of dropout prevention and mitigation (Kehm et al., 2019).

According to the conditions of individual students, research has focused on analysing the effects of specific elements, such as age, gender, marital status, family environment, intrinsic reasons, and academic self-regulation, on the incidence of dropouts (Guzmán et al., 2021). Dropout frequently affects the participants in the tertiary education subsystem in a number of ways. Student dropout is influenced by various learning components, including emotion, motivation, and cognition. These factors have long-term effects, particularly on their work performance (Guzmán et al., 2021).

Due to the irrecoverable expenses incurred for education and the loss or inability to build long-term social capital, which could enhance the family's future socioeconomic and educational prospects, a student's dropout constitutes a sunk cost for the family (Moreno et al., 2019).

The realization of this occurrence implies that HEIs will have trouble fulfilling their substantive tasks since dropout represents an opportunity cost that translates into the loss of financial support, impacting the institutions' reputation and the calibre of the training programs. It will also have an impact on HEIs' revenue in terms of output grants (Kehm et al., 2019).

There are two types of consequences for the state of dropping out: social and financial. Student dropouts reflect damage to the state's resources since students who do not graduate on time (or at all) when they receive public financing deplete important financial resources that are often irrecoverable. Conversely, dropouts prevent the consolidation of the advantages of higher education by impeding the ability to improve economic output, secure democratic processes, reduce crime, and raise the average population's income (Guzmán et al., 2021).

Student dropout can hinder the progress and social change that public policies on higher education

access aim to achieve, making its prevention and mitigation crucial. Due to the widespread interest in this issue among academics, government bodies, and social actors, numerous opportunities have emerged to study dropout rates in higher education. These opportunities are particularly significant for underrepresented student groups, such as those from or living in rural areas, ethnic minorities, and individuals displaced by armed conflict.

According to the authors, gender is a reliable predictor of rural students' desire to drop out of college because women are usually more at risk from childcare and housework, whereas men who drop out usually do so because of employment obligations or exposure to second-language materials. Most studies concur that the hours allotted for the job and study conflict.

Research indicates that students who reside in or commute from rural areas, regardless of age, are at risk of dropping out, but for various reasons. Regarding this, Pillay and Ngcobo (2010) discovered that dropout rates were a result of arguments and conflicts with parents. It was shown that employment and personal commitments were the primary causes of school dropouts among older students.

The intention of students to pursue further education is strongly linked to their parents' educational attainment. Specifically, the completion of secondary education is influenced by the educational attainment of women, while the completion of higher education is correlated with the educational attainment of men (Guzmán et al., 2021). However, the same study argues that young students' completion of higher education is not affected by their parents' educational attainment (Guzmán et al., 2021).

According to Bania and Kvernmo's (2016) study of the psychological aspects of students, youth with behavioural issues often limit the number of years they study, which causes them to either choose less demanding training programs or drop out of school altogether, where the risk of dropping out is higher than for students without behavioural issues.

HEI adjustment presents a number of difficulties for students, as noted by Guzmán et al., (2021). The changed educational environment, which includes commuting, the formation of new interpersonal ties, contention with the size of the educational institution, and new academic demands, causes a "shock" that may lead to student dropout.

The decision to discontinue education can be significantly influenced by familial characteristics. Students from extended nuclear families comprising parents, siblings, grandparents, aunts, and uncles residing in the same household or from single-parent households exhibit a higher propensity to drop out of school. The stress induced by the death of a family member or close relative, when compounded with other psychological issues, often precipitates the student's withdrawal from educational pursuits (Ramírez, Urrego Velásquez, Páez Zapata, Velásquez, and Ramírez, 2020).

Students from low-income households and unfavourable social situations have significant dropout rates because of factors including employment and personal commitments, as well as the high expense of education. States have created several public programs in the form of financial assistance to make up for the financial difficulties that families encounter and to try to reduce the impact of these difficulties in the event of dropout. As a result, the most prevalent one has to do with paying tuition, either through a scholarship or an educational credit (Castleman and Meyer, 2020).

Matsolo, Ningpuanyeh, and Susuman (2016) found that the high dropout rate at public universities in Gauteng Province, South Africa, was frequently associated with the majority of students' lack of academic preparation for postsecondary education. They also pointed out that the extension of three-year degrees to four-year degrees, academic assistance programs, and the fortification of the NSFAS were among the suggestions put up by Higher Education South Africa (HESA). According to Matsolo et al. (2016), the academic performance of Black pupils and students from underprivileged families was comparatively low because of their previous high school education.

Wyness (2016) found that prior high school achievement was essential for success at university in a parallel study that involved 22 UK universities. Naidoo and Mckay (2018) share this opinion, speculating that students from low-income families would not be adequately prepared for college.

According to a study on the reasons why NSFAS-funded students drop out, Mabuza (2020)

discovered that the primary causes of student dropouts included inadequate financing, delayed money distribution, strict NSFAS standards, poor communication, and late or non-payment of allowances.

2.6 Graduate unemployment

Higher education graduates with degrees in a particular field of study who struggle or are unable to find paid employment because of a lack of valuable professional connections, job skills, or information, as well as poor economic growth, are referred to as unemployed graduates (Molobela, 2023).

According to Maharasoa and Hay (2001), it is unclear what kind of graduate the world of work wants to see coming out of higher education institutions. General competencies, social skills, personality development, problem-solving abilities, information technology capabilities, and lifelong learning abilities are all recognized as being in high demand. One of the emerging countries' biggest issues is graduate unemployment, which is gradually becoming more of a problem. An increasing number of young people with an education has been seen as university education has expanded, the employment rates, however, need to catch up (Hasan and Alvi, 2022).

A misallocation of societal resources is indicated by the degree of higher education subsidization, graduate unemployment, and underemployment, and especially the discontent that goes along with it. Additionally, they indicate some abuse of students' time and energy as well as private resources, always acknowledging that finding work is not usually the primary motivation for attending higher education (Maharasoa and Hay, 2001).

This study will now zoom in on graduate unemployment in South Africa, Africa, and internationally to provide further context on the issue.

2.6.1 South Africa's graduate unemployment

In South Africa, unemployment is a serious issue that is frequently disregarded in statistics analysis due to its complicated socioeconomic, sociological, emotional, and mental health issues. Furthermore, within the larger framework of South Africa's unemployment problem, graduate

unemployment has also become a significant worry (Makananise, 2024).

South Africans have much greater levels of education than their parents had, yet this progress has yet to lead to better career prospects (De Lannoy, Graham, and Patel, 2020). According to Statistics South Africa (2012), the unemployment rate rose faster among individuals with tertiary education than those without between 2008 and 2011.

In contrast, Graham, Williams, and Chisoro (2019) found that graduates in South Africa have better employment prospects than youngsters without post-secondary education and training due to the premium on qualifications produced by a skills mismatch. This raises questions regarding the relationship between education and work, which need to be considered in light of the fact that funding for student bursaries has increased since 2018.

In the first quarter of 2021, the youth unemployment rate was 46.3% in all sectors, according to Stats SA (2021a). 9.3% of this group had a university degree. Graduate unemployment increased by 3.2% between the first and third quarters, according to the figures from Stats SA (2021b).

Recent data indicates that the unemployment rate for graduates is 10.6% (Statistics South Africa, 2023). Nonetheless, the youth graduate unemployment rate is marginally more than the general graduate unemployment rate.

According to the Quarterly Labour Force Survey Quarter 2 (2021), unemployed graduates possess the skills and qualifications needed for a municipality to function effectively and efficiently. Finance, economics, public administration, supply chain logistics and economics, business management, information and communications technology, project management, research, operations management, town planning, human resource management, health sciences, social work, sport-cultural sciences, technicians, artisans, and many other fields are among them. (SA Stats, 2021b). While PhD graduates and postdoctoral students specialize in agriculture, MTech graduates specialize in linguistics. The fact that PhD grads are having difficulty finding respectable work after years of study underscores the scope and crisis that graduates, and the country as a whole are facing.

In South Africa, graduate unemployment has been rising for some time. The increase has primarily been attributed to diploma and certificate recipients, humanities majors, and recent graduates (Baldry, 2016). While South Africa has one of the lowest per-capita educational expenditures

worldwide, it also has one of the lowest graduate employment rates (Baldry, 2016). Despite rising government spending on postsecondary education, national participation rates in universities and TVET institutions are still low compared to other middle-income nations (Graham, Williams, and Chisoro, 2019).

Everyone agrees that structural unemployment is the most serious form of unemployment because there is a mismatch between the skills offered and those needed on the job market. This results from South Africa's historically segregated economy, which systematically disadvantages certain racial and gender groups (Wakefield, Yu, and Swanepoel, 2022).

Even though some of the new labour force entrants are reasonably educated and talented, the rate of rise in labour demand must be faster to accommodate all of them. Since achieving democracy, South Africa's growth trajectory has not kept up with the demand for more workers, and a lack of wage income prospects has further exacerbated poverty and inequality (Mayer, Gordhan, Manxeba., Hughes, Foley, Maroc, and Lolwana, 2011).

According to graduates, the largest obstacle to finding work is the ratio of job openings to graduates (i.e., a high number of graduates vs a restricted number of job possibilities). As a result, there is fierce rivalry for open positions because more graduates have the same qualifications. Another significant problem for graduates is a lack of appropriate experience, which is followed by few or no career chances in their field of study. It's important to note that, despite popular assumption, graduates do not anticipate receiving absurdly high salaries when they land a job. Getting a job, internship, or volunteer work is the top goal for recent graduates (Buthelezi, Nxumalo, and Ngema, 2024).

According to a study on youth graduate unemployment in South Africa by Mseleku (2022), there are a number of variables that contribute to graduate unemployment. Placement gives universities and industry a chance to collaborate on training future graduates in a way that is both economical and efficient. In addition to giving industry the chance to prepare students for potential industrial positions in specific industries, placement programs assist students in developing their common, transferable, technical, and interpersonal skills. Graduates' practical and communication skills are improved through industrial placement.

To improve their chances of finding employment, graduates need higher education institutions to give them more hands-on experience during their final year of study. This will allow them to gain valuable experience and prepare them for the workforce through work readiness programs, coaching, and mentorship rather than just theory (Buthelezi, Nxumalo, and Ngema, 2024).

With strategies like internship programs, efforts have been made to combat graduate unemployment, especially for recent graduates. This is supported by an increasing amount of research that indicates younger graduates are more likely than older graduates to be unemployed, with older graduates being defined as those over 35 (Mseleku and Nyawo, 2024).

Employers, educational institutions, and the recruitment sector are all very concerned about the persistent disconnect between theoretical knowledge and real-world experience in the fields of education, hiring, and the employability of individuals (Fisher and González, 2020). Both theory and practice have their place, and their coexistence is ideal. In some fields, such as teaching and engineering, practical knowledge is more significant than theoretical knowledge.

According to Buthelezi, Nxumalo, and Ngema (2024), graduates need to reskill, volunteer, and participate in internship or leadership programs to increase their employability. Graduates can get skills through internships that are not possible to master in a classroom setting, and employers can receive inexpensive labour and lower hiring expenses. Interns gain experience in customer service, professionalism, teamwork, and interpersonal skills. Additionally, students' self-efficacy, confidence, and communication all improve. Interns have a higher chance of landing a job and making more money. Profiroiu and Păceșilă (2017) found that youth who volunteer have a higher chance of finding employment.

The lack of experience and competencies that meet the demands of the labour market is the reason why fewer graduates are joining the workforce (Succi and Canovi, 2020). In order to boost the number of graduates in the workforce, internship programs are supported by a variety of stakeholders across several industries. It is well-recognised that internship programs help close the gap between industry and higher education. They make it easier for graduates of postsecondary educational institutions to enter the workforce. The majority of internship programs are offered on a short-term basis, often for six to twelve months however, some run for two years or longer. The main goal of internships is to give graduates practical work experience, which is crucial for landing a job (Buthelezi, Nxumalo, and Ngema, 2024).

The number of graduate internship programs has increased as a result of the significant rise in the graduate unemployment rate in South Africa and other nations such as Nigeria, India, Egypt, Spain and Greece (Baldry, 2016). Graduate internships are clearly quite common in South Africa and they are seen as essential to helping graduates of higher education institutions enter the workforce (Buthelezi et al, 2024).

Both companies and interns gain from the internship program. In this sense, employers benefit from the chance to evaluate their future workforce through internships, while graduates get real-world work experience and abilities. Under typical conditions, interns get to know professionals in other fields, gain exposure to the workplace, and pick up new skills like teamwork and time management. As a result, it is often known that internships benefit both employers and interns (Mchunu and Mutereko, 2020).

Even though the internship program has many advantages, it also has drawbacks and has been accused of being exploitative. For example, unpaid internships are primarily a strategy employed by certain firms to avoid labour expenses in an attempt to increase business profits. In line with this, one of the biggest drawbacks is that a graduate may not be able to obtain a job following their internship program. For a graduate, being unemployed can be extremely discouraging, as can losing one's job (Buthelezi et al, 2024).

Prior studies have demonstrated that internship programs aid in students' professional and personal growth (Prikshat, Montague, Connell, and Burgess, 2019). Although internships give recent graduates the chance to gain professional experience, they are fraught with difficulties. These difficulties include exploitation, insufficient work exposure, and inadequate mentoring (Mchunu and Mutereko, 2020).

2.6.2 Graduate unemployment in Africa

Balogun (2016) indicated that nearly half of the 10 million graduates emerging annually from Africa's over 668 universities remain unemployed. This highlights graduate unemployment as a critical developmental challenge facing the continent. Beyond hindering certain nations from achieving economic prosperity and development, it has also led to the phenomenon of jobless growth economies (Buthelezi, Nxumalo, and Ngema, 2024).

According to Aminu (2019), since 2012, the unemployment rate for people in Nigeria with post-secondary education has consistently been higher than the overall unemployment rate. While precise data for Ghana is challenging to obtain, World Bank indicators estimate that young people constitute approximately 65% of the total unemployed population, including graduates (Ampong, 2020). Yet according to Ghana's labour Commission, there are currently an astounding 700,000 graduates who are unemployed. Ampong (2020) asserts that graduate unemployment significantly negatively impacts the country's economy since it prevents the country from recovering the money it spent on the graduates' education or training because they have not found employment.

2.6.3 Graduate unemployment worldwide

In Bangladesh, 26.1% of university graduates are unemployed, according to Ferdous, Asad, and Deeba (2019). The International Labour Organization (2020) reports that, internationally, the average percentage of youth unemployment rose from 12.3% in 2008 to 13.1% in 2018. According to Hanna and Imraan (2022), despite declining unemployment, many graduates still need jobs in Southeast Asia, Indonesia's graduate unemployment was 7.5% in 2020, exceeding the country's average of 7%, and in Brunei, where youth unemployment is 21.3%, university graduates make up the second-largest group of unemployed people in the country.

According to Hasan and Sasana's (2020) study on the factors influencing graduate unemployment rates in Asian nations, graduate employment was negatively impacted by low gross domestic product (GDP), poor foreign direct investment (FDI), and high inflation. These elements are directly related to each nation's economic performance. Therefore, large rates of graduate unemployment are a hallmark of nations with slower economic growth. Thus, it is reasonable to say that graduate unemployment, especially in emerging nations, is a reflection of the economy's inability to supply enough labour.

2.7 Factors that contribute to graduate unemployment

2.7.1 Economic

There are several viewpoints regarding the variables affecting graduates' employability. The primary factor is an economy that fails to provide residents with sufficient employment opportunities. As a result, there is a relationship between a nation's economy and job creation because a rise in employment can boost the economy. A persistent economic slowdown and insufficient job creation are likely outcomes of deteriorating economies. Low labour demand, for example, is one of the major causes of both general unemployment and graduate unemployment, according to economic studies on macro-drivers. Because of the low demand, graduates who possess the necessary labour skills are likely to remain unemployed. Additionally, a number of factors, such as strikes, riots, and the COVID-19 pandemic lockdown restrictions, are more likely to cause an economic collapse (Makananise, 20204).

Graduate unemployment is a result of the COVID-19 pandemic lockdown restrictions, which limit people's freedom of mobility, lower labour demand, and economic decline. Due to economic repercussions, the pandemic also caused South Africa to experience historically high job losses, which significantly increased unemployment and slowed job development (Posel, Oyenubi, and Kollamparambil, 2021). Due to their inability to trade, a number of organizations and businesses also closed during the pandemic, and the economy is now in decline, leading to the layoff of millions of workers (ILO, 2020). These layoffs were a major factor in the high unemployment rate, according to StatsSA (2020a).

2.7.2 Environmental and financial aspects

Some graduates live in places with low economic standing and few employment options. People are frequently denied jobs in their local communities as a result of this climate. The place in which they live, being remote from economic centres, is a major obstacle to work opportunities and is the cause of the consistently high graduate unemployment rate. As a result, many unemployed graduates opt to relocate to areas with better job opportunities. However, some are compelled to remain in less advantageous locations due to financial constraints. The motivation to relocate to various residential areas is influenced by the cost of making the long

commute between residential regions and locations with employment prospects in order to look for work (Mouchipku, 2019).

Many young people lack access to information and the financial means to engage in job-seeking activities. Lack of resources includes not being able to pay for internet cafe fees that would enable people to look for work online or the high data charges associated with utilizing mobile phones (UNICEF, 2022). Furthermore, rural areas typically lack operational employment centres that offer job assistance and the most recent information about job openings. (Makananise, 2024). Because of this, many young people could rely on newspapers or the Internet to look for employment openings, which could be too costly for some.

2.7.3 Expectations of employers for recent graduates

The absence of the necessary labour skills may be another factor causing unemployment among graduates. Unskilled graduates struggle to obtain work because they lack substantial work experience. Since South African firms prefer to hire skilled workers, a lack of the necessary skills adds to graduate unemployment. Intellectual capacity, workplace skills, inventiveness and applied knowledge, and interpersonal abilities are all necessary labour skills that aren't usually immediately apparent after earning a university degree. According to Powell and McGrath (2019), "improving employability through education and training, particularly skills development training, is one way to reduce youth unemployment in South Africa."
Employers often believe that it is not their responsibility to develop the labour skills of graduates. Instead, they feel that universities should prepare graduates by offering opportunities to learn these skills. Universities can achieve this by providing higher education programs that enable students to connect their academic knowledge with practical expertise.

Graduates should be equipped with the skills required by the labour market. These skills are crucial in the workplace as they can enhance employee productivity, foster innovation, and increase job satisfaction (ILO, 2020). Workplaces are also good places for recent graduates without much experience to learn useful labour skills, this hands-on learning environment not only enhances their practical abilities but also boosts their confidence and employability in the

job market. A practicum can give students a lot of chances to gain practical experience and important labour skills. Internships play a vital role in helping graduates upskill since they can provide them a competitive edge in a job market that is becoming more complex, help them make contacts, and help them discover areas of interest. However, due to the limited availability of internship opportunities, graduates face significant challenges in securing internships (Molefe, 2020). Furthermore, the lockdown restrictions imposed during the COVID-19 pandemic have further diminished internship prospects in certain industries, such as tourism, due to restricted travel (Molefe, 2020).

The labour market's perspectives are also influenced by the prominence of universities. In just six months, 97% of University of the Witwatersrand humanities graduates found work, according to Mouchipku (2019). The idea that humanities graduates are not in demand was disproved by this data. Additionally, Makananise (2024) discovered that graduates from historically disadvantaged educational institutions had noticeably worse employment chances than those from historically privileged schools.

Graduates without jobs said that their program mostly concentrated on the theoretical side of the degree, ignoring the practical elements that could help them get ready for the workforce. Regulations during the COVID-19 pandemic, that promoted online education as a preventative measure against the transmission of the virus, may have made these conditions worse (Worldbank, 2022).

2.7.4 Tertiary academic discipline

There are significant differences in career opportunities amongst academic disciplines in South Africa, such as the humanities and sciences, and graduates of some programs face greater unemployment rates. For example, a number of studies have revealed that graduates in the humanities had a higher unemployment rate than those in engineering. Compared to graduates in education, the humanities, and the arts, graduates in medical science and engineering have a higher employment rate (Makananise, 2024).

The largest percentage of graduates between 2010 and 2016 came from the humanities, followed by science, engineering and technology, business management, and education (Mouchipku, 2019).

While Mncayi (2021) contends that a graduate's route to employment is contingent upon their field of study, (Fourie, 2017) argues that the subject of study does not necessarily predict employment probability in the labour market.

2.7.5 The absence of social capital

Lack of knowledge about job openings from one's social networks is another major factor contributing to graduate unemployment. Because of limited referrals and information availability, graduates who do not have social ties to others who might be able to discuss job opportunities may face challenges in their job hunt (Makananise, 2024).

It may be considered crucial for graduates to have social capital in the form of friends and family who, via their social networks, can recommend jobs that would help them negotiate the labour market. According to Makananise (2024), one of the most significant factors influencing the effectiveness of job searches in South Africa is social networking, particularly "connections."

2.7.6 Individual traits

Due to company preferences, personal traits like gender, age, and colour may also influence how long a person stays unemployed after graduation. The research that is currently available shows that, in the South African context, biographical traits like gender, age, and race all play a role in the transition from higher education to the workforce (Makananise, 2024).

Research shows that when the time between earning a degree and starting a career increases, graduates' odds of staying unemployed increase with the length of time they are unemployed (Altonji, Kahn, and Speer, 2016).

Periods of unemployment on a resume are frequently interpreted by employers as signs of low productivity, which increases the likelihood that the applicant won't land a job. Consequently, graduates who have experienced extended spells of unemployment typically hold lower-skilled

jobs that don't call for further training.

According to South African academics, discrimination against female graduates occurs in the job market. Accordingly, people think that young men are more likely than young women to find work (Makananise, 2024). The African Development Bank (2012) provided evidence to support this claim, stating that young women were more likely than young men to be unemployed in eight of the twelve Sub-Saharan African nations studied.

Race has an impact on employment as well. Despite the implementation of employment equity rules in 1994, South Africa's highest unemployment rate among graduates is among Black graduates. The research findings, which indicate that a greater percentage of Black graduates came from historically underprivileged institutions than White graduates from historically privileged institutions, help to explain why the unemployment rates for Black and White graduates differ. Additionally, Black job searchers are more prone to become discouraged or economically inactive after first aggressively pursuing employment. Since White graduates frequently use their friends or family as networks to access the labour market, they might also have stronger networks than Black graduates (Pillay, 2022).

2.8 Graduate unemployment theories

Several theories have been proposed to explain graduate unemployment, each offering different perspectives on the causes and remedies. These theories highlight the complex and multifaceted nature of graduate unemployment. Addressing this issue often requires policy changes, educational improvements, and economic strategies. The researcher discussed each theory briefly and its relevance to South Africa's graduate unemployment problem.

2.8.1 Structural unemployment theory

According to the structural unemployment theory, a mismatch between the skills that employers require and those that graduates possess is the root cause of graduate unemployment. Economic shifts and technological advancements can render certain skills obsolete, leading to structural unemployment. Baldry (2016) focused on how social inequality and structural economic changes contribute to graduate unemployment. Graham, Williams, and Chisoro (2019) examined the discrepancy between graduates' skills and labour market demands and found that while there are

shortages in fields such as IT, finance, and engineering, many graduates hold degrees in areas with limited employment prospects, yet government bursaries continue to fund such qualifications.

Industry and educational institutions should collaborate to ensure that curricula meet current and future labour market demands. Graham, Williams, and Chisoro (2019) and Baldry (2016) suggested that this collaboration could reduce the gap between graduates' skills and employers' needs. Moyo and Sibanda (2019) recommended prioritising STEM education to close the skills gap in high-demand industries. Promoting lifelong learning and providing opportunities for recent graduates to retrain and upskill would help them stay current with evolving job requirements and technological advancements, according to Mncayi and Dunga (2020).

2.8.2 Human capital theory

The human capital theory posits that education and training are investments in human capital. Graduates may face unemployment if they lack the necessary skills or if their degrees do not align with market demands. This theory emphasises the importance of aligning educational outputs with labour market needs. Allais (2017) highlighted the significance of matching educational achievements to labour market demands. Meyer and Mncayi (2021) explored the impact of education and training as investments in human capital on employment outcomes. Their study emphasized how investments in education and training can enhance an individual's skills and productivity, thereby improving employment outcomes.

To ensure that graduates possess the skills and abilities required by the labour market, Allais (2017) recommended increasing investments in high-quality education. Meyer and Mncayi (2021) suggested offering career counselling and guidance services to help students make informed decisions about their educational and career paths, ensuring their choices align with market demands. Nkosi and Mkhize (2020) advocated for internships and work-integrated learning initiatives to provide students with real-world experience and enhance their employability.

2.8.3 Keynesian theory of unemployment

The Keynesian view of unemployment attributes the root cause of unemployment, particularly graduate unemployment, to insufficient aggregate demand in the economy. During recessions, reduced demand for goods and services leads to lower production and, consequently, fewer job opportunities. De Lannoy, Graham, and Patel (2020) noted that high unemployment rates result from the economy's lack of aggregate demand. Wakefield, Yu, and Swanepoel (2022) examined cyclical unemployment and the need for government intervention to stimulate demand.

De Lannoy, Graham, and Patel (2020) suggested implementing fiscal policies to stimulate economic growth, such as increased public spending on social programmes and infrastructure projects, which could create job opportunities. Wakefield, Yu, and Swanepoel (2022) recommended providing financial incentives, training, and market access to SMEs, which generate a significant number of jobs. Mncayi and Dunga (2020) proposed strengthening social safety nets to support unemployed graduates during economic downturns and provide opportunities for retraining and upskilling.

2.8.4 Overeducation theory

The overeducation theory argues that graduate unemployment may occur when there are more graduates than jobs requiring their specific degrees. This surplus of educated individuals can lead to underemployment or unemployment as graduates compete for a limited number of suitable positions. Buthelezi, Nxumalo, and Ngema (2024) investigated the issue of overeducation and its impact on graduate unemployment.

Rogan and Reynolds (2019) found that an excess of graduates leads to unemployment and underemployment. Graduates often accept positions that do not require a degree, resulting in underemployment and displacing less-educated workers who could have filled those roles. To balance the supply of graduates with labour market demand, Buthelezi, Nxumalo, and Ngema (2024) recommended monitoring and regulating the number of graduates in various fields. Rogan and Reynolds (2019) suggested promoting vocational training and education in high-demand areas

to reduce the oversupply of graduates in certain academic disciplines. Mncayi and Dunga (2020) encouraged graduates to consider diverse career options, including self-employment and entrepreneurship, to reduce reliance on traditional job openings.

2.8.5 Skill-Biased technological change (SBTC)

This theory explains that technological advancements increase the demand for highly skilled workers while reducing the demand for low-skilled workers. Graduates with less in-demand skills may struggle to find employment. The ILO (2020) examined how technological advancements increase the demand for highly skilled labour while decreasing the need for low-skilled labour.

Moyo and Sibanda (2019) studied the impact of technological changes on the demand for different skill levels. The ILO (2020) suggested that incorporating digital skills and technology-related courses into the education system would prepare graduates for the demands of a technology-driven labour market. Moyo and Sibanda (2019) recommended fostering partnerships between academic institutions and tech companies to provide students with access to the latest technologies and industry practices. Wildschut, Rogan, and Mncwango (2020) advocated for promoting innovation and research in higher education institutions to develop new technologies and solutions that can create employment opportunities and drive economic growth.

While there has been a significant improvement in access to higher education, economic benefits still need improvement. Spending on education that doesn't result in the desired results over time will only harm the nation's finances by slowing economic growth and increasing unemployment (Dachito, Alemu, and Alemu, 2020). Increases in higher education financing must be complemented with equitable job opportunities if they are to have a good impact on social mobility and inequality reduction. The performance of university graduates in the job market serves as an essential barometer of development in this regard.

2.9 Research Gap

The preceding sections have provided a comprehensive overview of higher education in South Africa, emphasizing historical inequalities, funding mechanisms, policy developments, and the challenges related to access and graduate unemployment. However, several gaps in the existing research have been identified, including the impact of funding models, equity and inclusion, regional disparities, and graduate employability. The study's focus on the employability of graduates who received different types of funding provides valuable insights into how financial support impacts job outcomes and can inform policies to improve graduate employability.

By addressing this gap, the study aims to contribute to a more comprehensive understanding of the factors affecting graduate employability in South Africa and to propose solutions that can enhance the effectiveness of funding models, promote equity and inclusion, reduce regional disparities, and ultimately improve the employment prospects of graduates.

Chapter 3: Research Methodology

3.1 Introduction

The literature evaluation on access, funding, graduation rate, and graduate unemployment were the main issues discussed in the previous chapter. The type of methods and the criteria utilized to choose study respondents are the main topics of this chapter. The proper instruments and techniques used in the study are discussed, as well as data collection, assumptions, and ethical clearance.

According to Bryman and Bell (2014), research is motivated by a number of methods. These are the following: Deductive logic, inductive reasoning, scientific method, critical thinking, and collaborative work. Bryman and Bell (2014) define the scientific method as the process of determining facts objectively via testing and experimentation. Generating an observation, developing a hypothesis, making a prediction, carrying out an experiment, and lastly, interpreting the findings is the fundamental procedure. The scientific method's principles may be applied in a variety of fields, including scientific study, business, and technology.

This study used an interpretivist methodology and an empirical approach. Descriptive statistics was adopted by the researcher due to time constraints and to ensure that there was certainty. Descriptive statistics precisely described the data that was collected through the survey questionnaire.

This study is descriptive in that it explores higher education student funding and graduate employability at a higher education institution in South Africa. The researcher employed a cross-sectional survey research design. No attempt was made to control the person or condition; instead, this descriptive study interprets and characterizes the current status as it emerges spontaneously (Mertler, 2016). Cross-sectional studies involve analysis of data from a sample of a population at a specific time point (Wang and Cheng, 2020). The cross-sectional study is different from other types of observational studies as it does not follow individuals over time. As a cross-sectional study, the characteristics of a sample are measured at a single point in time by the researcher.

This researcher used a survey to collect responses to a questionnaire. As a result, the study lends itself to quantitative research methods. The methodological justification came from Mabeba and Mamokhere (2021), who define a quantitative method as one in which the researcher employs a survey design to collect data, including but not limited to participant opinions, attitudes, and experiences. To get numerical indices that match the features of the quantitative research, the quantitative method typically employs instruments or tools like closed-ended questionnaires with a Likert rating scale. Quantitative research methods use statistics and computations to describe and quantify the frequency of occurrences. Quantitative studies mainly examine relationships between numerically measured variables with the application of statistical techniques (Black, 1999).

According to Creswell (2021), analysing a sample of the population will be able to give a quantitative or numerical description of the trends, attitudes, or opinions of that population. This would include a cross-sectional study that collects data using unstructured interviews or questionnaires with the goal of extrapolating findings from a sample to the entire population (Creswell, 2021).

To draw generalizations from a broad population, the study employed quantitative research, which is effective for relationships, patterns, attitudes, and other kinds of variables. Using statistics, quantitative research makes it possible to identify trends and is far more specialized and less objective or biased. In this instance, an online questionnaire that the researcher designed is used for survey research. Respondents were chosen from a list of graduates supplied, and this was used to formulate a sample.

The main purpose of this study was to explore higher education student funding and graduate employability at the University of Technology in KZN, South Africa. There were questions that were structured to be completed online through an online link. The main aim of this research was to:

- To establish a link between higher education student funding and graduate employment rates.
- To ascertain the effects of increased higher education student funding on graduate

employment.

3.2 Aim of the study

The study aimed to determine whether there is a connection between increasing student higher education spending and graduate job employment in South Africa, with a focus on a specific Higher Education Institution in KwaZulu-Natal. The intentions of the sector are to increase the number of graduates in the country, to improve the employment prospects of such graduates, and ultimately, the economy of the country. By focusing on a particular institution, the study aimed to establish a replicable methodology that can be adopted by other researchers and applied anywhere in the country to further explore the subject matter and enrich the available literature.

3.3 Respondents and the study site

The study area is South Africa because the University of Technology, where students graduated from, is in South Africa, KwaZulu Natal, yet students could come from all over the world, but the higher education student funding in question normally covers South African citizens only. Graduates who graduated with a National Diploma/Diploma/3-year Degree/4-year Degree in the 2021 reporting year were included in this study. The list was obtained from the management information systems unit of the university.

3.4 Data collection strategies

3.4.1 Sampling and determining sample size

The population of the study was students who graduated from the University of Technology in KwaZulu Natal in 2021. Official raw data was obtained from a Senior Information Analyst in the Management Information Systems unit of the institution, after submission of the request for data, which was accompanied by a gatekeeper permission and ethical clearance obtained from the Humanities and Social Science Research Ethics Committee of the University of KwaZulu Natal.

Raw data was cleansed by the researcher by removing those who graduated with a higher certificate and postgraduate qualifications to enable the researchers to establish the study population and sample effectively. This resulted in a study population of 6238 which could be

broken down further as shown in table 1. The population contained 2694 (43%) males, and 3544 (57%) females, which is in line with previous findings regarding gender dispensation in higher education in South Africa. The population was further broken down according to gender, with 5640 (90%) being of African descent, 503 (8%) Indian, 61 (0,98%) coloured and 34 (0,55%) white.

Race	**Male**	**Female**	**Total**	**% of population**
African	2358	3282	5640	90.41%
Indian	290	213	503	8.06%
Coloured	27	34	61	0.98%
White	19	15	34	0.55%
Total	2694	3544	6238	

Table 1: Classification of population

From the population, a sample was selected using a stratified probability sampling method to ensure an accurate representation of the study population sub-categories.

According to Rahi (2017), probability sampling is a sampling technique where every unit has an equal chance of being chosen. Stratified sampling entails segmenting the population into subpopulations that may differ significantly. It provides each stratum with proportionately equal representation, and it enables the researcher to make more exact conclusions by ensuring that each subgroup is well represented in the sample (Levy and Lemeshow, 2013).

Since survey research aims to describe demographic characteristics, a probability sampling approach was used to pick the sample in order to guarantee a more accurate representation of the population. While probability techniques increase the probabilities, no sampling strategy can provide a perfect representation. Since the survey researcher is collecting and evaluating data from a smaller fraction of the larger group in an attempt to depict the total population, accurate representation is required (Mertler, 2016).

Utilizing stratified sampling, the researcher determined the sample sizes for each demographic group, aiming for a sample size that represents 20% of the total population. Consequently, 1200 participants were selected for the study, yet only 176 of the 1200 (14.67%) responded to the

invitation to participate in the study and filled out the study questionnaire.

Respondents were classified as per table 2, with 97,59% being African, 2,84% Indian and 0,57% coloured reflecting breakdown of the study population as per table 1.

Race	**Male**	**Female**	%
African	82	88	96.59%
Indian	2	3	2.84%
Coloured	1	0	0.57%
Total	85	91	176

Table 2: Classification of Respondents/Sample

An adequate sample size ensures sufficient statistical power to detect significant relationships or differences in the data. According to Andrade (2020), a well-powered study increases the likelihood of identifying true effects and reduces the risk of Type II errors, or false negatives. Additionally, an appropriate sample size provides a reasonable margin of error for most social scientific research, ensuring the validity and generalizability of the findings.

To generalize the results, the sample must be representative of the population. Schuster, Kaiser, Terhorst, Messner, Strohmeier, and Laireiter (2021) highlight the critical role of sample size planning in ensuring a representative sample that accurately mirrors the diversity of the population. Stratifying the sample by gender and race helps capture this diversity and enhances the study's external validity.

3.4.2 Data collection

To gather respondent feedback, the survey was created using Google Forms, and the findings were then captured in Excel before they were imported into the IBM Statistical Package for Social Science (SPSS) software for analysis. Graduates who completed an online survey form were the survey respondents, and the data was gathered using a questionnaire that the researcher designed. Before being distributed, the questionnaire was pilot-tested, Only 176 respondents completed the questionnaire.

3.4.3 The acceptable return rates

A 60-70% rate of return or higher is regarded as exceptionally good, while the literature evaluation indicates that a 50% rate of return is good. According to this study, 176 out of 1200 questionnaires were completed, representing a 14.67% response rate. In their study, Meterko, Restuccia, Stolzmann, Mohr, Brennan, Glasgow, and Kaboli (2015) address the significance of survey response rates, stressing that although conventionally high response rates (70–85%) are advised, lower response rates can still yield reliable data if nonresponse bias is properly assessed and minimized.

3.5 Methods and design of the research

The most effective techniques for gathering, analyzing, and interpreting data in a study are determined by the chosen research design. It is crucial to consider factors such as population size and the ease of recruitment before selecting specific methods and protocols. Descriptive research examines a situation as it exists without making any changes, and it is not intended to identify causal relationships. Exploratory research is a flexible and open-ended design that aims to understand study issues more deeply (Creswell and Poth, 2017).

Using a quantitative research methodology and questionnaires, this descriptive study enables the researcher to gather numerical data to characterize the issue and analyse higher education student funding and graduate unemployment.

Given that it was not feasible to include every member of the research population in the study, sampling was done. To perform realistic research, a small number of respondents were chosen from the population. This sample represented a trade-off between what was desired and what was achievable, especially when stratified probability sampling was used. In quantitative research, conclusions about the population are drawn from the sample (Bhandari, 2023).

3.5.1 Data handling and administration

The last step in the data collection process was administering a survey. A schedule was made to specify the precise tasks that needed to be finished with timelines. Respondents received a follow-

up email reminding them to respond to the survey. According to Mertler (2016), requests to complete a survey almost often require follow-up, which increases response rates. The cover letter, consent form, and questionnaire were prepared and emailed to each respondent. An email with a hyperlink to the Google Forms survey was sent to each respondent, after that, the data was examined (Creswell, 2021). In the social sciences, the survey method is widely used and linked to the deductive research methodology (Rahi, 2017).

3.5.2 Research techniques

The study investigated the impact of higher education student funding on graduate employment at a university of technology in South Africa. An online survey that employed the quantitative research method was selected as the technique.

3.5.3 The study's methodology

The quantitative method was used in this investigation. This approach entailed measuring variables using a numerical system, Surveys were one of the quantitative research methods used. When conducting this kind of study, it is crucial to formulate the research question before deciding on a theoretical method. This approach relied on gathering numeric data in order to understand the issue (Bauer, Churchill, Mahendran, Walwyn, Lizotte, and Villa-Rueda, 2021).

Among the many benefits of quantitative research methods is the ability to provide definitive answers to the study questions and the generally reliable results that were gathered and examined, which could also be extrapolated to the population. However, this approach also has drawbacks, such as failing to examine the why and how of the event and failing to take into consideration people's opinions and impressions (Bauer et al., 2021).

To uncover the answers to the research questions and achieve the goals of the study, each business and management research project must use numerical data or contain data that could help with quantification. One might use a variety of quantitative methodologies, such as questionnaires containing closed-ended questions. The questionnaires have the advantages of being fair, less time-consuming, and possibly the most economical way to collect data from respondents. The ability of the numerical data to yield information to address the research

questions is essential to quantitative research (Bauer et al., 2021).

Due to the geographical dispersion of respondents, in-person contact and reminders to complete the questionnaire was not possible. Consequently, the survey facilitated the collection of data from respondents. To ensure the data's utility, it was meticulously examined and interpreted. The quantitative data analysis and visualizations were conducted using Microsoft Excel, while more advanced statistical analyses were performed with IBM SPSS.

3.5.4 The informed consent

When respondents provided their informed permission, it indicated that they were aware of the goal of the study, felt comfortable with the intended use of the data they were contributing, and understood and accepted what was expected of them. Creating a formal informed consent form that each research respondent could read, comprehend, and sign off on was the most open way to accomplish this (Carter, 2018).

The consent form included on the survey invitation described the study to be conducted, its purpose, its goal, and its methodology, and provided the researcher's contact information. Along with the permission number, the form stated that the project had undergone ethical assessment and had been authorized by the UKZN Humanities and Social Sciences Research Ethics Committee. The respondent's involvement in the study was entirely voluntary, and they could leave at any moment without facing any repercussions. It also declared that there were no financial benefits to taking part in the study. Additionally, the participant's records were guaranteed to remain anonymous and confidential (Carter, 2018).

3.5.5 Ethical clearance

This encompassed the standards, beliefs, and principles that governed the behaviour of individual researchers in a variety of domains, such as the planning, execution, and reporting of the research. Institutional review boards assessed the research ethics' ability to mandate data collection by human subjects. Ensuring that ethical considerations were taken into account was crucial when conducting the research study. By presenting the proposed study and the questionnaire as a tool used, authorization was obtained prior to the study's start from the gatekeeper's office of the University of Technology's research office (Appendix 1).

In order to avoid problems like victimization and social stigmatization, great care was taken to preserve the respondents' anonymity. To acknowledge that participation in the study was voluntary, a permission form was given to the participants (Creswell, 2021).

The University of KwaZulu Natal Ethics Committee approved the research proposal, HSSREC/00007118/2024 (Appendix 2). When working with the respondents, the researcher embraced the actual assessment concept, which was founded on accountability, professionalism, transparency, and involvement. The consent form was shared with respondents prior to their involvement in the study. Respondents were given a detailed explanation of the study's goal, scope, and intended use of the results in the consent form. It was also underlined that participation in the study was entirely optional, that respondents would remain anonymous, and that the confidentiality of the data they provided would be preserved throughout the investigation.

3.5.6 Characteristics of the questionnaire

Two essential characteristics of the measurement device are its validity and reliability. There will be no useful data from a study that uses a measuring device that lacks one or both characteristics. Therefore, the study's measuring tool must be both valid and reliable (Sürücü and Maslakçı, 2020). Generally, a measuring device can be both valid and reliable simultaneously. However, if it is valid, it is likely also dependable.

The rigour of research procedures and the credibility of research findings can be shown and communicated through reliability and validity. Research must refrain from deceiving its users if it is to be beneficial (Roberts, Priest, and Traynor, 2006). Numerous aspects of the research determine its credibility, including the original research topic, the methods used to collect data (including when and from whom), the analysis performed, and the findings reached.

3.5.6.1 Validity

The idea of validity is more nuanced, it has to do with how closely what we think we are measuring matches what we meant to measure. The right and relevant interpretation of the data derived from the measuring device as a consequence of the analyses is what establishes validity (Sürücü

and Maslakçı, 2020).

Content validity and construct validity are two forms of validity that are widely acknowledged to be especially significant in the literature. Content validity was adopted by the principal researcher.

3.5.6.2 Reliability

The capacity of measurement tools to produce comparable outcomes when used at various times is known as reliability. The degree to which a specific test, process, or instrument, like a questionnaire, will yield comparable outcomes under various conditions, presuming nothing else has changed, is known as reliability. Reliability is indicated by a high positive correlation between the measuring device's results. For the study's findings to be sound, the measurement device's reliability is a crucial factor. The alpha reliability coefficient is the most favoured internal consistency test (Sürücü and Maslakçı, 2020).

Even though there are various interpretations of Cronbach's alpha in the literature, table 3 shows the generally recognized method.

Cronbach Alpha Criteria	**Classification**
>= 0.9	Very good
0.8 to 0.9	Good
0.7 to 0.8	Acceptable
0.6 to 0.7	Moderate
0.5 to 0.6	Bad
< 0.5	Not acceptable

Table 3: The Classification of Cronbach's Alpha Coefficient.

Source: Barbera, J., Naibert, N., Komperda, R., and Pentecost, T.C. 2023. Clarity on Cronbach's Alpha Use. Journal of Chemical Education, 100(4), pp. 1234-1245.

In this study, the reliability of the tool was assessed, resulting in a Cronbach's alpha score of 0.652. This score suggests moderate internal consistency, which is understandable given that the questionnaire was designed to examine multiple constructs rather than a single unidimensional construct. Evaluating various constructs can provide a comprehensive understanding of the

phenomenon under investigation (Fernandez, Walker, Weiner, Calo, Liang, Risendal, Friedman, Tu, Williams, Jacobs and Herrmann, 2021).

3.6 Data analysis

All the information obtained from the questionnaires was analysed using descriptive statistics like frequency and percentages. Prior to being transferred to the Statistical Packages for Social Sciences (SPSS) for analysis and the creation of presentation graphs, the coded results were first recorded on an Excel spreadsheet. The main instrument used in this study to gather data was the questionnaire, which was sent to respondents via email. The SPSS software, version 29, was used to analyse the data collected from the respondents. For the quantitative data that was gathered, the results have been presented as descriptive statistics using graphs and other figures in chapter 4.

3.7 Conclusion

Out of the 1200 respondents selected to participate in the study, only 176 completed the survey questionnaire. Analysis of the data was done using the MS Excel and IBM SPSS software. The study's techniques were reliable and valid, which helped collect pertinent data. The results will be presented and examined in the next chapter.

Chapter 4: Data analysis and presentation

4.1 Introduction

This chapter will focus on analysing and presenting the data collected through the questionnaire administered to graduates of the University of Technology. The data was examined using IBM SPSS software. The results will be presented as descriptive statistics, illustrations, and various figures to effectively convey the quantitative findings.

4.2 The instrument of study

Through the questionnaire, the researcher aimed to solicit quantitative data to answer the research question: Is there a link between student higher education funding and graduate employment? During their research Mouton, Louw, and Strydom (2020) examined the effect of financial aid on student success at a South African institution using a structured questionnaire to gather data from a sample. Smith and Brown (2021) employed a questionnaire to collect information from students at several universities to investigate the connection between student funding and academic results in higher education. The impact of government bursaries in assisting students with their studies was investigated by Ngwenya and Mahlangu (2019), where Students from several universities were given a survey. The researcher used a survey questionnaire to collect data from the participants.

4.3 The Biographical data of the respondents

Given the participant demographics, the primary focus was on the respondent's age, gender, ethnicity and field of study, which were examined in more detail below. Examining biographical information helps organizations better customize their support services to the various demands of their student bodies. Biographical information is required for better decision-making and a better understanding of student demographics (Stojanov and Daniel, 2023).

In their investigation into how student finance affects academic performance, Smith and Brown (2021) examined the ways in which various demographic groups profit from financial aid using biographical data. According to their findings, recognizing financial discrepancies and guaranteeing equitable access to educational resources depend on biographical data.

4.3.1 The gender of the respondents

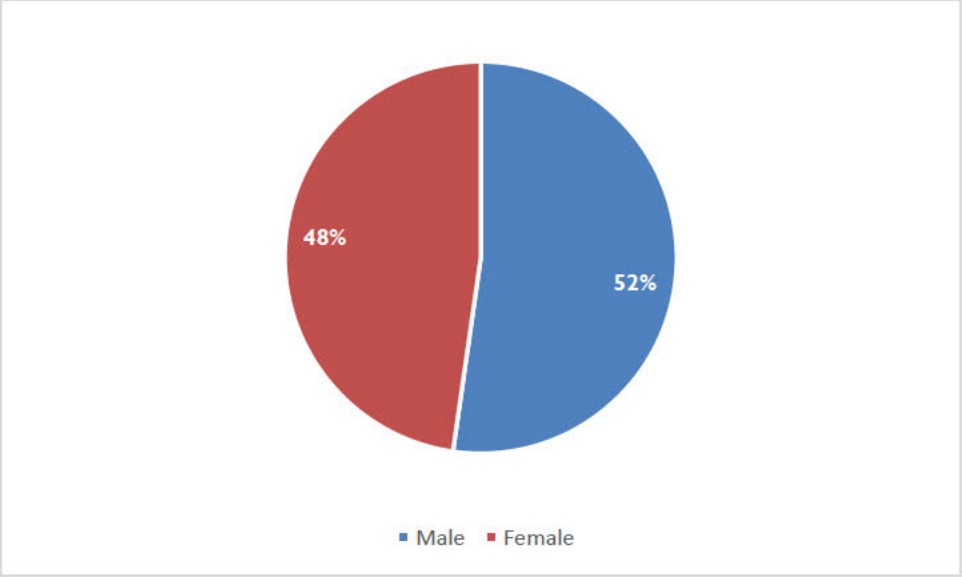

Figure 1: Respondents by Gender

As can be seen in Figure 1, 52% of respondents were females, while only 48% were males. This can be interpreted as that females now have more access and throughput at higher education institutions compared to males. This contrasts with a study that was conducted by Adetiba (2019), who discovered that massification has not helped all groups equally, pointing out that gender differences still persisted, notably for women from underprivileged families who encounter additional obstacles to obtaining higher education and succeeding academically. The same sentiments were shared in a global context by Tight (2019), who concluded that gender inequality was a serious issue since women are frequently underrepresented in higher education and in particular fields of study. CHE (2021) observed that although gender equity has improved, there were still major obstacles to overcome, highlighting the necessity of ongoing initiatives to rectify gender disparities in faculty representation and student enrolment.

A study by Adetiba (2019) highlighted a number of effective programs designed to reduce gender inequality and increase women's access to higher education in South Africa. In his article he lists several scholarship programs designed especially for underprivileged women,

mentioning that these grants enable more women to seek higher education by lowering financial barriers. Programs that offer female students support systems and mentorship are also covered. These initiatives seek to establish a nurturing atmosphere that supports women in overcoming the obstacles of postsecondary education and achieving academic success. Certain initiatives aim to boost the number of women pursuing STEM careers. Outreach programs, workshops, and industry partnerships are some of the initiatives aimed at encouraging more women to pursue careers in historically male-dominated industries by offering real-world experience.

4.3.2 The race of the respondent

Figure 2 represents the race classification as selected by respondents, indicating that Africans were the dominant race with 96.59%. This is followed by Indians at 2.84%, then coloured at 0.57%. Due to the physical location of the institution, these results were anticipated. This is also in line with South African government policy and efforts to improve higher education access for African students since the inception of democracy. Naicker (2021) reveals that although the number of African students enrolled has increased, there are still notable racial gaps, especially in historically white institutions.

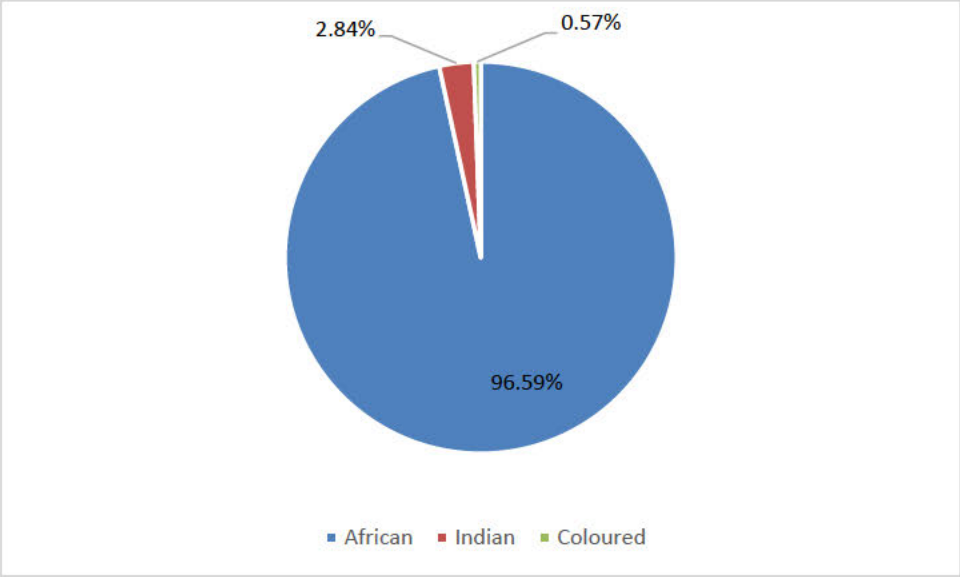

Figure 2: Respondents by Race

In their study, Mabokela and Mlambo (2020) revealed a notable rise in the number of Black students attending South African universities. However, the fact that the increase was not consistent across all institutions worried them. Significant racial discrepancies still exist, especially

in historically white institutions, even if the number of black students enrolled has increased overall. Black students continue to be underrepresented in these esteemed universities and in several highly sought-after disciplines. Their study also pointed out that although the number of Black students enrolment has increased overall, the statistics for coloured students paint a more nuanced picture. In many institutions of higher learning, especially historically white universities, coloured students continue to be underrepresented. In contrast to other racial groups, coloured students confront difficulties. Socioeconomic hurdles, restricted access to high-quality primary and secondary education, and an absence of focused support programs in higher education are some of these issues.

4.4 Graduation to first Job

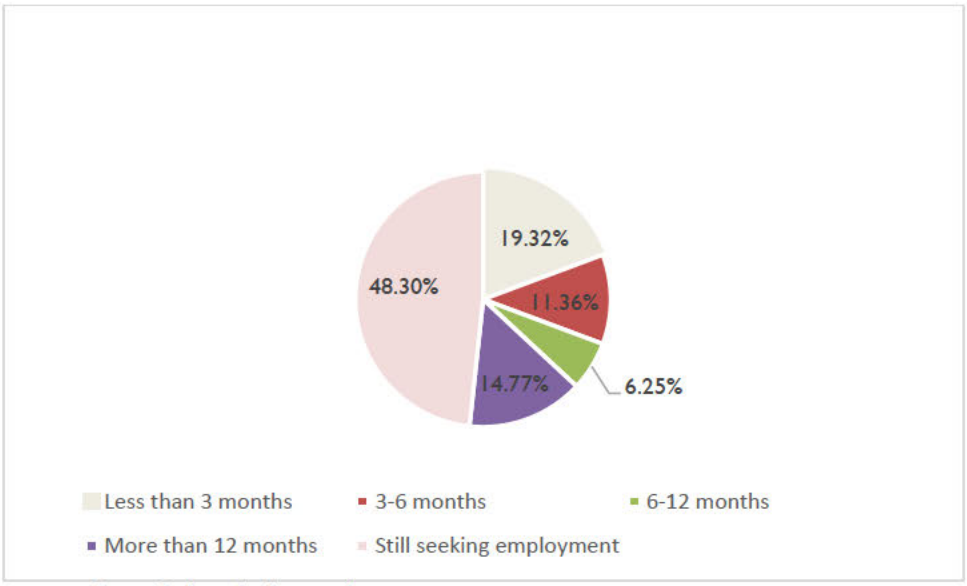

Figure 3: 1st job after graduation

From the data collected, it can be seen that 48% of respondents are still seeking employment, with 14% indicating that it took them more than 12 months to find employment after graduating while only 19% indicated that it took them less than 3 months. The transition of South African graduates from higher education to employment was studied by Rogan and Reynolds (2019). They discovered that it took about six months on average to find work following graduation, which is in contrast to the findings of this study. Van Broekhuizen and Spaull (2020) used information from the Higher Education Management Information System (HEMIS) to examine the employment outcomes of South African university graduates. Their research shows that although most graduates find work within a year, there are notable variations according to race and kind of

institution.

The job outcomes of graduates from various fields of study in South Africa were investigated by Moleke (2020), who used data from a national graduate survey and discovered that the average time to find work varied greatly by field. For example, graduates in the health sciences and engineering fields typically found jobs within three months, whereas those in the humanities and social sciences frequently took up to a year. Using a mixed-methods approach that included surveys and interviews, Kraak (2021) discovered that graduates often take six months to find jobs and that graduates from remote locations and those without previous work experience have a lengthier period.

4.5 Employment status

This question sought to establish the employment status of the graduate. From the five options that were provided, 52.84% of respondents indicated that they were Unemployed, 22.73% were employed full-time, 18.18% were employed part-time, 4.55% were Studying and 1.70% were self-employed as shown in figure 4. This reinforces previous studies that have found a high unemployment rate among graduates, especially African graduates. Mncayi and Meyer (2021) discovered that among South African recent graduates, unemployment was a major problem.

Baldry's (2016) study underscored the persistent social inequities affecting graduate employment in South Africa, emphasizing the need for structural reforms to address these disparities. The research revealed that graduates who completed internships were more likely to secure employment swiftly compared to those who did not.

According to Ndamase and Lukman (2024), internships greatly increase employability by exposing students to real-world work settings and experiential learning. They also showed that paid internships were more successful in lowering unemployment because they gave students financial support and motivation. Internships, which typically lasted 12 months, were determined to be essential for giving graduates work experience and improving their employability by Pietersen and Malatjie (2024). Graduates' financial burdens were lessened by paid internships, which freed them up to concentrate on obtaining worthwhile work experience.

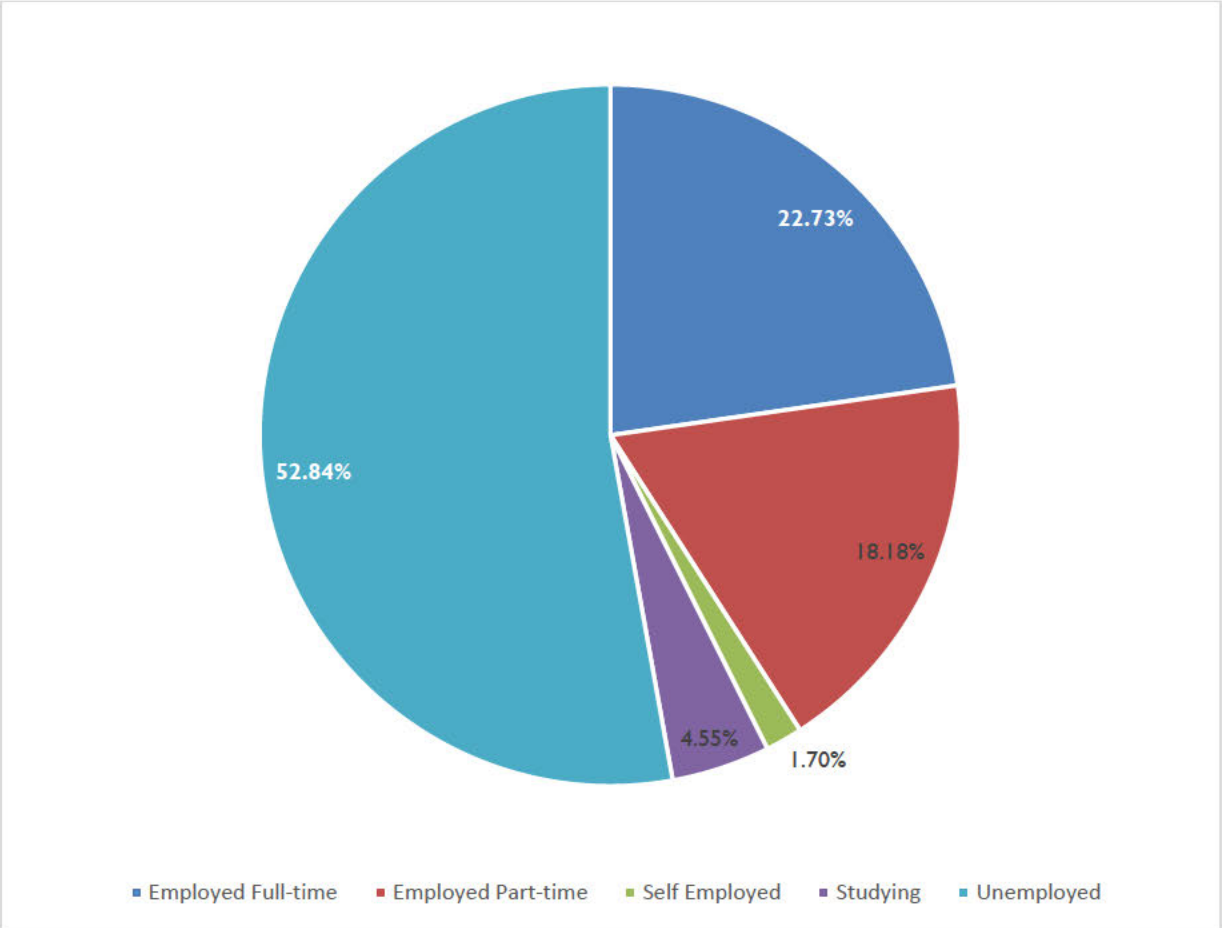

Figure 4: Employment Status

4.6 Source of funding

Studies indicate that more than 60% of students in higher education institutions are funded by NSFAS (DHET, 2024; Wangenge-Ouma and Cloete, 2020; Mdepa and Tshiwula, 2021). This is in line with the data collected where 85.80% of respondents indicated that NSFAS funded their studies. Mdepa and Tshiwula (2021) found that the National Student Financial Aid Scheme (NSFAS) was essential in helping students from low-income families get financial support.

NSFAS funding assists students by reducing their financial load so they may concentrate more on their education. Their study also found that student progress is influenced by private scholarships and bursaries. These private funding sources assist in bridging the gaps in governmental funding and give needy students extra assistance (Mdepa and Tshiwula, 2021), of which 6.82% of the respondents, as indicated in Figure 5. Surprisingly, the number of respondents who self-funded

their studies was 6.82%, and those with scholarships were 1.70%, which is comparable to the findings of 10% by Mdepa and Tshiwula (2021).

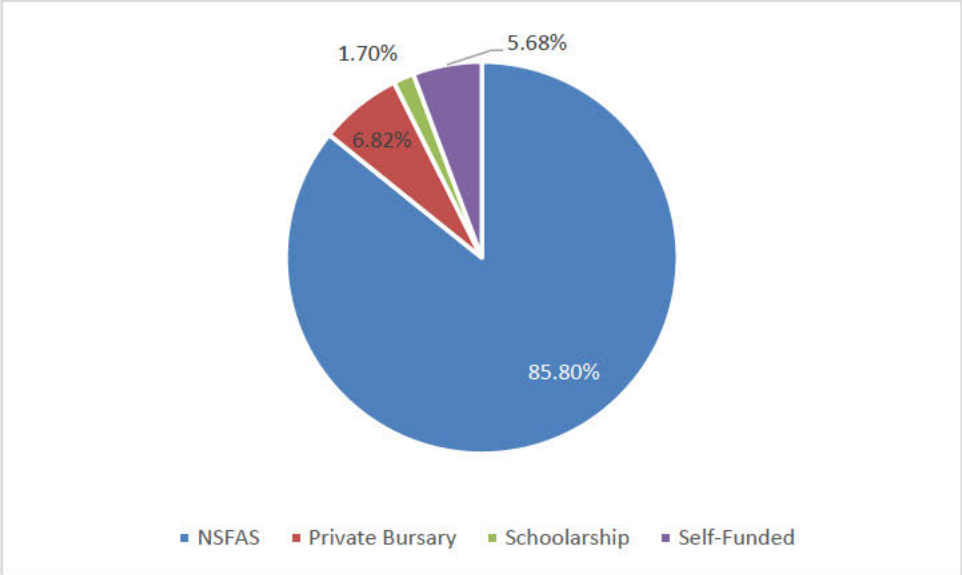

Figure 5: Source of funding

4.7 How long did it take you to be employed?

The average period to find work after graduation was between six and twelve months, according to a study by Meyer and Mncayi (2021). This was not the case with 63.07% of respondents to the study, as shown in Figure 6, who indicated that it took them more than one year to be employed, including those who are still seeking employment. Interestingly, the researcher observed that 48.30% of respondents indicated that they were unemployed despite 52.85% who indicated that they were unemployed in the employment status question. This could be attributed to one of the following reasons: (1) some respondents may classify an internship as being unemployed. (2) respondents who are employed on short-term contracts would have indicated that they were not employed. (3) Under-employed respondents, who feel that their qualification does not add value to the work they are currently performing.

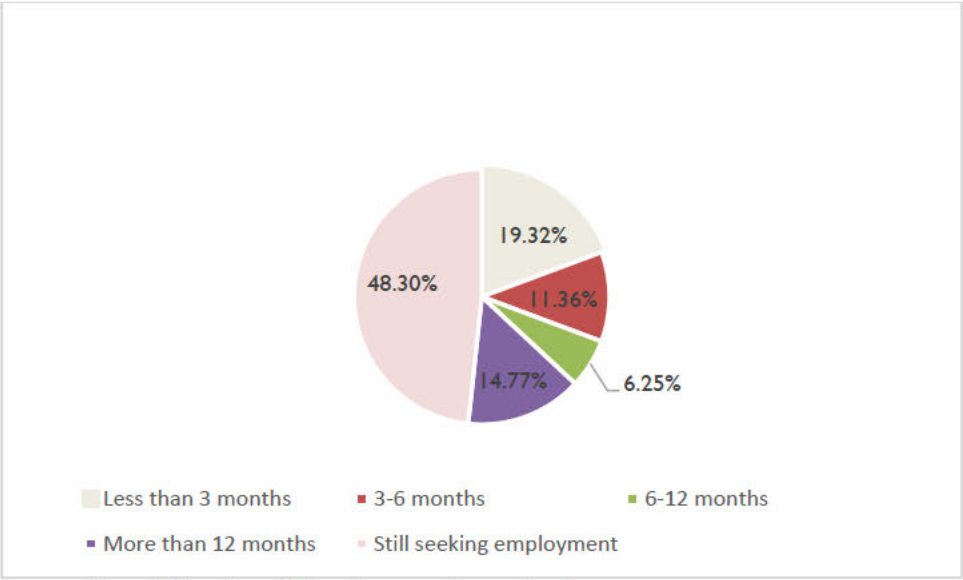

Figure 6: How long did it take you to be employed

The average time to employment for graduates of work integrated learning (WIL) programs was between three and six months, according to Nkosi and Mkhize (2020), and paid internships were linked to higher starting salaries and better employment outcomes than unpaid internships. Similar findings were made by Smiths and Jacobs (2022), who discovered that graduates with internship experience had a better chance of finding a job within six months after graduation and that the average duration to find employment was between eight to twelve months. According to Moyo and Sibanda (2019), it took graduates an average of nine to twelve months to find work. Paid internships greatly shortened the time needed to find a job and increased employment opportunities.

4.8 Employment status by race

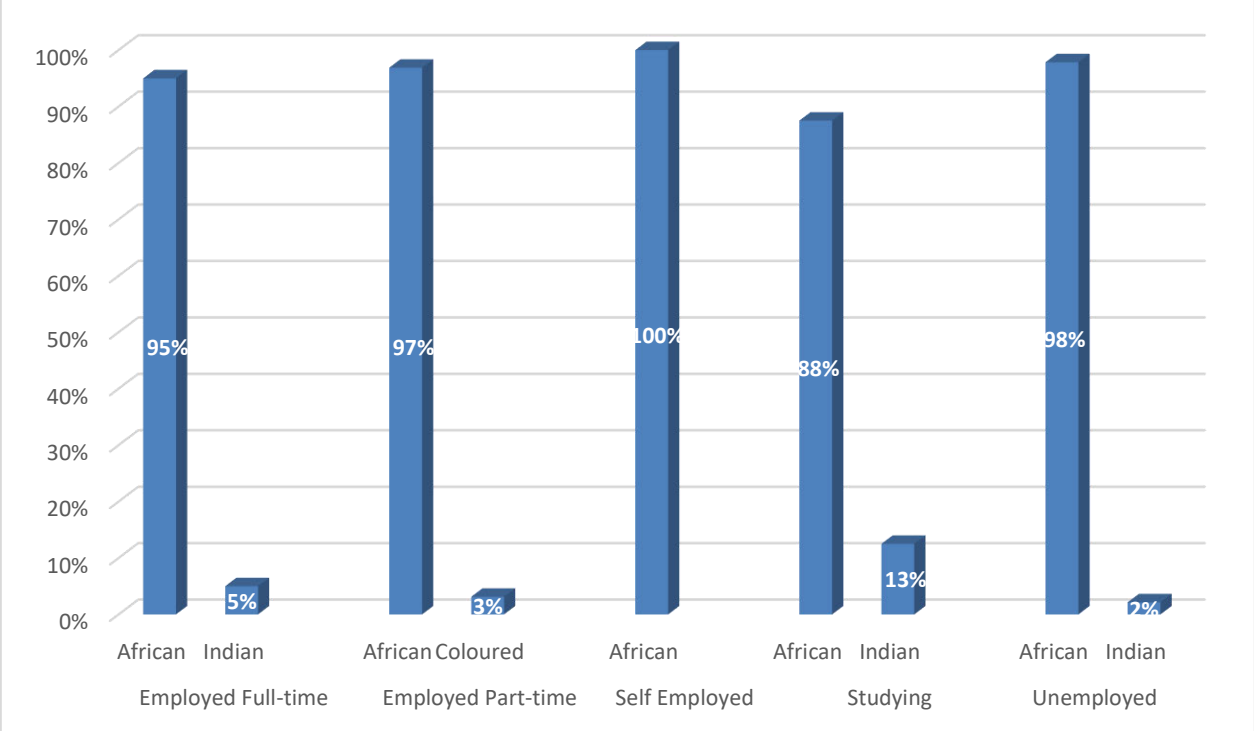

Figure 7: Employment status by race.

On the issue of graduate unemployment by race, 98% of unemployed graduates are African (as shown in Figure 7). This could easily be attributed to the fact that 96.59% of respondents were African or other factors. Black African graduates have greater unemployment rates than graduates of other races, according to Mseleku (2022). Systemic injustices, such as limited access to professional networks and high-quality education, are blamed for this discrepancy. African graduates have the greatest unemployment rate, at about 33%, followed by Coloured graduates (27%), Indian graduates (15%), and White graduates (8%), according to a study by Mokoena (2021). According to the study, these discrepancies are caused by historical injustices, variations in educational attainment, and different degrees of access to job possibilities.

According to a study by Mokoena and Mokoena (2020), compared to 10% of White graduates, 35% of Black African graduates are unemployed. This notable discrepancy emphasizes how persistent social injustices are. The employability of African graduates is impacted by their frequent access to lower-quality education. White graduates usually have an advantage in the employment market because they have greater access to professional networks and possibilities. Employment prospects

are still impacted by apartheid, with Black African graduates having a harder time finding employment.

According to MacGinty's (2024) analysis of changes in South Africa's graduate unemployment rates, the rate has doubled in the previous sixteen years. The fact that graduate employment is declining less sharply than other education categories despite this increase suggests that higher education continues to provide substantial job benefits. Gender differences in the work market are further highlighted by the greater unemployment rates experienced by female graduates. These findings were confirmed by respondents to this study, as 54.8% indicated that they were unemployed.

4.9 Employment status by gender

An almost equal number of respondents by gender indicated that they were not employed, with 46 males and 47 females, as shown in Figure 8. Despite the increasing demand for qualified labour, some groups, notably females, have a difficult time finding work, according to a study by Graham, Williams, and Chisoro (2019) that examined the obstacles faced by South African graduates without jobs. Race, socioeconomic level, and year of graduation were found to be major drivers of unemployment in another study by Baldry (2016), with female graduates being disproportionately disadvantaged. According to the World Bank (2022), the female graduate unemployment rate rose from 14% in 2019 to 17% in 2021, underscoring the ongoing gender gap in the workforce and urging focused initiatives to close it.

According to a study by MacGinty (2024), graduate unemployment has increased in the past sixteen years, with young, female, and African graduates suffering the most. Even though studies highlight and find a high unemployment rate among graduates, the data collected indicate that 54.8% of the graduates who responded to the survey questionnaire were unemployed. The data also agrees with findings from Baldry (2016), MacGinty (2024), Graham, Williams, and Chisoro (2019), and the World Bank (2022), that female graduates have a high unemployment rate when compared to male graduates.

The current percentage of unemployed graduates exceeds the figures reported by Statistics South Africa (Stats SA) in 2022. As of the first quarter of 2020, Stats SA found that the graduate unemployment rate was 32.6% for individuals under 24 and 22.4% for those aged 25 to 34.

According to Rogan and Reynolds (2022), the unemployment rate for recent graduates has not dropped in line with the rise in the number of graduates, indicating that the labour market has not grown enough to accommodate the rising number of graduates. According to Graham and De Lannoy (2021), graduates have a comparatively low unemployment rate when compared to other groupings which was approximately 5%, far lower than the national average.

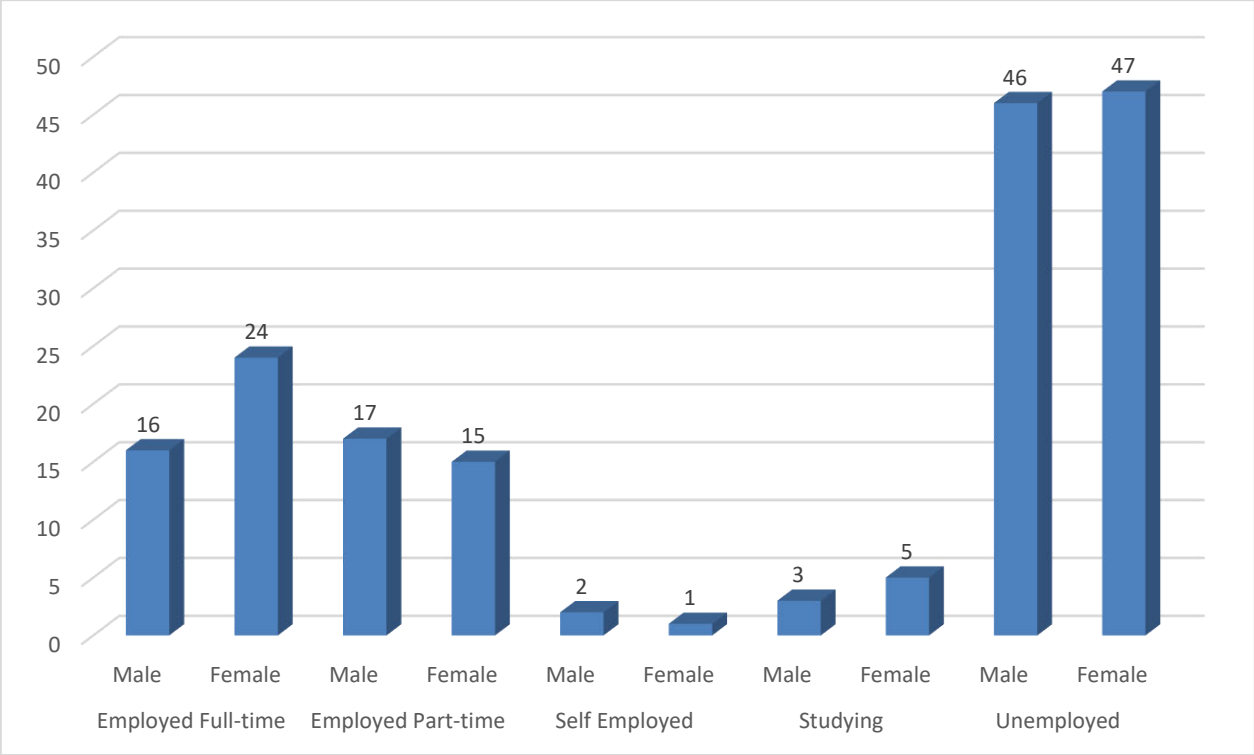

Figure 8: Employment Status by Gender

4.10 Employment status by source of funding

The data collected indicates that 55% of respondents whose studies were funded by NSFAS are unemployed, versus 40% of respondents whose studies were funded by their parents or relatives (self-funded), as shown in figure 9. This is in line with the findings of a study by Baldry (2016), who discovered that graduates with NSFAS funding had greater unemployment rates than those with private sponsorship or self-funding. According to Mokhali (2021), graduates who get funding from NSFAS and other bursaries sometimes face greater unemployment because they lack career assistance and social networks.

Regarding self-funded (parents/siblings/relatives) students, the data received indicates that 60% of such graduates were already employed versus 39.7% of those who received NSFAS funding and 50% of those funded by Private Bursaries. These results are aligned with a study by Baldry (2016), who found that, in general, self-funded graduates do better in the job market and they were less likely to experience unemployment than graduates who received funding from NSFAS.

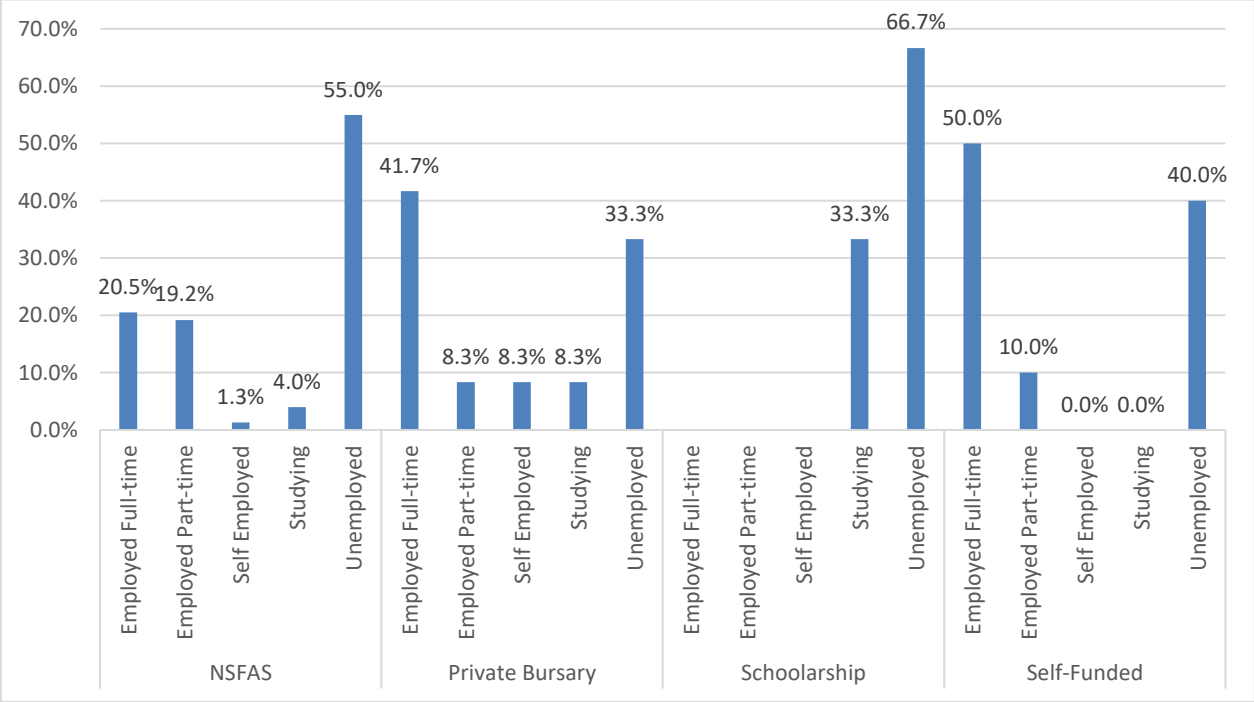

Figure 9: Employment status by source of funding

Regarding privately sponsored students, results indicate that 33.3% were unemployed. This is in line with studies by Baldry (2016) who established that unemployment rates tend to be lower for privately financed graduates, probably because of extra assistance and financial stability. Mokhali (2021) stated that improved career counselling and networking possibilities are frequently a part of private sponsorship, which enhances employment prospects.

Conversely, according to Mncayi and Dunga (2020), graduates who were privately sponsored frequently experienced greater unemployment rates than those who were supported by government bursaries or scholarships. The absence of organized support networks and career counselling that are normally offered to government-funded students is one of the reasons for this discrepancy.

4.11 Discussion and findings

4.11.1 Research Question 1: Is there a link between student higher education funding and graduate employment rate?

The correlation analysis performed using SPSS revealed a positive correlation coefficient of 0.109 between employment status and the source of funding. However, this correlation was not statistically significant. This weak and non-significant relationship suggests that the source of funding (e.g., NSFAS, SETA, Private Sponsors, etc.) does not have a meaningful or consistent impact on the employment status of the study participants. A weak positive correlation of 0.109 indicates a slight tendency, but not a substantial one, for individuals with specific funding sources to have better employment outcomes.

These findings align with the research conducted by Wildschut, Megbowon, and Miselo (2020), who identified a statistically significant but weak positive relationship between academic achievement and NSFAS funding. Their study suggested that while funding alone may not guarantee improved academic performance, it does have a beneficial effect when other factors are taken into account. This implies that the impact of funding on graduate employment may similarly be influenced by a combination of factors beyond just the source of funding.

Further literature supports the notion that employability and employment are influenced by a range of factors, including the quality of higher education, the skills and competencies acquired by students, and the alignment of educational outcomes with labour market needs. Wang and Cheng (2020) emphasized that employability is a multifaceted concept that requires the involvement of higher education institutions, students, the government, and employers to be effectively addressed. This highlights the complexity of linking funding sources directly to employment outcomes.

while there is a weak positive correlation between the source of higher education funding and graduate employment rates, this relationship is not statistically significant. The findings suggest that other factors, such as the quality of education and the broader socio-economic context, play a more critical role in determining employment outcomes for graduates.

4.11.2 Research Question 2: How does increased student higher education funding impact graduate employment outcomes?

Increased funding for higher education can significantly impact graduate employment outcomes in several ways:

Enhanced funding often translates to better academic resources, such as access to quality faculty, advanced learning materials, and improved infrastructure. This can lead to higher academic performance among students, as noted by Zavale and Schneijderberg (2020), who found that graduates receiving more financial support tend to achieve better academic results.

With increased funding, students are less burdened by financial stress, allowing them to focus more on their studies. This can lead to higher retention and graduation rates, as well as better overall academic performance (Smith, 2019).

Additional funding can support programs that enhance employability skills, such as internships, career counselling, and job placement services. These programs help students gain practical experience and develop skills that are highly valued by employers. Increased funding can make higher education more accessible to a broader range of students, including those from disadvantaged backgrounds. This can lead to a more diverse and inclusive workforce, which is beneficial for both graduates and employers (Johnson, 2021).

Institutions with better funding can invest in aligning their curricula with current labour market demands. This ensures that graduates possess the skills and knowledge that are in high demand, improving their employment prospects. Research indicates that increased state investment in higher education leads to better long-term financial outcomes for graduates, such as higher earnings, lower student debt, and increased homeownership rates (Williams, 2020).

Increased funding for higher education only enhances academic performance but does not improve graduate employment outcomes by providing the necessary resources and support systems for students to succeed both academically and professionally. These findings underscore the importance of a holistic approach to improving graduate employment outcomes, one that goes beyond financial support to include quality education, skill development, and alignment with labour market demands.

4.12 Correlation Analysis of Student Funding and Employment Outcomes

This analysis examines the relationships between student funding and various employment outcomes among higher education graduates. The variables analyzed include the reception of student funding, current employment status, the relevance of current jobs to the field of study, and the perceived impact of student funding on employability. The data includes responses from graduates regarding their funding and employment experiences. The following variables were converted to numerical values for correlation analysis.

Received Funding:

Whether the respondent received any form of student funding/bursary during their higher education (Yes = 1, No = 0).

Employment Status:

The current employment status of the respondent (Employed Full-time = 3, Employed Part-time = 2, Unemployed = 1, Studying = 0).

Job Related to Field:

Whether the respondent's current job is related to their field of study (Yes = 1, No = 0, Maybe = 0.5).

Improved Employability:

Whether the respondent believes that receiving student funding improved their employability (Yes = 1, No = 0, Maybe = 0.5)

	Received Funding	**Employment Status**	**Job Related to Field**	**Improved Employability**
Received Funding	1.00	0.12	0.08	0.15
Employment Status	0.12	1.00	0.45	0.30
Job-Related to Field	0.08	0.45	1.00	0.35
Improved Employability	0.15	0.30	0.35	1.00

Table 4: The correlation matrix that presents the strength and direction of the relationships between variables

4.13 Descriptive statistics summary

Confidence in Finding a Job:

The average confidence level among respondents in finding a job in their field of study is 3.31, with a standard deviation of 1.24. This indicates a moderate level of confidence, with most responses clustering around the middle of the scale. A standard deviation of 1.24 suggests that the confidence levels of respondents are moderately spread around the mean of 3.31. This indicates some variability in how confident respondents feel about finding a job in their field of study.

Improvement in Employability:

The average belief that receiving student funding improved employability is 3.17, with a standard deviation of 1.50. This suggests a slightly positive perception, but with a wider spread of opinions. A standard deviation of 1.50 indicates a wider spread of opinions around the mean of 3.17. This suggests that respondents have more varied perceptions about the impact of student funding on their employability

The observed variability in confidence and perceptions underscores the necessity for targeted support and interventions. Specifically, career services and employability programs should be customized to address the distinct needs and concerns of students who exhibit lower confidence levels or perceive minimal benefits from funding. Furthermore, institutions and funding bodies should consider implementing additional measures to augment the perceived value of funding. These measures could include the provision of enhanced career-related support, the establishment of internship opportunities, and the facilitation of job placement services.

4.14 Chapter summary

According to this study, at least 42.6% of respondents are employed, including those who are self-employed. Further analysis reveals that 4.55% of respondents are currently pursuing further studies, which leaves 52.84% of respondents unemployed.

Interestingly, 94.32% of respondents received some form of study funding assistance. However, the data does not clearly indicate the impact of this funding on graduate employability. A significant portion of respondents, 74%, who received funding from sources such as NSFAS, private bursaries, or private sponsors, reported being unemployed. This is in stark contrast to the 100% Employment

rate among self-funded graduates.

These findings suggest that while a majority of graduates received financial support for their studies, this assistance did not necessarily translate into higher employability rates. The high unemployment rate among funded graduates raises questions about the effectiveness of current funding mechanisms and the overall alignment of educational programs with market demands

Chapter 5: Conclusion and Recommendations

5.1 Introduction

This chapter focuses on the findings of the study and formulate a conclusion based on the analysis of data collected and other available secondary data. Recommendations by the researcher and industry experts will also be included.

5.2 Conclusion

Based on the analysis of the data collected, there seems to be an impact on the graduate's employment prospects by funding their higher education studies, a positive correlation which indicates that there is a little propensity, for graduates with particular financing sources to have better employment status. The funding of student higher education increases enrolment prospects for previously disadvantaged groups, with the intent that they would graduate and join the labour force.

Based on the amount of funds invested by the government in higher education student funding and changes in graduate employment rates, the researcher concludes that increasing the amount of money spent on student higher education does impact graduate unemployment.

Year	NSFAS Funding for Student Bursaries (ZAR)	Graduate Unemployment Rate (%)	Higher Education Enrolment (%)
2018	15.2 billion	19.5	23.8
2019	20.5 billion	31.0	24.2
2020	34.7 billion	33.6	24.5
2021	42.0 billion	32.6	24.8
2022	47.6 billion	34.2	24.1
2023	49.9 billion	32.9	25.4
2024	52.3 billion	32.9	25.7

Table 5: NSFAS budget per year versus graduate unemployment rate versus higher education enrolment.

Data retrieved from Stats SA. (2024). Quarterly Labour Force Survey Q1:2024.

The South African government's strong commitment to promoting higher education is demonstrated by the steady increase in NSFAS funding for student bursaries. Students from underprivileged backgrounds may have easier access to higher education as a result, which could raise the workforce's general skill level (Mokgotho, Njoko and Burman, 2023). Table 4 indicates that NSFAS funding has increased by an average of 17.5% year on year, since 2018, from R15.2 billion in 2018 to R52.3 billion in 2024; at the same time, graduate unemployment has increased by an average of 7%.

The increase in graduate unemployment can be attributed to increased funding allocation, enrolment, and graduation, as shown in Table 5.

Year	Enrolment (millions)	Graduates (millions)	NSFAS Allocated Funds (R billions)	Unemployed Graduates (%)
2018	1.08	0.21	20.6	19.5
2019	1.10	0.22	24.6	31.0
2020	1.12	0.23	34.7	33.1
2021	1.14	0.24	36.4	35.0
2022	1.16	0.25	38.6	36.1
2023	1.18	0.26	41.7	37.2

Table 5: NSFAS allocation, Enrolment numbers, Graduations and Unemployed graduates. Data obtained from Statistics South Africa and The National Student Financial Aid Scheme (NSFAS) reports

While more enrolment and financing are encouraging, comprehensive solutions are desperately needed to guarantee that graduates have the opportunity and skills necessary to thrive in the labour market. In addition to notable growth in NSFAS financing over time, these results demonstrate a consistent rise in both enrolment and graduation rates; nonetheless, the unemployment rate among graduates has also increased, underscoring persistent difficulties in the job market for recent graduates.

5.3 Recommendations

5.3.1 Changes in basic education

In South Africa learners must perform well in order to qualify for enrolment into a higher education institution. The current disparities in basic education result in unequal opportunities for learners, with learners in schools located in affluent areas having better prospects of qualifying for higher education institutions than others due to better facilities, funding, and resources.

Strong core abilities in basic education greatly increase the likelihood that students will graduate from university, according to Smith (2019). According to the study, graduates who have a strong foundation in basic education are more likely to finish their degrees on schedule and with higher marks, which lowers the risk of graduate unemployment. According to Jones (2020), differences in the quality of basic education result in unequal possibilities for higher education. Compared to students from under-resourced schools, individuals from well-resourced schools typically graduate at greater rates and experience lower unemployment rates after graduation.

According to Brown and Lee (2021), early interventions like preschool programs and improvements to primary schools significantly increase higher education completion rates. Additionally, by giving graduates the fundamental skills they need for the workforce, these interventions help lower graduate unemployment. Altan (2020) emphasizes that raising higher education graduation rates requires high-quality primary schooling. Inequalities in basic education can result in unequal opportunities in higher education, which can impact graduate unemployment rates.

The government must invest in enhancing the quality of primary and secondary education to ensure students acquire a strong foundational knowledge. Policies should be established to reduce disparities in educational opportunities and resources across different socioeconomic classes and geographical areas, such as the BELA Act. To improve long-term educational outcomes, early interventions, including preschool programs and targeted support in schools, should be implemented (Altan, 2020). To bridge the gap between under-resourced and well-resourced schools, it is crucial to ensure equitable distribution of educational resources. Additionally, initiatives like academic support services and mentorship programs should be developed and enhanced to assist students in transitioning from basic education to higher education.

To enhance the learning and development of pupils, Altan (2020) suggested promoting increased parental and community participation in the educational process. Ensure that instructors have the newest pedagogical knowledge and abilities and invest in their ongoing professional development.

5.3.2 Enrolment and access to Higher Education

According to Mabokela and Magubane (2023), government initiatives have been essential in advancing inclusion and equity in higher education. A more diversified student body and greater enrolment of historically underrepresented groups have resulted from these measures. In order to guarantee that every student has the chance to thrive, Dube (2024) suggests expanding financial aid for underprivileged students, strengthening infrastructure, and promoting inclusive policies. Additionally, the report recommends using technology to address access barriers and enhance learning outcomes.

In order to provide access to higher education, Mabidi (2023) supports the incorporation of digital technology. To make sure underprivileged groups are not left behind, the study suggests creating computer literacy programs and providing them with resources. To facilitate remote learning and increase enrolment rates, the study also emphasizes the necessity of regulations that encourage the use of digital tools and platforms.

According to Johnson (2023), enrolment requirements ought to be more accommodating in order to meet the various demands of students. The study suggests regulations that encourage non-traditional students, like those who are older or have prior work experience, to be included. Additionally, the study promotes the use of ICTs to increase educational access and quality, especially in underprivileged communities.

According to Shrivastava and Shrivastava (2019), South Africa's Gross Enrolment Ratio (GER) in higher education is significantly lower than the global average, particularly when compared to other emerging regions such as Asia and Latin America. Despite notable progress in expanding access to higher education, Cloete and Bunting (2020) highlight that South Africa's GER remains low relative to other developing countries. Their study underscores disparities in educational availability and quality by comparing South Africa's higher education GER with those of sub-Saharan Africa and other developing nations. To address these challenges and improve higher education outcomes in South Africa, the researcher emphasizes the need for targeted policy interventions.

The study by Shrivastava and Shrivastava (2019) underscores the critical need for targeted interventions,

such as scholarships and support programs, to help underprivileged students overcome socioeconomic barriers to higher education. Similarly, Cloete and Bunting (2020) propose policies aimed at increasing access to higher education for underrepresented groups, with the goal of raising the GER.

5.3.3 Cooperation between basic education and higher education

In South Africa, the cooperative dynamics between basic and higher education underscore both the advantages and challenges of such partnerships. Mokoena and Mathebula (2023) discovered that collaborative initiatives lead to improved academic achievement in basic education, with university-school partnerships significantly enhancing teaching techniques and student engagement. Their study further indicates that university students involved in these partnerships enhance their employability as teachers by gaining practical teaching experience. These collaborations improve student's employment prospects post-graduation by helping them develop professional networks with academic institutions and educators (Mokoena and Mathebula, 2023).

The study recommends that authorities should increase funding and support for university school collaboration programs and implement regular training and development sessions for teachers involved in these initiatives. Naidoo and Singh (2021) highlight that collaborative efforts between basic education and higher education institutions enhance teacher competencies and improve the student learning experiences. University school relationships are further strengthened through community engagement initiatives, which help students develop essential skills such as problem-solving, communication, and teamwork, skills highly valued by employers. Participation in school and community projects provides students with practical experience, thereby increasing their employability (Naidoo and Singh, 2021).

In order to guarantee dependable and fruitful collaborations, the study recommends developing more formal frameworks for collaboration and promotes educator's ongoing professional development. According to Nkosi and Mkhize (2021), collaboration between universities and schools improves teacher education and professional development, while collaborative research projects and community engagement initiatives improve educational outcomes. They contend that when university students take part in professional development programs through university-school partnerships, their employability increases, and their knowledge and abilities are enhanced. Collaborative research projects give students research abilities that they can use in a variety of

professional settings (Nkosi and Mkhize, 2021).

The report also recommends that authorities support university-school collaborations and ensure these relationships provide teachers with continuous opportunities for professional growth. Dlamini and Mkhwanazi (2023) highlight that university-community involvement initiatives positively impact basic education. Programmes fostering collaboration enhance both student motivation and instructional strategies. Employers perceive students who participate in community engagement programmes as having a strong sense of social responsibility and community involvement. These collaborations enhance students' teaching skills and employability as educators through hands-on teaching experience (Dlamini and Mkhwanazi, 2023).

The report advocates for increased funding and support for university-community engagement programmes and the implementation of regular training and development sessions for educators involved in these programmes. Khumalo and Sibanda (2022) found that collaborative initiatives improve teaching and learning processes and that integrating technology into education through university-school partnerships increases digital literacy. Students participating in technology integration projects acquire high digital literacy skills, which are crucial in the contemporary labour market. Khumalo and Sibanda (2022) found that students proficient in advanced teaching techniques and technology are more likely to secure employment in training and educational roles. They advocate for authorities to invest in resources and infrastructure to support technology integration in education and to offer continuous professional development for teachers, enabling them to effectively utilize technology in the classroom.

5.3.5 Value of WIL on graduate skills

WIL offers immersive, real-world learning activities that improve employability and reinforce academic principles. As students develop their professional networks and practical abilities, WIL increases their employability and employment offers (Galbraith and Mondal, 2020). In order to optimize learning outcomes, higher education institutions should make internships a required part of their curricula and give students better support and direction while they are interning. In addition to regularly assessing and modifying their WIL programs to satisfy the changing demands of the labour market, higher education institutions should coordinate their WIL programs with national employment strategies.

Institutions must set aside enough funds to assist WIL initiatives. In order to guarantee that WIL experiences are pertinent and advantageous for students, HEIs must develop solid partnerships with industry partners. WIL programs ought to be promoted by higher education establishments as an essential part of their curricula. Additionally, HEIs must offer students all-inclusive career services and assistance to facilitate their transition from school to the workforce (Mesuwini, Thaba-Nkadimene, Mzindle and Mokoena, 2023).

5.4 Study limitations

Based on the data collected, the study's participants were selected randomly and could represent the institution in question. While a more comprehensive analysis of graduate unemployment was desired, time constraints limited the scope. Future research could focus on the lived experiences of unemployed graduates who received bursaries or scholarships. Out of over 1200 distributed surveys, 176 participants completed the online survey. Timing constraints were primarily due to the late acquisition of Gatekeeper authorization and ethical approval.

5.5 Further research opportunities

This study can be furthered by tracking bursary recipients over time through a longitudinal qualitative study to capture their experiences as they transition from being students to graduates and, hopefully, to joining the labour force. There are other variables that also need to be captured, i.e., Additional support provided by the bursary, Opportunities for vacation work, Peer learning groups, and Industry mentorships.

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Appendix 1: Gatekeeper permission

Directorate for Research and Postgraduate Support

3rd Floor, Open House, Steve Biko Campus
Durban University of Technology
P O Box 1334, Durban, 4000

T +27 373 2577
E Gatekeeper@dut.ac.za
W https://www.dut.ac.za/research-ps/

09 October 2024

Mr A I Manashe
School of Business and Leadership
University of Kwazulu-Natal

Dear Mr A I Manashe

PERMISSION TO CONDUCT RESEARCH AT DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted **Gatekeeper Permission** for you to conduct your research "The impact of higher education student funding on graduate employability in South Africa" at the Durban University of Technology.

The DUT may impose any other condition it deems appropriate in the circumstances having regard to nature and extent of access to and use of information requested.

Upon completion of your research project, you are requested to share the summary of your key research findings.

Yours sincerely

[redacted]

Dr NH Mthombeni
Director (Interim)
Research and Postgraduate Support

Appendix 2: Ethical Clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

16 April 2025

Absolom Innocent Manashe (222014249)
Grad School of Bus & Leadership
Westville Campus

Dear Al Manashe,

Protocol reference number: HSSREC/00007118/2024
Project title: The impact of higher education student funding on graduate employability in South Africa
Amended title: An exploratory analysis of higher education student funding and graduate employability: A case study of a University of Technology in South Africa
Degree: Masters

Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 15 April 2025 has now been approved as follows:

- Change in title

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an 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.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Best wishes for the successful completion of your research protocol.

Yours faithfully

[redacted]

Doctor Shamila Naidoo (Senior Deputy Chair)

/nng

Appendix 3: Informed Consent

INFORMATION SHEET AND INFORMED CONSENT

To whom it may concern

My name is Absolom Manashe from the University of KwaZulu Natal's Graduate School of Business. I am currently pursuing a master's in business administration degree at the institution.

You are being invited to consider participating in a study that explores the relationship between higher education funding and graduate unemployment is South Africa. The study aims to ascertain whether there is a connection between rising student higher education spending and graduate job placement rates in South Africa, Focusing on a specific Higher Education Institution in Kwa-Zulu Natal. The study is expected to involve all students who graduated from the institution in 2021.

The study will involve answering a few questions via an online survey distributed through Google Documents. The duration of your participation, if you choose to enrol and remain in the study, is expected to be no more than 5 minutes (this includes finalizing this informed consent form and the actual questionnaire. The study is self-funded.

There is no risk associated with your participation in this study, as anonymity is guaranteed. Your name will not be mentioned anywhere in the research report. We hope that the study will add to the existing body of knowledge on graduate unemployment and higher education student funding.

In the event of any problems or concerns/questions, you may contact the researcher at 222014249@stu.ukzn..ac.za or via [redacted] or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Please be advised that participation in this research is voluntary. You may withdraw participation at any point. In the event of refusal/withdrawal of participation, you will not incur any penalties or lose any benefits to which you are normally entitled. Should you decide to withdraw, kindly email me at 222014249@stu.ukzn.ac.za as soon as possible so that I have time to source another participant to ensure there is sufficient data for analysis. Should the study be terminated for any reason, your participation will automatically cease.

There is no reimbursement for your participation in the study, nor are you expected to incur any costs.

All information, including your personal information, will be kept strictly confidential. All survey entries will be saved in the secure vault in my OneDrive folder. This is password protected, and only my supervisor, Professor Chummun, and I will have access to the information. No hard copy documents will be collected, and electronic copies will be deleted from the OneDrive folder after the required storage time, as per the university's policy, has lapsed.

Kindly indicate your willingness to participate in the research study by completing and signing the section below.

Yours faithfully

_____

Absolom Manashe

[redacted]

222014249@stu.ukzn.ac.za

CONSENT

I……. (Name and Surname) have been informed about the study entitled

The impact of higher education student funding on graduate employability in South Africa by Absolom Manashe.

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits to which I usually am entitled to.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at [redacted] or at 222014249@stu.ukzn.ac.za

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

_____ _____

Signature of Participant Date

Appendix 4: Study Questionnaire

Graduate School of Business and Leadership

Section 1: Demographic Information

This section collects basic demographic information about you. Please select the options that best describe you.

1. Age:
   - 20-24
   - 25-30
   - 31-35
   - 35-40
   - Over 40
2. Gender:
   - Male
   - Female
   - Prefer not to say
3. Race:
   - Black
   - White
   - Coloured
   - Indian/Asian
   - Other (please specify)
4. Field of Study:
   - Accounting and Informatics
   - Applied Sciences
   - Arts and Design
   - Engineering and the Built Environment
   - Health Sciences
   - Management Sciences

Section 2: Education and Funding

This section gathers information about your education and the type of funding you received during your higher education. Please provide accurate details.

5. Did you receive any form of student funding during your higher education?
   - Yes
   - No

6. If yes, what type of funding did you receive? (Select all that apply)
   - NSFAS
   - Bursary
   - Scholarship
   - Loan
   - Self-Funded (Parents/Relatives)

7. How much funding did you receive annually?
   - Did not receive funding (Self-funded/Parents)
   - Less than R30,000
   - R30,001 – R60,000
   - R60,001 – R90,000
   - More than R90,000

Section 3: Employment Status

This section collects information about your current employment status and your job search experience after graduation. Please select the options that best describe your situation.

8. What is your current employment status?
   - Employed full-time
   - Employed part-time
   - Self-employed
   - Unemployed
   - Further studies

9. How long did it take you to find your first job after graduation?
   - Less than 3 months
   - 3-6 months

- 6-12 months
- More than 12 months
- Still seeking employment

10. Is your current job related to your field of study?
    - Yes
    - No

Section 4: Perceived Employability

This section assesses your confidence in finding a job in your field of study and your perception of how student funding has impacted your employability. Please rate your confidence and provide your opinion.

11. On a scale of 1 to 5, how would you rate your confidence in finding a job in your field of study?
    - 1 (Not confident at all)
    - 2
    - 3
    - 4
    - 5 (Very confident)

12. Do you believe that receiving student funding improved your employability?
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree

Section 5: Additional Comments

This section provides an opportunity for you to share any additional comments or suggestions regarding student funding and employability.

13. Do you have any additional comments or suggestions regarding student funding and employability?
    - [Open-ended]