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**An exploration of the relationship between resilience, perceived stress, and attachment of  
undergraduate students at a university in the Western Cape.**

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A mini thesis in partial fulfilment of a degree in Master of Arts Research Psychology.

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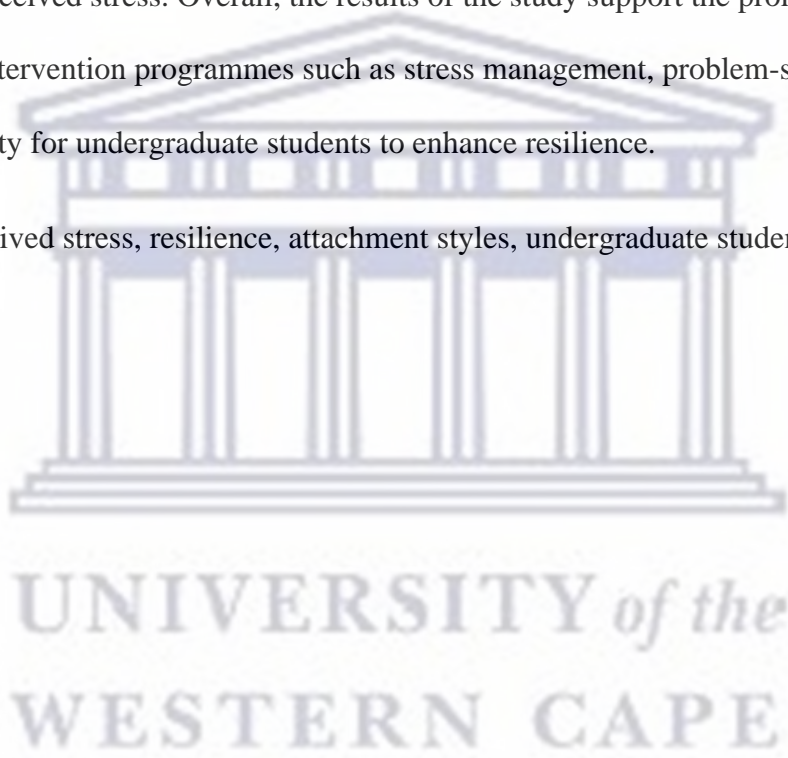
Supervisor: Prof. Serena Isaacs

## Abstract

Perceived stress is associated with various factors that can exceed one's resources to cope or manage stress. This can result in negative health outcomes and risky behaviours. The transition to university can be considered stressful and demanding, especially for undergraduate students. Research shows that undergraduate students are the most vulnerable to experiencing perceived stress due to adjusting to a new academic environment, experiencing additional freedom and associated risk factors, financial challenges, and exposure to trauma. Stressful events and adversity may impede an individual's ability to develop positive outcomes and overcome challenges while remaining resilient. Adult attachment places a strong emphasis on social support systems and the development of healthy relationships as a protective factor against perceived stress and to enhance resilience. The present study aimed to examine the relationship between perceived stress, resilience, and attachment of undergraduate students at a university in the Western Cape, South Africa. Specifically, the study aimed to determine whether attachment styles mediated the relationship between resilience and perceived stress among undergraduate students. The Positive Psychology framework was used as a theoretical framework to guide the study. A cross-sectional survey design was used to investigate the aim and objectives of the study. The researcher obtained ethics clearance from the Humanities and Social Sciences Ethics Committee and permission to access students from the university's Registrar's office. The researcher ensured that informed consent is obtained from the participants before the commencement of the study. The study employed a non-probability convenience sampling to select research participants. The study utilised self-administered questionnaires, sent to participants via Google Forms. A total number of 256 undergraduate students participated in this study. The majority of the students who participated in the study were between the ages of 18-24

(85.2%). A mediation analysis, using the PROCESS macro tool and bivariate correlation in SPSS, was used to assess the relationship between resilience, perceived stress, and attachment. The results indicated that most undergraduate students experienced a moderate (59.8%) to high (35.2%) levels of perceived stress. The results also revealed a significant relationship between resilience, perceived stress, and attachment among undergraduate students. Avoidance and fearful attachment styles were found to be partial mediators of the relationship between resilience and perceived stress. Overall, the results of the study support the promotion of prevention and intervention programmes such as stress management, problem-solving skill, and attachment security for undergraduate students to enhance resilience.

**Keywords:** perceived stress, resilience, attachment styles, undergraduate students, mediation analysis



### Declaration

I, Munene Nkuna, hereby declare that this mini thesis entitled: *An exploration of the relationship between resilience, perceived stress, and attachment of undergraduate students at a university in the Western Cape*, is my own work. This thesis has not been submitted for any other degree in any other university. All sources that I have used have been cited correctly and acknowledged as references.

Full Names: Present Munene Nkuna

Date: December 2023

Signed: 



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I would like to extend my deepest gratitude to the National Research Foundation (NRF) for your financial assistance.

The logo of the University of the Western Cape is centered on the page. It features a stylized illustration of a classical building with a pediment and several columns. Below the illustration, the text "UNIVERSITY of the WESTERN CAPE" is written in a serif font. The word "UNIVERSITY" is in all caps, "of the" is in a smaller, lowercase font, and "WESTERN CAPE" is in all caps.

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## 1. Chapter One

### Introduction

#### 1.1 Background & Rationale

Perceived stress plays a significant role in the promotion of psychological and physical health of undergraduate students (Enns et al., 2018; Faraso et al., 2019). Perceived stress is defined as the degree to which a situation or event in an individual's life is seen as stressful exceeding his/her resources to cope (Aslan et al., 2020; Kostic et al., 2021). Higher levels of perceived stress are often associated with negative health outcomes and higher risk behaviours such as smoking and the consumption of alcohol (Awoke et al., 2021). Prolonged perceived stress can affect an individual in negative long-term health outcomes by impacting the physiological processes of anti-inflammatory responses and regulation of the cardiovascular pulmonary and immune system (Enns et al., 2018). Numerous studies that were conducted to assess the level of perceived stress among undergraduate students amidst the COVID-19 pandemic reported high perceived stress level ranging from 12.6 - 30.2%, 73.3% reported symptoms of anxiety and 71.8% significant levels of loneliness (Awoke et al., 2021; Malik & Javed, 2021; Pretorius & Padmanabhanunni, 2021).

Undergraduate students may experience stress because of adjustments needed to succeed within a new academic environment and phase of their lives (Faraso et al., 2019). These adjustments may include social, emotional, and academic demands such as academic challenges, finding new friends, adjusting to a new educational environment, and changes in eating or sleeping habits (Abdollahi et al., 2018). In a recent study by VanKim et al. (2021), perceived stress was identified to be a significant indicator of undergraduate students' overall health because it was continually seen as the cause of poor mental and physical health. In addition, perceived stress among undergraduate students was also associated with risky behaviours, including substance abuse such as drugs and alcohol (Alsaleem et al., 2021).

Among other things, people who experience high levels of perceived stress are expected to report lower levels of resilience (Wang et al., 2021).

People differ in their experiences and perceptions, their response to events and consequently, the ability to cope during stressful life events differ (Abdollahi et al., 2018). Resilience is defined as the capacity to and encompassing the dynamic process of overcoming stress and adversity that threatens the functioning of an individual (Pasiali et al., 2018; Russo et al., 2012). Masten (2018) suggests that resilience relates to positive outcomes that develop as result of experiencing challenges and adversity. Moreover, resilience should be perceived as an *interactive* process which plays a significant role in the achievement of positive healthy outcomes when an individual is facing stressors and other environmental challenges (D'Onofrio & Emery, 2019).

Various factors are often attributed to the development or strengthening of resilience including personal, biological, and environmental factors, for example, personality traits, self-efficacy, brain structure and social relationships (D'Onofrio & Emery, 2019). According to Garcia-Leon et al. (2019) the presence of stressful events or chronic challenging experiences may interfere with an individual's ability to remain resilient. One factor that has been attributed to an individual's belief and expectations about managing stressful events is attachment (Temiz & Comert, 2018). Attachment theory considerably contributes to the understanding of processes underpinning resilience (Atwool, 2006; Rasmussen et al., 2019).

Attachment theory was developed by Bowlby (1969) who defined attachment as a lasting experience of psychological connectedness between human beings. Bowlby (1969) suggested that a secure attachment relationship between the primary caregiver and the child would enable healthy psychological development. Other attachment styles that an individual could develop include preoccupied, dismissive, and fearful attachment. If the basic

requirements for secure attachment are not met during childhood, it is likely that an individual may experience various psychological challenges as well as challenges in how they manage stressors later in their adulthood (Gilbert & Blakey, 2021). Adult attachment refers to the tendency and willingness to develop close relationships with other people with whom they feel safe and secure (Khadorahimi et al, 2016). Bayyrak et al. (2018) found that there is a positive relationship between anxious attachment and perceived stress whereas no relationship was found between avoidant attachment and perceived stress. Social support and developing healthy relationships are contingent on attachment, these are key factors to strengthen or enhance resilience and would have an indirect effect on perceived stress.

## **1.2. Problem Statement**

High perceived stress is seen as a substantial problem among undergraduate university students (Abdulghani et al., 2020; Aihi & Ohanaka, 2019; Goppert & Pfof, 2021). Perceived stress can cause difficulties when an individual appraises a situation as a threat that exceeds their coping strategies, which is likely to trigger emotions such as anger, anxiety, shame, disgust, and sadness (Abdulghani et al., 2020). Previous studies have shown that undergraduate students are exposed to various stressful circumstances related to their academics, family, social and developmental changes such as assignments, family and interpersonal relationships, transition from childhood and to adulthood (Nivetha et al., 2018; Cavallo et al., 2016). A study from India revealed that 13.9% of undergraduate students with high perceived stress reported lower levels of resilience (Chowdhury et al., 2017). A South African study conducted at the University of the Western Cape by Blows and Isaacs (2022) found that majority of university students experiencing high to moderate perceived stress engaged in substance abuse. Undergraduate students are a vulnerable group to experiencing high perceived stress due to the demands of academic pressure, changes in social support and additional demand that comes along with being independent. University students are an

important asset to the future of the country; and healthy and/or well-adjusted students would contribute to future dynamic workforces (Cavallo et al., 2016). However, given the aforementioned role that attachment can play in resilience, there is a gap in research on resilience and attachment, particularly in South Africa. Therefore, there is a need to explore the relationship between attachment, resilience, and perceived stress among undergraduate students especially in South African universities. The study provides an enhanced understanding of the prevalence of perceived stress, the role of attachment styles and resilience among undergraduate students, which can be used to improve the psychosocial wellbeing of undergraduate students and to consider attachment and resilience as useful factors when implementing supportive interventions in future.

### **1.3. Aim and Objectives**

The aim of the study was to examine the relationship between resilience, perceived stress, and attachment styles among undergraduate students.

The objectives of the study were to:

1. Determine the relationship between resilience and perceived stress.
2. Determine the relationship between attachment and resilience.
3. Determine the relationship between perceived stress and attachment.
4. Investigate the extent to which attachment mediates the relationship between resilience and perceived stress.

Hypotheses:

H<sub>1</sub>: Resilience is negatively associated with perceived stress.

H<sub>2</sub>: Attachment is positively associated with resilience.

H<sub>3</sub>: Perceived stress is negatively associated with attachment.

H<sub>4</sub>: Attachment mediates the relationship between resilience and perceived stress.

#### **1.4. Research Question**

What is the relationship between resilience, attachment styles and perceived stress among undergraduate students?

#### **1.5. Structure of the Thesis**

##### **Chapter 1: Introduction**

This chapter presented the overview of this study by providing a comprehensive introduction, the background of the problem, definitions of key concepts, problem statement, aim and objectives as well as the research question and associated hypotheses of the study.

##### **Chapter 2: Literature review**

This chapter provides a review of literature of the main concepts of the study. The prevalence of perceived stress globally and in South Africa among undergraduate university students is highlighted. Furthermore, resilience and its determinants are discussed as well as attachment theory and its consequences.

##### **Chapter 3: Methods**

This chapter provides a detailed description of the research methods that were used throughout the study. This includes a thorough description of the research design, sampling technique, procedures, data collection instruments and data analysis methods. This study further provides a detailed discussion of ethical considerations that were followed throughout the study.

##### **Chapter 4: Results**

This chapter presents the quantitative findings of the study both descriptively and analytically.

**Chapter 5: Discussion**

This chapter provides a discussion of the findings and association between the Seligman 3P's model and resilience of undergraduate university students. It also provides an in-depth discussion of the implications of those findings in terms of current literature.

**Chapter 6: Conclusion**

This chapter provides a summary of the main findings, limitations, and implications of the study.



## **2. Chapter Two**

### **Literature Review**

#### **2.1. Introduction**

The following chapter provides a review on literature about perceived stress, resilience, and attachment of undergraduate students and young adults across the globe. Undergraduate students experience a significant amount of stress and there are different levels of risk and protective factors that either contribute to or provide buffers against the stress they experience. Undergraduate students are an important choice of cohort because graduates add a significant socioeconomic value to society and its future. Therefore, this literature review covers the more dominant aspects of the prevalence of perceived stress and factors that contribute to high levels of perceived stress among undergraduate students in the global and local context. This literature review also provides a comprehensive understanding of how resilience enhances students' ability to overcome challenges that result from stressful events or adversity as well as how attachment is an important factor that shapes how undergraduate students respond to perceived stress and their ability to develop resilience and 'bounce back' but as importantly, grow, in the face of adversity. In addition, this chapter includes a discussion on Positive Psychology, specifically, 'Seligman's 3P model as the theoretical framework of the study.

#### **2.2. Perceived stress and associated factors**

##### **2.2.1. Global prevalence of perceived stress and associated factors among undergraduate university students.**

A study by Sesay (2019) conducted in the USA to examine the levels, causes, and coping strategies of perceived stress among first year and senior university students. The study had a sample size of 123 university students (52 male and 71 female students). The study employed the Perceived Stress Scale (PSS-10) to assess the levels of perceived stress



among the students. Perceived stress can be defined as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his/her resources and endangering his/her well-being” (Kostic et al., 2021, p.1). The results of the study indicated that first-year students experience high levels of perceived stress compared to senior students. The results suggest that first-year students experience high levels of perceived stress compared to senior students. This could be because the transition from high school to university often presents a lot more challenges for first-year students, such as moving away from home for the first time and struggling to develop new relationships. The study also found that academic workload and financial obligations were two common causes of stress for both first year and senior students. Furthermore, the study found that there was a weak, negative relationship between the levels of perceived stress and coping strategies of university students. The author found that students used both positive and negative coping strategies such as exercising, spending time with family and friends, smoking, and drinking.

In line with the previous study, a study conducted by Mathur et al. (2019) in India reported exceedingly high levels of perceived stress among university students. Their findings indicated that a total of 8.8% students reported high levels of perceived stress, 80.1% students reported moderate perceived stress and 1.1% students experience low perceived stress levels. Perceived stress was attributed to study-related and health-related issues. These study-related issues involved an enormous syllabus in which students were under pressure to perform well in exams. In terms of health-related issues, students were sleep-deprived and reported stress as the cause. Therefore, most of the students experienced negative mood and behaviour changes due to sleep deprivation. Similar to (Sesay, 2019), Mathur et al. (2019) also identified positive coping strategies which the students used to overcome stress such as listening to music, sharing with friends or family, and sleeping.

Abdul-Ghafar et al. (2022) conducted a cross-sectional study aiming to assess the perceived stress level among undergraduate students and its relationship to sociodemographic characteristics during the COVID-19 pandemic in Malaysia. Their findings showed that most undergraduate students experienced moderate to high levels of perceived stress at 67.5% and 28.2% respectively. Furthermore, their findings revealed that female students reported high levels of perceived stress compared to male students. Their results suggest that female students experience high level of perceived stress because females tend to express their emotions more easily than males. Most importantly, their findings highlighted that university students engaging in online learning during the COVID-19 pandemic experienced moderate to high levels of perceived stress compared to face-to-face learning.

Afshar et al. (2022) conducted a study to assess perceived stress, study-related behaviour, and experience patterns of medical students. In this study, the researchers surveyed 591 medical students in year one to year six at a university in Germany. A total of 31 medical students reported using stimulating substances like cocaine and methylphenidate to meet study-related performances. Similar to the previous study by Sesay (2019), (Afshar et al., 2022) found that students of almost all academic years reported high levels of perceived stress, particularly students in the first two years of their academic years. The study also found associations between high levels of perceived stress and risky behaviours. Moreover, students without financial support were most likely to engage in risky behaviours such as substance use. While this study demonstrated high levels of perceived stress among university students, the study only focused on medical students, thus, the results of this study may not be applicable to students in other faculties such as humanities and law. Furthermore, the study failed to investigate other factors such as age and to identify protective factors that could help buffer perceived stress and study-related behaviours among students.

He et al. (2018) conducted a study at an Australian university in order to examine the predictors of psychological wellbeing among undergraduate nursing students. This study reported a high level of perceived stress and lower levels of psychological wellbeing among nursing undergraduate students. To build on the previous study by Afshar et al (2022), the authors investigated on other demographics such as age, and found that older students not only reported high levels of perceived stress but also displayed poor abilities to manage their life and to maintain quality relationships.

Mofatteh (2021), conducted a narrative review to identify principal themes associated with perceived stress, anxiety, and depression risk factors among university undergraduate students. The study reviewed a total of 41 peer-reviewed journal articles from the USA, China, UK, Japan, Germany, Australia, South Korea, Hungary, and Switzerland. The results of the study indicated a high prevalence of perceived stress, anxiety, and depression among undergraduate students compared to the general public. In addition, the results indicated that having low self-esteem and self-confidence and an underlying mental health condition before entering university were among risk factors that contribute to high levels of perceived stress. The results also highlighted that students in their first-year experience high perceived stress due to challenges in adjustments to university life and social isolation while final year students report high perceived stress because of uncertainty about their future, prospective employment, and university debt repayment.

In agreement with Afshar et al. (2022), the narrative review also revealed the consequences of experiencing high levels of stress among university students. Negative lifestyle behaviours, such as excessive alcohol consumption, drug abuse, and dietary habits were associated with high prevalence of perceived stress among university students.

Alcohol consumption was linked to negative behaviour such as missing classes, self-harm, personal regret, and being involved in unwanted sexual behaviour. Moreover, the authors maintain that sexual victimisation, ethnic minority, and demographic status were among risk factors associated with high prevalence of perceived stress and depression among university students. Lastly, the results showed that excessive usage of social media during the first year of study increased the probability of high levels of perceived stress, anxiety, and depression among undergraduate students (Mofatteh, 2021).

In summary, it is noteworthy that undergraduate students experience high perceived stress, especially first year students. In terms of gender, female students are more vulnerable to experiencing high perceived stress compared to male undergraduate students, this could be due to different reasons such as females tend to have a better awareness of their emotions. Engaging in risky behaviours such as in-taking of harmful substances is also associated with high perceived stress among students.

### **2.2.2. The prevalence of perceived stress and associated factors among undergraduate university students in South Africa**

Numerous studies, such as those above, have shown that university students experience mental health difficulties such as perceived stress, anxiety, and depression particularly during the first four years of their studies (Kural & Ozyurt, 2020; Mason, 2017; Worku et al., 2020). In this section, we review, perceived stress and its associated factors among undergraduate students in South Africa.

A study conducted by Stoddard (2017) examined the levels of stress, causes of stress, and coping methods among University of Kwazulu-Natal (UKZN) students. The study employed a mixed-methods approach which involved a survey, focus group, and interviews. The study had a sample size of 42 respondents between the ages of 18-31 years. To assess the

level of stress among the students, the researcher used the Perceived Stress Scale (PSS-10). The study found that the perceived stress levels of university students were significantly higher than the perceived stress levels of low-income adults from Cape Town, Port Elizabeth, and Durban areas. Furthermore, the study found that university students reported social stigma related to seeking psychological help. According to Stoddard (2017) students feel shame and guilt when they are struggling with mental health difficulties, hence, they avoid seeking professional help for fear of being negatively stigmatised. It is noteworthy that the sample size of the study is relatively small, consequently, the study is not a good representation of the population which suggests possible bias. Therefore, it cannot be used to make generalisations to other university populations.

A study conducted by Blows (2020), aimed to examine the prevalence of and contributory factors associated with substance use among students at a university in the Western Cape, South Africa. The study had a sample size of 2915 university students from the age of 18-41 years old. The study found that most students experienced moderate perceived stress levels, and negative associations between perceived stress and those who used substances. The study also reported that the majority of the students engage in risky behaviours such as the use of substances during their university years.

Furthermore, reporting on the prevalence of perceived stress among university students in South Africa, van Zyl and Dhurup (2016) examined the prevalence of stress and coping strategies of university students at Vaal University of Technology, Gauteng, South Africa found that students have higher levels of perceived stress, especially female students. Similar to the previous study by Blows (2020), the authors found that university students use substance abuse, emotional support, humour, and denial as coping strategies to overcome high stress levels.

Wilson et al. (2015) conducted a study at a university in the Western Cape to investigate perceived stress among dental students. The authors found that the students experienced high levels of perceived stress because of a lack of self-motivation to study, lack of student input into faculty decision-making, and inconsistent clinical feedback. Other non-academic stressors that contributed to high levels of perceived stress among students were inadequate time for social activities and a shortage in extra-curricular time. While the study identified major causes of stress, this may not be the case for other students in various faculties and departments in other universities. Therefore, the results cannot be generalised to other university populations.

In summary it appears that first years, females and students who engage more in online-learning experience moderate to high levels of stress. Although the perceived stress is related to different factors such as academic stress and financial difficulties, it often results in unhealthy coping behaviours such as alcohol and drug abuse. Consequently, university students are at high risk of not only experiencing high perceived stress levels, but their perceived stress is also linked with the engagement of several risky behaviours. Thus, there is a need to understand the factors that contribute to the prevalence rates of perceived stress in South African universities. The next section will identify protective factors that provide buffer against stress that undergraduate students experience.

### **2.3. Protective factors associated with perceived stress among university students.**

Numerous studies have indicated that with social support from family and friends, undergraduate students are *less* likely to experience high perceived stress (Bourion-Bedes et al., 2021; Sun et al., 2021; Tran et al., 2022). The quality of relationships with family and friends is important in mitigating possible stress, anxiety, and depression. A study conducted by Thompson et al. (2018) indicated that having a supportive social network can motivate strong social and emotional well-being and subsequently reduce the probability of

experiencing high stress among university students. This is also emphasised by attachment theory since developing healthy relationships is regarded as a protective factor to combating stress and enhancing resilience. The study also found that undergraduate students who reside on campus and frequently visit their family homes are less likely to experience perceived stress than those who do not visit home.

Pilane (2011) examined the relationship between perceived stress, perceived social support and well-being among first year students at UKZN. The study found that high levels of social support protect students from the effects of stress on their well-being. In addition, the study indicated that female students benefit more from social support than male students. The author also found gendered difference between men and women who perceived stressful situations differently.

Furthermore, having access to social support from the university facilities is another factor that can buffer high prevalence of perceived stress (McLean, 2021). Undergraduate students who are committed to social events such as participating sports and club activities are less likely to experience high levels of perceived stress compared to students who do not (Neveu et al., 2012). In support of this argument, Gazzaz et al. (2018) maintain that being in a committed relationship can buffer the development of perceived stress and depression among students.

Shilpa and Srimathi (2022) conducted a study to examine the role of resilience on perceived stress among pre-university and undergraduate students in India. Their results revealed that there is a significant difference between the levels of resilience and perceived stress among pre-university and undergraduate students. The study also found that resilience influences perceived stress. High level of resilience is associated with low levels of perceived stress and vice versa. The next section will discuss how resilience and other determinants

contribute to undergraduate university students' ability to bounce back and grow in the face of adversity.

#### **2.4. Resilience among university students**

The term 'resilience' focuses on overcoming challenges as a result of adversity or stressful circumstances that people experience (van Vuuren, 2014). Resilience can be defined as "the capacity of a dynamic system to adapt successfully to disturbances that threaten the viability, function or the development of that system" (Masten, 2014, p.6). Resilience is associated with an individual's ability to thrive and grow in the face of adversity (Lohner & Aprea, 2021). According to Pisiali et al. (2018), students respond differently to similar experiences and, as a result, some individuals show resilience in similar domains such as academic achievements and studying habits, while others display resilience in distinct domains such as academic achievement and social competence. According to van Vuuren (2014), resilience enhances an individual's ability to cope with academic challenges that may prevent their academic growth. Resilient students can better manage their academic work and emotions in an academic setting and overcome negative experiences by using positive emotions (van Breda, 2018).

According to Mann (2018), an essential requirement of resilience is the presence of both risk and promotive factors that can assist in producing positive outcomes or possibly lessen negative outcomes. Therefore, challenging experiences are necessary to further develop a stronger sense of resilience. The way in which undergraduate students respond to academic, financial, social, or other stressors during their studies will either produce positive learning experiences or unsuccessful experiences (Holdsworth et al., 2017). Undergraduate students who manage to triumph in the face of their challenges and can cope and adapt to challenging circumstances are considered resilient (Shilpa & Srimathi, 2015).



Similarly, Radhamani et al. (2021), maintains that resilience is seen as an important aspect that supports students' mental health requirements within university facilities. Therefore, resilience is a protective factor that is associated with fewer mental health problems and successful adjustment to university life. Radhamani et al. (2021), argues that resilience can equip students with the capacity of adapting effectively and to cope with stressors that are unique to university life, thus, preventing psychological distress.

Furthermore, van Wyk et al. (2022) argues that resilience comprises of both intrinsic and extrinsic psychosocial factors that can help promote resilient responses to stressors. These intrinsic factors include growth-oriented mindsets, psychological hardiness, and optimism, whereas extrinsic factors include social support, socioeconomic resources, and access to student counselling services (van Wyk et al., 2022). This is important especially in a low-middle income country like South Africa where most students face challenges such as psychosocial and socioeconomic stressors.

A study by Solomon (2013), conducted in England, explored the relationship between resilience, perceived stress, and academic achievement of 162 students revealed that there is a negative relationship between resilience, perceived stress, and academic achievement. The results highlighted a positive relationship between resilience and academic achievement. In addition, the results showed that resilience and perceived stress are strong predictors of academic achievement. Low levels of perceived stress and high resilience thus lead to high academic achievement. The next section will examine factors that may exert influence in the development of resilience among university students.

#### **2.4.1. Resilience and Age**

Emerging adulthood and young adult years (18-26) is a period of developmental stages where individuals are faced with a variety of challenges regarding education,

emotions, and financial opportunities (Corathers et al., 2017). Therefore, it is essential to investigate the lives of young adults to understand how they bounce back after experiencing hardships and lead a healthy normal life (Anasuri & Anthony, 2017). Thus, resilience is one of the possible processes that can help young adults to deal with stressful events and hardships and provide protection. However, for some young adults it may take time to function at adult-operating speed as they transition from adolescence because managing demands of the self tend to increase as they become more independent (Anasuri & Anthony, 2017).

Randall (2013) maintains that with age and experience individuals become more accepting of life challenges and are capable of handling hardships and stressors. Adults in their later stages of life are more prepared to face challenges and hardships compared to young adults who are not fully aware of the realities of life (Randall, 2013). During late adulthood, life challenges and stressful events are expected to occur which may involve the loss of a loved one, job loss, illness, or accident. Thus, in the face of adversity individuals in their late adulthood stages are more likely to bounce back quickly because hardships are not as surprising as compared to young adults (Randall, 2013). Therefore, it is important to consider how resilience develops or functions in young adults in order to strengthen for use later in life.

#### **2.4.2 Resilience and Gender**

There have also been studies on university students which have highlighted the gender differences that may be present in resilience. A study conducted by Erdogan et al. (2015) in Turkey assessed university students' resilience levels considering the effect of gender and faculty. The results revealed that male students have higher resilience level in the face of adversity and hardship compared to female students. According to their results, female

students have lower resilience levels because they are more emotional than male students, thus, they are likely to be affected more deeply after experiencing stressful events.

In contrary, a study conducted by Kelly and Ileri (2022) in Kenya assessed resilience and self-efficacy as predictors of academic achievement among university students. The authors found that female students were more resilient than their male counterparts. The study also found that the resilience of female students was associated with family and peer support.

Interestingly, a study conducted in Jordan by Hamdan-Mansour et al. (2014) examined the correlates of resilience among 480 university students and found that there were no significant differences between resilience and gender difference. Similarly, a study conducted by Nazir (2022) in Pakistan examined the associations between stress, resilience, and self-efficacy among university students during the COVID-19 pandemic. The study found no gender differences in terms of resilience.

These differences in results of previous studies indicate that resilience is a dynamic process that involves various factors that are not only specific to gender differences but also include other factors such as context, cultural influences, age, and time (Latif & Amirullah, 2020).

### **2.4.3 Determinants of Resilience**

In a study conducted in Pakistan aimed at identifying the determinants of resilience among university students, Hassan et al. (2022) found the following determinants of resilience: having a strong faith and intrinsic motivation as well as having a comprehensive understanding of financial problems. The authors believe that students with a strong faith in God have intrinsic motivation and spiritual powers to become resilient in the face of adversity and challenging situations.

A study conducted in Australia by McGillivray and Pidgeon (2015) examined the relationship between resilience, psychological distress, sleep disturbance, and mindfulness. The study found that students with higher levels of resilience reported lower levels of psychological distress. The results also showed that mindfulness was a strong predictor of resilience. According to their results, students with higher resilience levels reported higher mindfulness.

Furthermore, according to Kural and Kovacs (2021), relationships with inconsistent and insensitive attachment figures inhibit the development of secure stable mental foundation which reduces an individual's ability remain, strengthen, or develop resilience in response to stressful events. As social support is one of the key determinants in resilience and in response to stress, and attachment is key in developing relationships, the next section will discuss how attachment and attachment styles can influence resilience as well as perceived stress.

## **2.5. Attachment and attachment styles of undergraduate students**

### **2.5.1. Attachment**

“Attachment is a reciprocal process by which an emotional connection develops between an infant and his/her primary caregiver” (Crouch, 2015, p. 18). The early bonds between an infant and primary caregiver are more important for the child's development, as it affects the child's physical, cognitive, emotional, and social growth (Hosseini et al., 2019). According to Rees (2007), the emotional bond between the child and primary caregiver is important for safety, stress regulation, adaptability, and resilience. The emotional connection becomes the basis for the development of trust and mistrust, and shapes how the child will relate to the world, learn, and form relationships throughout their life (Crouch, 2015).

### **2.5.2 Attachment theory**

Bowlby (1969) proposed that infants develop attachment relationships with primary caregivers as well as seek and maintain proximity to these caregivers when stressed, ill, or

afraid. According to Bowlby (1969), infants use a few behaviours to seek proximity to their primary caregivers such as crying, vocalising, and following. Attachment theory posits that the challenges that a child may experience due to separation from or being deprived of his/her primary caregiver as well the development of the bond between the child and primary caregiver (Sullivan et al., 2011). Bowlby (1969) further maintained that infants develop a sense of whether they are worthy of love and support and a sense of whether they can trust their caregivers and rely upon them to provide care through attachment relationships with primary caregivers.

### 2.5.3. Attachment styles and its consequences

According to Bowlby (1988), adult attachments are greatly influenced by the emotional bonds made as infants with attachment figures. This entails that infants seek relationships from primary caregivers who provide them with security and safety thus enhancing their chances of survival (Bowlby, 1988). According to Shirvanian and Micheal (2017), early emotional bonds between the child and primary caregiver ensure that young children survive in the face of a range of threats, such as predation, injury, and illness. During adulthood, attachment figures may include individuals outside of primary caregivers such as romantic partners, friends, institutions, or religious figures (Bartholomew & Harowitz, 1991).

Bartholomew and Horowitz (1991) developed the adult attachment model which distinguishes the four attachment styles (i.e., secure, preoccupied, dismissive, and fearful). According to Welch and Houser (2010), the **secure attachment style** is characterised by significant levels of warmth, intimacy, and a balance of control. Securely attached individuals hold a positive view of themselves and others and are comfortable relying on others and are easily comforted (Bartholomew & Horowitz, 1991). They develop these attributes because of the consistent responsive care they received as infants. This is helpful during challenging times because these adults will feel positive about the resources and support that they can

access in order to manage their troubles. **Preoccupied individuals** display high levels of self-disclosure, reliance on attachment figures and negative self-image (Bartholomew & Horowitz, 1991). This is unfavorable during challenging situations because these adults will feel great discomfort when the person whom they depend on for emotional sustainability is not around and will perceive events as stressful and threatening. **Dismissive individuals** are self-reliant and have a great sense of self-worth, and they tend to avoid close relationships (Bartholomew & Horowitz, 1991). This is unconstructive in the face of adversity because these individuals will not reach out for support from family and friends when experiencing challenges and stressful events. Lastly, **fearful attached individuals** display assertiveness, low self-image, and balance of control (Sheinbaum et al., 2015; Bartholomew & Horowitz, 1991). During stressful situations, these adults will be hindered by fear of rejection to seek social support thus will avoid interpersonal interactions.

An individual's attachment style has a significant impact on their behaviours and attitudes in their social and emotional relationships (Ederm, 2017). For example, when threatened by a partner's negative behaviour, individuals with secure attachment style attempt to effectively resolve conflict with positive effect (Simpson & Rholes, 2012). Whereas an anxious attached individual would respond to a partner's negative behaviour with excessive anger and hostility which may influence the quality of the relationship (Simpson & Rholes, 2012).

Morden attachment theorist argue that attachment styles are contingent to the emotional bonds that are developed between the infant and primary caregiver during childhood (Ederm, 2017). Developing a strong positive emotional bond between the infant and primary caregiver may somewhat seem challenging in South Africa. South Africa has an overwhelming high rate of father absence (Freeks, 2022), an increase of the divorce rate by 13.1% since 2020 (StatsSA, 2023), and a large number of children born out of wedlock

(Blackie, 2014). Attachment theory considers both parents as attachment figures, and it also acknowledges that the emotional bond between the infant and each primary caregiver may be distinct and unique (Bowlby, 1982). According to modern attachment theorist, adolescents in single parent families are more likely to develop insecure attachment styles than those in two-parent families, and these adolescents may engage in risky behaviours such as (i.e., substance abuse) and display inability to form secure relationships (Ntloko & Kheswa, 2018).

A study conducted by Kennison and Spooner (2023) aimed at examining the extent to which parent-relationships during childhood and attachment would predict resilience in young adults. The study participants were 245 (153 women and 92 men) undergraduate students registered for Psychology and Speech communication courses at a public university in the Midwestern region of United States. At least 274 participants had a relationship with both their mother and father. The study found that individual differences in the levels of resilience among young adults in universities were predicted by higher levels of close attachment and childhood relationships with parents.

Dorin (2014) conducted a study to examine the association of attachment styles and reported levels of perceived stress. The study involved 727 psychology undergraduate students between the ages of 18-30 years (73.2% female, 26.8% male). The study found a positive relationship between securely attached students and lower perceived stress. In contrast, insecurely attached students reported higher levels of perceived stress. The author maintained that students with insecure attachment styles are more likely to engage in negative relationships, conflicts, and finding less support.

A study conducted by Kural and Özyurt (2018) aimed at examining the relationship between university adjustment, adult attachment styles, personality traits, and perceived stress among undergraduate students. According to their results, female students who view

themselves as not having enough friends, and insecure attached students (preoccupied, fearful, and dismissive attachment styles) reported higher levels of perceived stress. This study also found that there is a negative relationship between perceived stress and the anxiety and avoidance dimensions of attachment styles. Furthermore, insecurely attached students are more likely to perceive the university environment in a negative way. This leads to less desirability to develop new social bonds because of being fearful. These results suggest that securely attached students are more likely to adjust better to the university environment than insecurely attached students. Moreover, students with high neuroticism reported high levels of perceived stress. Literature suggests that securely attached students have lower levels of perceived stress and higher levels of resilience.

## **2.6. Theoretical Framework: Positive Psychology**

The Positive Psychology framework was developed by Martin Seligman in 1998 (Seligman, 1999). Positive Psychology is a broad framework that is concerned with the understanding of the conditions and processes that contribute to flourishing and optimal functioning (Bridges, 2017). The study employed the Seligman's 3P's model as it associated with concept of resilience. The 3 P's model includes *personalisation*, *pervasiveness*, and *permanence*. Seligman's 3P's model suggests that for an individual to develop resilience and grow, which enables them to manage challenges or adversity and develop positive outcomes after experiencing hardship. Thus, it is important to realise the role of these concepts in developing resilience (Bridges, 2017).

*Personalisation*: refers to the degree to which an individual is likely to blame themselves, someone else, or external factors in the face of adversity or negative events (Konstantinou, 2021). For example, a person with a more positive explanatory style is likely to acknowledge various factors that contributed to the situation (Konstantinou, 2021). In contrast, a person with a negative explanatory style may think "I am terrible at statistics". As



a result, people with a negative explanatory style are likely to have poor self-esteem and may develop depression (Sales, 2020). People with a negative explanatory style can be associated with avoidant or fearful attachment styles.

*Pervasiveness:* refers to the belief that a negative event will affect all areas of one's life (Hooper, 2020). For example, "I am incapable of being organised". A person with a more positive explanatory style would contain the negative event to that specific situation and focus on what could be done better next time (Akthar, 2012). Whereas someone with a negative explanatory style is likely to interpret a single failure to mean that every single aspect of their lives will now be affected negatively (Akthar, 2012). For example, an individual with negative explanatory style would be associated with fearful attachment styles accompanied with excessive anxiety with the fear of failing leading to high perceived stress and less resilience levels.

*Permanence:* refers to how long a person feels that a negative event is going to cause them suffering. For example, "I am never going to be smart enough". A person with a more positive explanatory style would acknowledge that the negative event is only temporary and focus on what the situation will look like once the problem has resolved (Akthar 2012). Whereas an individual with a negative exploratory style may believe that a negative event will affect the remainder of their lives, creating more harm to themselves than the actual event (Akthar 2012). For example, an individual with negative explanatory style would likely to have fearful or avoidant attachment styles resulting in fear or avoidance of trying new things due to negative past experiences, which indicates less resilience.

The framework is appropriate for the study because it promotes the idea of positive personalisation, pervasiveness, and permanence processes and emotions which can assist undergraduate students experiencing perceived stress to overcome challenges and stressful

events by using positive emotions. For example, the literature suggests that an insecurely attached student is more likely to experience high levels of perceived stress and low levels of resilience. Therefore, drawing from the framework, specifically the *Permanence* concept, an insecurely attached individual will perceive a stressful event as permanent suffering to their lives. It enables individuals to overcome and recover quickly in the face of adversity; and become more resilient (Bridges, 2017). Furthermore, these three perspectives can help individuals to better understand their thoughts, mindset, and beliefs after experiencing stressful challenges and adversity, and to promote resilience. The framework was used to understand how undergraduate students respond in the face of adversity and stressful events.

## **2.7. Chapter Summary**

This chapter has explored global and local literature regarding the prevalence of perceived stress among undergraduate students. Research has shown that undergraduate students experience high levels of perceived stress because of transitioning to university life, making new friends, socioeconomic status, and loss of loved ones. However, not enough research has been done to assess the prevalence of perceived stress among undergraduate students in South Africa. Literature has revealed that students with higher levels of resilience often report low levels of perceived stress. In other words, resilience is not only a protective factor against perceived stress, but it also contributes to students' success at the university. Research also found that securely attached students are more likely to reach out to family and friends when experiencing stressful events. However, little research was done to assess attachment as a mediating factor to students' perceived stress and how quickly they recover after facing adversity or stressful events. The next chapter discusses the methods utilised in this study to meet its aim and objectives.

### **3. Chapter Three**

#### **Methods**

##### **3.1. Introduction**

While chapter two focused on the discussion literature relevant to this study, this chapter discusses the research design, sampling procedure, methods and types of analyses that were used to determine the objectives of the study.

##### **3.2. Research design and context**

The study employed a quantitative approach using a cross-sectional survey design. Quantitative research can be used to make generalisations and establish cause and effect relationship between two or more variables using mathematical and statistical methods (Ahmad et al., 2019). This study used a cross-sectional survey design to examine the relationships between two or more variables at the same time (Raimundo et al., 2018). This is applicable here as the study aims to explore the relationship between resilience, attachment, and perceived stress among undergraduate students. The study took place at a previously disadvantaged university in the Western Cape. It was conducted in English as it is the language of instruction at the university.

##### **3.3. Eligibility criteria**

###### **3.3.1. Inclusion criteria**

The inclusion criteria refer to key characteristics of the target population set by the researcher, which the prospective respondents must meet to be part of the sample (Patino & Ferreira, 2018). All undergraduate students across all seven faculties from the first year to fourth year of study were included in the sample, to increase the sample size.

### **3.3.2. Exclusion criteria**

The exclusion criteria refer to characteristics set by the researcher which excludes potential respondents from the sample (Patino & Ferreira, 2018). All students registered at postgraduate level were excluded from the study.

### **3.3.3. Sampling**

The respondents of the study consisted of 256 undergraduate students across all seven faculties of the university. Undergraduate students are particularly prone to perceived stress due to change in education system and social environment compared to postgraduate students who have established their way around the university environment (Wang et al., 2021). Participants were recruited using convenience sampling which is a type of sampling where members of a specific population that meet certain practical criteria, such as easy accessibility, geographical proximity, and willingness to participate (Etikan et al., 2016). All undergraduate university students received an email as well as reminders to complete the survey.

### **3.4. Demographic Characteristics of the Sample**

Table 1 provides an overview of demographic characteristics of the respondents, these include age, gender, home language, faculty, year of study and marital status. As noted in the literature review these demographic characteristics are important to consider when assessing undergraduate university students' ability to bounce back in the face of adversity. A total number of 256 undergraduate students participated in the study.

**Table 1: Demographic information of participants**

Baseline characteristic		
	<i>n</i>	%
Age		
18-24	218	85.2
25-32	25	9.8
33-44	12	4.7
>=45	1	.4
Gender		
Female	210	82
Male	46	18
Home language		
English	105	41
Afrikaans	27	10.5
isiZulu	23	9.0
isiXhosa	59	23.0
isiNdebele	1	.4
Sesotho	5	2.0
Setswana	6	2.3
Sepedi	13	5.1
siSwati	3	1.2
Tshivenda	5	2.0
Xitsonga	7	2.7
Faculty		
Arts and Humanities	95	37.1
Community and Health Sciences	23	9.0
Dentistry	8	3.1
Economics Management Sciences	43	16.8
Education	18	7.0
Law	27	10.5
Natural Sciences	42	16.8
Year of Study		
1 <sup>st</sup> Year	80	31.3
2 <sup>nd</sup> Year	79	30.9
3 <sup>rd</sup> Year	91	35.5
4 <sup>th</sup> Year	6	2.3
Marital status		
Single	247	96.5
Married	8	3.1
Divorced	1	.4

Of the 256 undergraduate university students, the majority of participants were female (82%). The age of the participants was recorded in categories ranging from 18-24, 25-32, 33-

44, and >45. Most of the students were between the ages of 18-24 years old [ $n = 218$  (85.2%)]. The majority of the participants were English speakers (41%). The vast majority of the participants reported that they are single (96.5%). With regards to participants' level of study, a large proportion of the students indicated that they were in the 3<sup>rd</sup> year (35.5%) of their studies. In reference to faculty, most of the participants were from the Arts and Humanities faculty (37.1%).

### 3.5. Data collection instruments

An online survey was used to recruit participants and administer the survey. The survey, which was administered via Google Forms, included a demographics section and three standardised measurements. The survey was administered through an online platform known as Google Forms. Data collection began from August 2022 until June 2023 which was the post COVID-19 pandemic period. The demographic section asked questions regarding the participant's age, gender, faculty, year of study, marital status, and home language. The standardised measurements consisted of the Perceived Stress (PSS-10), the Brief Resilience Scale (BRS), and the Relationship Scale Questionnaire (RSQ).

*The Perceived Stress Scale (PSS-10)* was developed by Cohen et al. (1983) and is a commonly used self-report measure assessing the degree to which situations are appraised as stressful. The scale was used to measure the degree to which individuals appraised life as unpredictable, overwhelming, and overloaded within the last 30 days of completing the scale (Bastianon et al., 2020). Respondents rate the frequency of their feelings and feelings about life events and situations using a 5-point Likert-type scale ranging from (0 = never to 4 = very often). The PSS-10 includes questions such as, "In the last month, how often have you felt nervous and "stressed?"; "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?". The Perceived Stress Scale (PSS-10)

was used locally on a study conducted by Blows (2020) at the University of the Western Cape to investigate factors associated with substance abuse among university students.

For this study, Internal Consistency Analysis was conducted to determine whether the PSS-10 scale was a good measure to measure perceived stress. The PSS-10 scale was found to have a good internal consistency reliability with Cronbach's Alpha of  $\alpha = .79$  which indicated that the PSS-10 scale is a good measure of perceived stress (Tavakol & Dennick, 2011). All scores were added up to the 10 statements to get a total score of perceived stress which could be classified into categories namely: low stress (0-13); moderate stress (14-26); high stress (27-40) (Cohen et al., 1983).

*The Brief Resilience Scale (BRS)* is a six-item scale that is used to assess the ability to bounce back (Smith et al., 2008; Jefferies, 2021). The scale was administered to determine individuals' ability to 'bounce back' in the face of negative events ("stressful events", "hard times", "difficult times", "setbacks"). Items are rated on a 5-point Likert-type scale ranging from (1 = strongly disagree to 5 = strongly agree), where items 2, 4 and 6 are reverse coded.

For this study the BRS measure was also found to be a good measure of resilience, demonstrated by a good internal consistency reliability with Cronbach's Alpha of  $\alpha = .82$  (Tavakol & Dennick, 2011). All scores for all six items were added and divided the sum by the total number of questions answered (6) for the resilience total score which could be classified into three categories: low resilience (1.00 - 2.99); normal resilience (3.00 – 4.30); high resilience (4.31 – 5.00) (Smith et al., 2008).

*The Relationship Scales Questionnaire (RSQ)* is a 30-item scale designed to measure individual's feelings about close relationships (Griffin & Bartholomew, 1994). The scale examines attachment styles of secure (item 3, 9, 10, 15, 28); preoccupied (6, 8, 16, 25); dismissing avoidance (2, 6, 19, 22, 28); and fearful (1, 5, 12, 24). Items 9, 28 and 6 are

reverse scored. RSQ items are rated on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (very like me).

An Internal Consistency Analysis was conducted to determine whether the scale was consistent in measuring what it is intended to measure. The RSQ measure had a good internal consistency reliability with Cronbach's Alpha of  $\alpha = .80$  (Tavakol & Dennick, 2011). The internal consistency for the secure, preoccupied, dismissive, and fearful attachment style subscales were  $\alpha = .51$ ,  $\alpha = .51$ ,  $\alpha = .54$ , and  $\alpha = .60$  respectively.

### **3.6. Procedures**

Ethics clearance was obtained from the Humanities and Social Sciences Research Committee (HSSREC) and institutional permission from the University Registrar's office (see Appendix D). The Registrar's office distributed the survey to random student samples with the given parameters (i.e., undergraduate students) via the university's online communication system. The questionnaire was administered via Google Forms. After data has been collected, it was downloaded to an excel sheet for cleaning and then transferred to SPSS (version 28) to be analysed. All data was downloaded and saved on a password-controlled computer by the researcher and supervisor. All data was deleted off Google Forms and the drive.

### **3.7. Data analysis**

The first phase of data analysis involved data cleaning and coding the raw data extracted from Google form in Excel format. Thereafter, the data (Microsoft Excel file) was imported to SPSS 28.0 software where the quality and accuracy of the data collected was examined by running frequencies on all the items in the dataset and screening for missing data. There was no missing data.



Frequencies were conducted on the Perceived Stress Scale (PSS-10), Brief Resilience Scale (BRS) and Relationship Scale Questionnaire (RSQ) to determine the levels of perceived stress, resilience, and attachment styles on the sample.

To address the first **three objectives** of the study, namely, to determine the nature of the relationship between resilience, perceived stress and attachment styles, a bivariate correlation using the Pearson correlation coefficient test was conducted. This parametric test was selected because the PSS-10, BRS and RSQ were all measured on continuous scales.

A mediation analysis using PROCESS macro (Model 4) was conducted to address the **fourth objective** of the study. Mediation analysis was used to investigate the extent to which attachment mediates the relationship between resilience (predictor variable) and perceived stress (outcome variable).

### **3.8. Ethics**

Ethics clearance was obtained from the Humanities and Social Sciences Research Ethics Committee (HSSREC), ethics number (HS22/5/36) (see appendix A). The researcher obtained permission to distribute the survey to a random sample of undergraduate students from the university's Registrar's Office (see Appendix D). No permission is required to use the PSS-10, BRS and RSQ, as the scales are available for the public domain provided that they are referenced appropriately (Fraley, 2019). The following ethics rules adhered to:

#### ***Informed consent***

Informed consent was obtained from all participants by ensuring that the study informant and consent forms are captured on the google form. Before they began the survey, participants were asked to 'consent' or 'not consent' to the study (see Appendix C). Should they select 'no' they were automatically directed to the end of the survey. Participants were made aware that they have a right to withdraw from the study at any time without penalty.

### ***Privacy and Confidentiality***

All gathered data was securely stored on the researcher and supervisor's Google drive which was not shared with anyone to ensure anonymity and confidentiality of participants. The researcher adhered to the protection of personal information, as per the Protection of Personal Information Act of 2013 (POPI Act). The gathered data was only accessible to the researcher and supervisor. All data will be deleted after a period of five years.

### ***Risk of Potential Harm to Participants***

All participants were provided with information about services of support should they need to access them because of their participation in this study, for example, the information counselling services such as SADAG, Lifeline etc.

### **3.9. Chapter Summary**

This chapter outlined the research methods that were employed in this study and provided a motivation why a quantitative cross-sectional survey design was most appropriate to address the aim and objectives and answer the research question of this study. The researcher provided a description of the research context, data collection instruments and procedures followed to procure the sample under this study, which this study followed. Relative to data analysis, the methods employed were outlined. The following chapter provides findings of the study.

## 4. Chapter Four

### Results

#### 4.1. Introduction

This chapter reports findings relative to the research question outlined in Chapter one. The results of this study are divided into five sections which follow the objectives of this study. The first section reports results of descriptive statistics of the three scales used in this study. The second section reports on results for the relationship between resilience and perceived stress among undergraduate university students. The third section presents results of the second objective, the relationship between resilience and attachment styles. The fourth section presents the relationship between perceived stress and attachment styles, addressing objective three. The last section reports findings of the extent to which attachment styles mediate the relationship between resilience and perceived stress.

#### 4.2. Exploration of the data

Table 2 reports the scale statistics for each measure used in this study.

**Table 2: Scale Statistics (n = 256)**

	BRS	PSS-10	RSQ
<i>N</i> Valid	256	256	256
<i>M</i>	3.05	2.40	3.21
<i>SD</i>	.79	.64	.48
Skewness	-.19	-.09	-.28
Kurtosis	-.12	-.32	.01
Minimum	1	1	2
Maximum	5	4	4

Table 2 indicates that the skewness and kurtosis values for the BRS distribution falls within the normal range of -1 to +1 and -2 to +2 respectively, therefore, the distribution can be considered normal (George & Mallery, 2020). For both the PSS and RSQ measures, skewness and kurtosis are acceptable to excellent (George & Mallery, 2020).

#### 4.2.1. Descriptive Statistics

Frequency tables are presented below to show the prevalence of perceived stress as experienced by undergraduate university students. The findings are presented in tables 3 and 4.

**Table 3: Prevalence of perceived stress**

	<i>n</i>	%
Low Stress	13	5.1
Moderate Stress	153	59.8
High Stress	90	35.2
Total	256	100

The findings presented in table 3 indicate that the vast majority 59.8% of undergraduate university students experience moderate stress. Table 3 also demonstrates that out of 256 undergraduate students that were sampled in this study, 35.2% reported that they experience high levels of perceived stress.

**Table 4: Cross-tabulation of year of study and PSS-10 categories**

	PSS Categories			Total
	Low perceived stress	Moderate perceived stress	High perceived stress	
First year	2	50	28	80 (31.25%)
Second year	4	46	29	79 (30.90%)
Third year	6	52	33	91(35.50%)
Fourth year	1	5	0	6 (2.34%)
Total	13	153	90	<b>256</b>

Table 4 indicates that the majority of undergraduate students that experience the most perceived stress are third year students (35.50%). Table 4 also reveals that among undergraduate students, third year students experience mostly moderate to high perceived stress.

**Table 5: Resilience of students**

Table 5 reports descriptive statistics of resilience as experienced by undergraduate students.

***Resilience of undergraduate university students***

N Valid	<i>n</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>
Resilience	256	1.00	5.00	3.05	.79

Table 5 above reveals that undergraduate university students experience ‘normal’ levels of resilience ( $M = 3.05$ ,  $SD = .79$ ). According to Smith et al. (2008), the BRS mean scores of 1.00 – 2.99 is considered as low resilience, 3.00 – 4.30 is regarded as normal resilience, while high resilience ranges from 4.31 – 5.00.

**Table 6: Attachment of undergraduate students**

	Secure	Preoccupied	Dismissive	Fearful
N Valid	256	256	256	256
M	3.43	3.34	3.31	3.11
SD	.70	.80	.76	.88
Minimum	1	1	2	1
Maximum	5	5	5	5

Table 6 reveals that secure attachment style has a slightly bigger distribution compared to the other attachment styles ( $M = 3.43$ ;  $SD = .70$ ). It would appear as though the majority of the sample experience more of a ‘secure’ attachment style. Whereas fearful attachment style has the least distribution ( $M = 3.11$ ;  $SD = .88$ ) in terms of attachment styles experienced by undergraduate students.

**4.3. Objective 1: Determining the relationship between resilience and perceived stress**

To examine the relationship between resilience and perceived stress, parametric correlations were conducted (i.e., Pearson’s correlation coefficient). This method was employed because both variables met all assumptions (level of measure, normality, and linearity). The findings are presented in table 6.

**Table 7: Correlations between resilience and perceived stress of undergraduate students**

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2
1. Resilience	256	3.05	.73	—	
2. Perceived Stress	256	2.04	.64	<b>-.60**</b>	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$

Table 7 reveals that there is strong, negative and significant relationship between resilience and perceived stress ( $r = -.60$ ,  $p < .001$ ) (Field, 2018). These results indicate that an increase in resilience is associated with a decrease in perceived stress and vice versa.

Therefore, these results support the hypothesis one set out in Chapter one.

#### 4.4. Objective 2: Determining the relationship between resilience and attachment styles

A Pearson correlation coefficient test was conducted to examine the relationship between resilience and the four types of attachment styles. The BRS and RSQ were continuous measured scales, and all the assumptions of this test were met. The findings of the analysis are presented below in Table 8.

**Table 8: Correlations between Resilience and Attachment styles**

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Resilience	256	3.05	.79	—				
2. Secure	256	3.43	.70	<b>-.33**</b>	—			
3. Preoccupied	256	3.34	.80	<b>-.40**</b>	.53**	—		
4. Dismissive	256	3.32	.76	<b>-.45**</b>	.51**	.76**	—	
5. Fearful	256	12.46	3.53	<b>-.38**</b>	.49**	.65**	.63	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$

Table 8 above reveals that there is a statistically significant negative relationship between resilience and the four attachment styles. Resilience had moderate, negative and significant association with secure and fearful attachment ( $r = -.33, p < .001$ ) ( $r = -.38, p < .001$ ) respectively (Field, 2018). This indicates that higher levels of resilience were associated with lower levels of secure and fearful attachment styles. Resilience had a moderate, negative and significant associations with preoccupied and dismissive attachment styles ( $r = -.40; p < .001$ ) ( $r = -.45, p < .001$ ) respectively (Field, 2018). These results deviate from hypothesis two set out in Chapter one. It was expected that resilience would have a negative association with fearful, dismissive, and preoccupied attachment styles, and resilience to have a positive association with secure attachment. Thus, although the expectation was that there would be a significant relationship between attachment styles and resilience, the direction differed for secure attachment and resilience.

#### 4.5. Objective 3: Determining the relationship between perceived stress and attachment styles

To examine the relationship between perceived stress and attachment styles, a Pearson correlation coefficient test was used because both variables met all assumptions of this test. The results of this analysis are presented in Table 9.

**Table 9: Correlation between Perceived Stress and Attachment styles**

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Perceived Stress	256	2.04	.64	—				
2. Secure	256	3.43	.70	<b>.42**</b>	—			
3. Preoccupied	256	3.34	.80	<b>.47**</b>	.53**	—		
4. Dismissive	256	3.32	.76	<b>.54**</b>	.51**	.75**	—	
5. Fearful	256	12.46	3.53	<b>.48**</b>	.49**	.65**	.62	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$

Table 9 reveals that perceived stress and attachment styles have a statistically significant, moderate positive relationship. The results show that perceived stress and all attachment styles have a statistically significant, moderate and positive relationship. The strongest relationship was found between perceived stress and dismissive attachment style ( $r = .42; p < .001$ ). The table above indicates the moderate relationships of all the variables.

#### 4.6. Objective 4: Attachment as a mediator of the relationship between resilience and perceived stress

To examine whether the relationship between resilience and perceived stress is mediated by attachment style, a mediation analysis was conducted. The results of the analysis are presented in Table 10, 11, and 12. The model suggests that the relationship between resilience and perceived stress operates through attachment styles. According to Field (2018), for this to be true:

- 1) Resilience must predict perceived stress.
- 2) Resilience must predict attachment style.
- 3) Attachment style must predict perceived stress.
- 4) The relationship between resilience and perceived stress is mediated through attachment style.

**Table 10: Resilience through Attachment (Path estimates)**

	Coefficient	SE	t	95% CI		p
				LL	UL	
Resilience → Secure	-.2424	.0436	-5.551	-.3283	-.1565	.0000
Resilience → Preoccupied	-.2715	.0386	-7.028	-.3476	-.1954	.0000
Resilience → Dismissive	-.3597	.0450	-7.994	-.4483	-.2711	.0000
Resilience → Fearful	-.2842	.0431	-6.593	-.3691	-.1993	.0000

Table 10 above indicate that resilience significantly and negatively predicts secure attachment,  $b = -.24$ , 95% CI [-.33, -.16],  $t = -5.56$ ,  $p < .01$ . The  $R^2 = .1083$  which indicates that resilience accounts for 10.83% of variance in **secure** attachment. Resilience significantly



and negatively predicts **preoccupied** attachment,  $b = -.27$ , 95% CI [-.35, -.20],  $t = -7.03$ ,  $p < .01$ . The  $R^2 = .1628$  of the models shows that 16.28% of the variance in preoccupied attachment is explained by resilience. Resilience significantly and negatively predicts **dismissive** attachment  $b = -.36$ , 95% CI [-.45, -.27],  $t = -8.04$ ,  $p < .01$ . The  $R^2 = .2010$  indicates 20.10% of variance in dismissive attachment measure by the RSQ is explained by resilience. Resilience significantly and negatively predicts **fearful** attachment,  $b = -.28$ , 95% CI [-.37, -.20],  $t = -6.63$ ,  $p < .01$ . The  $R^2 = .1461$  shows that 14.61% of variance in fearful attachment is explained by resilience. Therefore, as initially shown in the association between resilience and attachment, resilience also significantly and negatively predicts attachment.

**Table 11: Relationship between Resilience and Perceived stress through Attachment**

	Coefficien <i>t</i>	SE	<i>t</i>	95%CI		<i>p</i>
				LL	UL	
Constant	27.976	2.6191	8.390	16.817	27.134	.0000
Resilience	-.5531	.0702	-7.878	-.6913	-.4148	.0000
Secure	.1900	.1029	1.846	-.0127	.3926	.0661
Preoccupied	.0006	.1522	.0037	-.2991	.3002	.9971
Dismissive	.3438	.1260	2.727	.0956	.5920	.0068
Fearful	.2592	.1165	2.225	.0298	.4886	.0269
(total) Resilience → Perceived Stress	-.7966	.0676	-11.791	-.9296	-.6635	.0000
(direct) Resilience → Perceived stress	-.5531	.0702	-7.878	-.6913	-.4148	.0000

Table 11 reveals that perceived stress is significantly predicted from resilience and avoidance and fearful attachment. In addition, resilience significantly predicts perceived stress  $b = -.55$ , 95% CI [-.69, -.41],  $t = -7.88$ ,  $p < .01$ . This indicates that higher levels of resilience were associated with lower levels of perceived stress and vice versa. The  $R^2 = .4690$  indicates that 46.90% of variance in perceived stress is explained by resilience.

The findings also indicate a positive relationship between avoidance and fearful attachment on perceived stress. Therefore, the following mediators predict perceived stress: avoidance attachment  $b = .34$ , 95% CI [.096, .59],  $t = 2.73$ ,  $p = .01$ ; fearful attachment  $b = .26$ , 95% CI [.03, .49],  $t = 2.23$ ,  $p = .03$ . Therefore, as perceived stress increases, avoidance, and fearful attachment increases.

Table 11 also shows the total effect and direct effect of resilience and perceived stress without attachment in the model; total effect:  $b = -.8$ , 95% CI [-.93, -.66],  $t = -11.79$ ,  $p < .01$ ; direct effect:  $b = -.55$ , 95% CI [-.69, -.42],  $t = -7.88$ ,  $p < .01$ . The negative relationship reveals that as resilience increases, perceived stress decreases and vice versa. The  $R^2 = .3537$  shows that 35.37% of variance is explained by resilience.

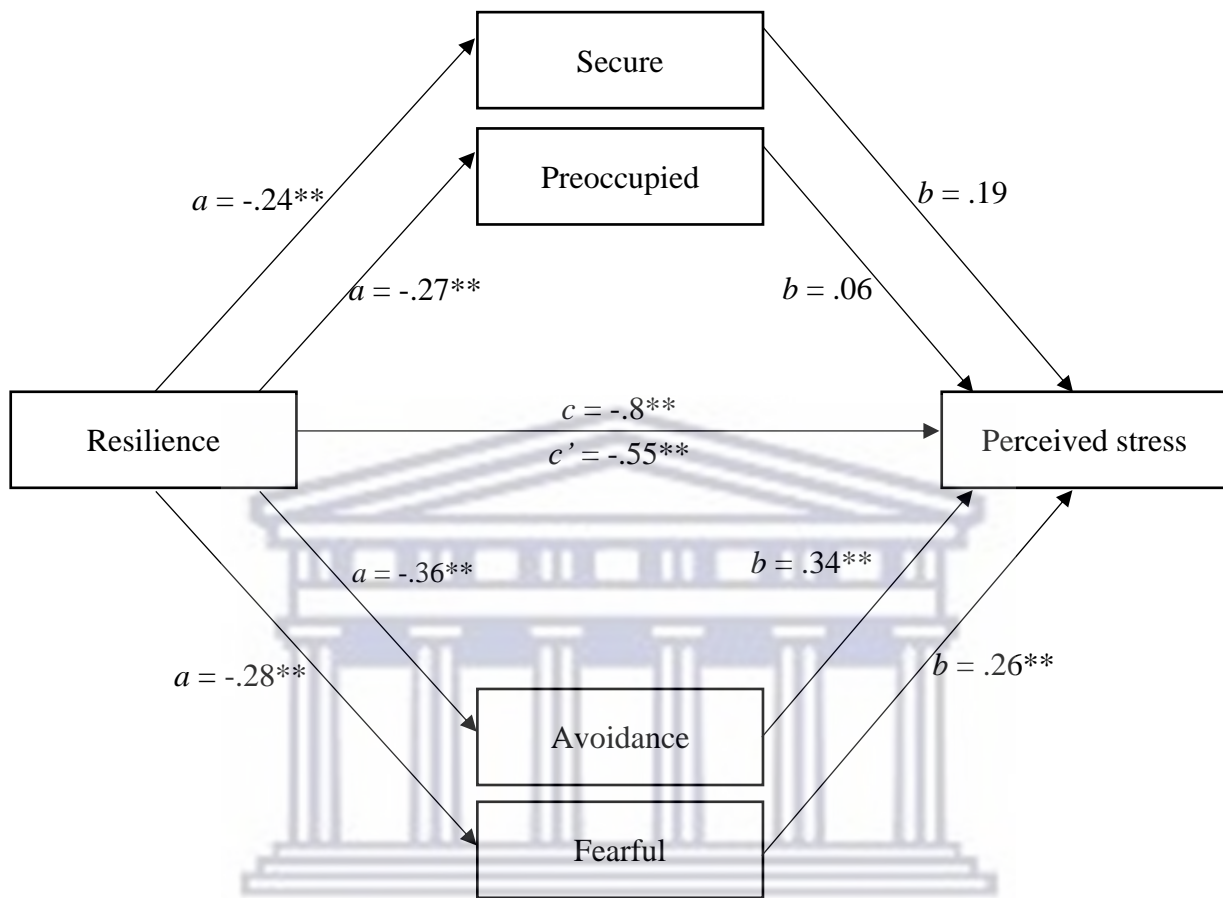
**Table 12: Indirect effects of Resilience and Perceived Stress through Attachment**

	<i>Effect</i>	<i>BootSE</i>	<i>BootLL</i>	<i>BootUL</i>
Constant	-.2435	.0486	-.3463	-.1539
Secure	-.0460	.0278	-.1063	.0040
Preoccupied	-.0002	.0372	-.0764	.0690
Avoidance	-.1237	.0494	-.2238	-.0286
Fearful	-.0737	.0354	-.1448	-.0038

Table 12 reveals a significant indirect effect of resilience on perceived stress through avoidance attachment,  $b = -.12$ , 95% CI [-.22, -.09]. There is also a significant, indirect effect of resilience on perceived stress through fearful attachment,  $b = -.07$ , CI [-.14, -.003]. There is no indirect effect of resilience on perceived stress through secure or preoccupied attachment.

**Figure 1**

*Attachment as the mediator of the relationship between resilience and perceived stress.*



Note: \* $p < 0.05$ ; \*\* $p < 0.01$

#### 4.7. Chapter Summary

A total number of 256 undergraduate university students participated in the study via Google Forms. The results of the study indicated that the majority of undergraduate students experience moderate perceived stress during their first to fourth year of studies. As expected, the relationship between resilience and perceived stress was significant and negative one. The results also revealed that attachment had a significant yet negative relationship with resilience among undergraduate students, even those who could be considered as having a more secure attachment base. The results also revealed that perceived stress had a positive, significant relationship with attachment, specifically dismissive and fearful attachment styles. In terms

of mediation analysis, the findings revealed the following: attachment partially mediates the relationship between resilience and perceived stress through avoidance and fearful attachment styles. There was a non-significant indirect effect of resilience on perceived stress through secure and preoccupied attachment styles. The ensuing chapter provides a discussion of the main findings of the current study.



## 5. Chapter Five

### Discussion

#### 5.1. Introduction

This study aimed to examine the relationship between resilience, perceived stress, and attachment styles of undergraduate university students and the extent to which attachment mediates the relationship between resilience and perceived stress. The current study tested four hypotheses: whether resilience is negatively associated with perceived stress; whether attachment is positively associated with resilience; whether perceived stress is negatively associated with attachment; and whether attachment mediates the relationship between resilience and perceived stress. The findings of these hypotheses are discussed below, in consideration of previous research as well as the theoretical framework of the study.

#### 5.2. The prevalence of perceived stress

The present study revealed that most undergraduate students experience moderate (59.8%) to high (35.2%) levels of perceived stress. This finding is consistent with previous research. For example, Elsary and Sherbiny (2023) found that the majority of undergraduate students from an Egyptian university experience moderate perceived stress and normal resilience levels. University students experience several stressors during their early years at higher education institutions. These stressors are often related to the change in the environment, academic. And examination stressors, finances, and social interactions.

A South African study conducted at the University of the Western Cape by (Padmanabhannuni, 2020) found that more than 90% of undergraduate students reported that they had been exposed to traumatic events before enrolling at the university. Perhaps, the reason why the sample in this present study reported moderate to high perceived stress levels was because they had been exposed to traumatic events before coming to university.

Similar to the present study's finding, Smith et al. (2008) in their psychometrics test of the BRS, found that undergraduate students experience normal resilience. Interpreting this result through the *personalisation* component of Seligman's 3P's, this could mean that these undergraduate students might have a positive explanatory style and are likely to acknowledge that various factors may contribute to the challenges and stressors they are currently experiencing. For example, a student with a moderate or 'normal' level of resilience who is failing an exam might understand that it is due to several factors such as lack of preparation, poor understanding of the material or examination anxiety. A resilient student would acknowledge these factors which could lessen the blame and unfavourable judgements they would turn to themselves.

This study also found that third-year undergraduate students experience the most perceived stress compared to students in other years of study. This finding is consistent with previous research. Abdulghani et al. (2020) found that third year undergraduate students experience most perceived stress. A possible explanation for this finding could be that the majority of the programmes offered at the university are 3-year programmes, making it the final year of undergraduate studies. Thus, third-year undergraduate students may be experiencing the most perceived stress because the final year of undergraduate studies usually involves intensive studying, completion of challenging tasks and preparation of final exams (Keane et al., 2021). These stressors may lead to uncertainty about the future post-graduation.

University students experience several stressors during their early years at higher education institutions. These stressors are often related to the change in environment, academic and examination stressors, finances, and social interactions. Therefore, it is important to understand the factors that contribute to perceived stress because stress could become chronic leading to negative emotional consequences such as depression, anxiety, and shame (Mahgoub et al., 2021; Abdulghani et al., 2020). In this regard, it is important that one

develops a strong sense of resilience that could act as a buffer and protection when experiencing hardships and challenges.

### **5.3. Relationship between resilience and perceived stress**

The first hypothesis was to investigate the relationship between resilience and perceived stress of undergraduate university students. As expected, the results of the Pearson correlation coefficient (and the subsequent) mediation analysis indicated that resilience had a significant negative relationship with perceived stress among undergraduate students. As the perceived stress levels increase, the resilience level tends to decrease and vice versa. This finding was consistent with other South African studies and international studies. For example, Blows (2020) found that the majority of university students experienced moderate perceived stress levels. Similar to the current study, Ebenezer et al. (2020) found that there was a significant, negative relationship between resilience and perceived stress among undergraduate students. The Ebenezer et al. (2020) study also found that undergraduate students experience moderate perceived stress levels and low resilience levels.

Although the possible reasons for this perceived stress was not asked (and therefore outside of the scope of the study), one possible explanation for this finding could be that students who experienced high perceived stress levels could have been exposed to traumatic situations. For example, Wiid (2019) found that university students at the University of the Western Cape were vulnerable to exposure of traumatic events and adversity. In their study, some of the traumatic events that the university students experienced in their study were physical assault, sudden violent death, road traffic accidents, and life-threatening illness (Wiid, 2019). This could be indicative of South African university students being exposed to harsh realities of ever-risk exposure to trauma which could be a factor at play for students experiencing high perceived stress and low resilience levels. Experiencing high levels of

perceived stress with prior exposure to trauma is associated with Post-Traumatic Stress Disorder (PTSD) (Kessler et al., 2017).

This finding supports the argument that undergraduate students who experience high levels of perceived stress due to life and academic stressors are at high risk of reporting low resilience levels if they lack the ability to manage stressful events or situations (Ahmad et al., 2017). In essence, a low level of resilience will weaken an individual's ability to experience positive outcomes and increase their vulnerability to more perceived stress. Resilience therefore can be seen as a protective factor against perceived stress. In support of this, Padmanabhanunni et al (2023) identified resilience as a protective factor against negative mental health outcomes such as emotional exhaustion, chronic stress, and depersonalisation.

In line with this, one of Seligman 3P's that can hinder recovery from adversity is *personalisation* which involves blaming oneself for every challenge or problem they experience. Instead, to develop resilience, an individual could look into possible other factors that may have played a role in the adverse situation. Moreover, there appears to be a connection between resilience and *personalisation* through some of the BRS items such as "it is hard for me to snap back when something bad happens; I have a hard time making it through stressful events". Furthermore, Serra et al. (2018) maintains that resilience as well as other factors such as social support and family cohesion are important protective factors in the face of adversity which eventually lead to positive outcomes.

University life is challenging for undergraduate students in the sense that they are not only trying to navigate their academics but also strive for independence from parents, finding their own personality and developing social relationships (Park et al., 2020; Hassel & Ridout, 2018). Thus, it is important that students learn healthy coping strategies which can be used to manage stressful situations and challenges which can strengthen their resilience and enhance



positive mental health outcomes. Resilient individuals possess attributes such as mindfulness, intrinsic motivation, and social support that help them maintain the ability to effectively manage challenges and adversity (Hassan et al., 2022).

Furthermore, Manohar et al. (2022) found that resilient students were responsible, friendlier, and had control of the environment and were able to separate themselves from dysfunctional conditions. A previous study found a positive association between high levels of resilience and social support among university students (Hamdam-Mansour, 2015). This provides further support that strong relationships and social support are important factors that enhance resilience and improve one's ability to effectively manage stressful situations.

Furthermore, what this finding could mean through Seligman's *personalisation*, is that with a positive explanatory style students would not blame themselves for experiencing financial difficulties, instead they would focus on finding a solution such as applying for a bursary or getting student work. By recognising their role in their ability to grow and overcome adversity, it increases their ability to become more resilient and 'bounce back' quickly (Seligman, 1999).

#### **5.4. Relationship between attachment and resilience**

The second hypothesis sought to examine whether there was a relationship between attachment and resilience of undergraduate university students. The results of the Pearson correlation coefficient and mediation analysis indicated that there was a statistically significant but negative association between attachment styles and resilience among undergraduate students. Although dismissive/avoidant, fearful, and preoccupied attachment styles were expectantly negatively associated with resilience, secure attachment style proved to be negatively associated. This result contradicted the expected hypothesis and previous findings that there is a positive association between attachment, specifically secure

attachment, and resilience of undergraduate students. Therefore, this result warrants further investigation.

A possible explanation for this finding notwithstanding possible issues with the RSQ itself, is that resilience could manifest differently for people who have a secure attachment base, perhaps for this cohort, resilience is comprised of other factors not measured here and therefore not as dependent on the social aspect of resilience. Therefore, it makes sense that a securely attached individual has a higher sense of self-efficacy and their sense of resilience is not as reliant or determined by social support factors. Bender and Ingram (2018) found that secure attached individuals have greater belief in their own efficacy and tend to place significant value in, and frequent practice in mental, physical, and social self-care activities that act as a buffer during stressful events.

In this regard, social support, self-efficacy, and self-care may be important factors to investigate when assessing the relationship between those with a more secure attachment and resilience, and to consider interventions aimed at improving resilience. These features could possibly make it easier for secure attached undergraduate university students who are facing challenges such as academic stressors, financial difficulties, and relationship problems to be more resilient and help them manage stressful situations.

In terms of insecure attachment styles i.e., preoccupied, dismissive, and fearful it was expected that these would have a negative association with resilience. This result was consistent with previous findings (Desai & Balasubramanian, 2021; Shibue & Kasai, 2014). For these attachment styles, anxiety is a predominant feature that makes it challenging for individuals to be resilient. Individuals that experience high levels of anxiety are presumably less resilient (Kural & Kovacs, 2021). Kural and Kovacs (2021) further posit that individuals

with insecure attachment styles are high in anxiety because they tend to shift the focus to the self instead of facing the problem head on.

This argument is supported by one of the core assumptions of attachment theory in relation to insecure attachment patterns. According to attachment theory, inconsistent, unreliable, and insensitive interactions with attachment figures during childhood interferes with the development of secure and stable mental foundation (Bowlby, 1988). Therefore, these factors may have a negative impact for individuals during their adulthood and may reduce their resilience levels when they are facing challenges and adversity and make individuals vulnerable to psychological breakdown in the face of adversity.

Overall, it is noteworthy that secure attachment and insecure attachment styles are important factors in the development of resilience. In essence, secure attached individuals possess characteristics such as social skills, self-efficacy, and trust which enhances their ability to be more resilient. Meanwhile, for insecure attached individuals' anxiety, fear, and rejection are key characteristics which makes them perceive hardships as threatening, more stressful, and challenging. This supports the argument that it is important that an individual experience adversity to grow, develop and it is the healthy positive outcomes that allows them to become resilient (Mann, 2018).

In terms of Seligman's Positive Psychology *personalisation*, for example, dismissive attached students would blame themselves for a conflict with friends and would avoid resolving the conflict because they do not value close relationships but prefer independence. However, to increase resilience, it is encouraged that these students should try to understand that there may be other factors that contributed to the cause of the conflict in order to resolve it and not blame themselves.

### **5.5. Relationship between perceived stress and attachment**

The third hypothesis aimed to assess whether perceived stress had a negative association with attachment among undergraduate university students. In this study, perceived stress and attachment among undergraduate university students had a significant, positive relationship. This finding was consistent with previous studies (Kural & Ozyurt, 2023; Owens et al., 2018). A possible explanation for this finding could be the differences in attachment styles. Dismissive and fearful attached people experience more negative emotions such as anxiety and denial which enhances perceived stress; thus, these individuals are likely to perceive challenging situations as more stressful (Terzi, 2013).

Another possible explanation could be that when individuals experience stressful situations, they tend to act by referring to previous experiences. Therefore, insecure attached people, learned that they had to try hard or quit when in need because of inconsistent and unreliable relationships with primary care givers which then led them to adopt fight or flight coping mechanisms to overcome stressful situations (Kural & Ozyurt, 2023).

In a South African context, a possible explanation for this finding could be that, because majority of South African households are low-middle income class and there is a high rate of unemployment which might cause high levels of perceived stress, financial difficulties, and family tension (Rawatlal et al., 2015). According to Stack and Meredith (2018), prolonged financial difficulties can cause parents to be highly overwhelmed and distressed which could result in inconsistent, unresponsive, and insensitive parenting. This type of parenting may contribute to insecure attachment styles.

Other research has indicated that insecure attached individuals are hypersensitive to and always preoccupied with problems (Koçak & Çelik, 2022). In essence, these individuals spend more time worrying about the stressor instead of finding a resolution to the source of

the stressor. For undergraduate students that are struggling with their academic work or making friends could try attending extra classes or tutorials which the university offers or form study groups with other students to improve their academic performance and develop social relationships. In other words, perceived stress enhances anxiety in insecure attached individuals.

What this finding could mean in terms of *permanence* of Positive Psychology, is that undergraduate students with a positive explanatory style would acknowledge that the loss of a significant other is traumatic, but it will not last forever. They should focus on what the negative event would look like once the challenge has resolved. In other words, their understanding might be that stress experienced right now will dissipate once they seek professional help or support from family and friends.

Attachment is an important element in understanding the concept of perceived stress and associated factors. Bayrak et al. (2018) found that increased levels of anxiety of insecure attached university students is associated with a negative self-concept. The researchers further stated that negative effects on the self-concept could impair an individual's effective coping abilities when experiencing stressful situations leading to more perceived stress factors and experiencing intensive stress. This association was tested in the mediation analysis in chapter 4 and will be discussed below.

### **5.6. Attachment styles as a mediator of the relationship between resilience and perceived stress**

The final hypothesis aimed to examine whether attachment mediates the relationship between resilience and perceived stress of undergraduate university students. As hypothesised, the results revealed that attachment is a partial mediator of the relationship between resilience and perceived stress. Of the four attachment styles, only dismissive and

fearful attachment styles were mediators of the relationship between resilience and perceived stress. Resilience had a negative significant direct predictive effect on perceived stress.

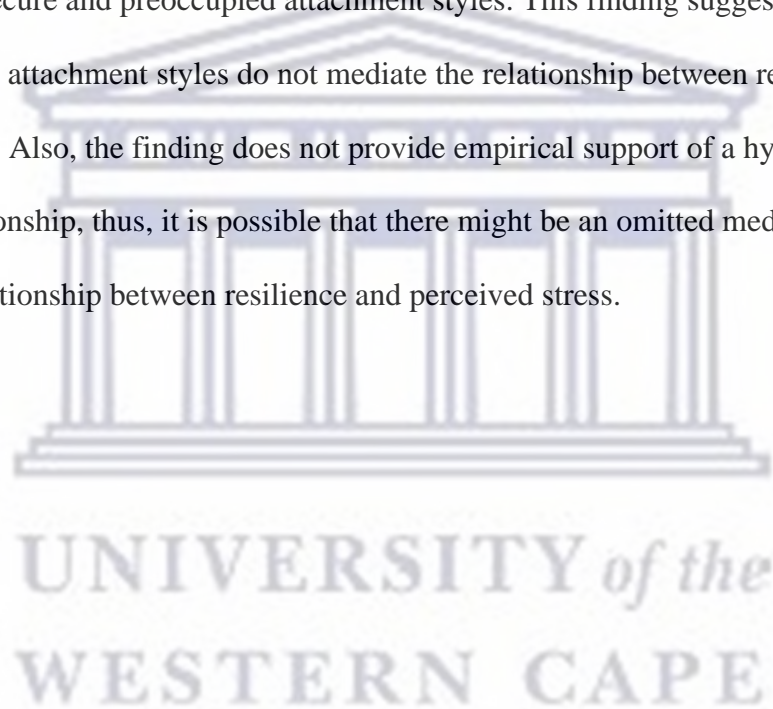
In addition, the indirect effect of resilience on perceived stress through dismissive and fearful attachment styles was negative. A possible explanation for this finding is that if fearful and avoidant attached undergraduate students are resilient and, their ability to bounce back and produce positive outcomes when facing stressful situations enhances, then this high resilience can provide buffer against their heightened anxiety, fear of rejection, and low self-confidence. The findings of the current study corroborate with existing research that resilience is a protective factor against negative mental health outcomes such as perceived stress and anxiety (Ye et al., 2023). Therefore, the indirect, negative relationship on resilience, perceived stress through dismissive and fearful attachment styles indicates that when dismissive or fearful attachment increases then resilience is lowered and vice versa.

To support this argument, Zhang et al. (2023) found that medical students described resilience with a few positive qualities such as the ability to maintain strong social relationships, self-efficacy, and learning from past stressful events. In other words, the more resilient, optimistic, and confident students are, the higher the ability of effectively recovering from adversity. This would have a positive impact on undergraduate students on several aspects of their lives such as improvement in academic performance and personal development as young adults as they navigate the challenges that come with adulthood.

What this finding could mean through Seligman's *personalisation* is that students would blame themselves for negative events such as physical assault which would lead to them experiencing perceived stress and limiting their resilient levels. To increase their resilience and lessen the perceived stress, undergraduate students would have to understand that there are other factors that could have played a role in those challenges.

It is noteworthy that both resilience and attachment constructs share similar strong qualities that are regarded as positive psychological outcomes and important factors in contributing to healthy functioning (Godor et al., 2023). For example, both constructs place strong emphasis on social support and healthy close relationships with and from attachment figures, family, and friends. These similarities somewhat explain the clear relationship between resilience and attachment and how they influence factors such as perceived stress.

Interestingly, there was a non-significant indirect effect of resilience on perceived stress through secure and preoccupied attachment styles. This finding suggests that secure and preoccupied attachment styles do not mediate the relationship between resilience and perceived stress. Also, the finding does not provide empirical support of a hypothesised mediating relationship, thus, it is possible that there might be an omitted mediator that explains the relationship between resilience and perceived stress.



## **6. Chapter six**

### **Conclusion**

This chapter concludes the study on the thesis entitled “An exploration of the relationship between resilience, perceived stress, and attachment of undergraduate students at a university in the Western Cape”. The overall aim of the study was to examine the relationship between resilience, perceived stress, and attachment among undergraduate students. The chapter provides a summary of main findings, implications, limitations, and recommendations of the study.

#### **6.1. Implications of the study**

Perceived stress continues to be a dominant feature for undergraduate students due to several factors such as academic stressors, being independent, and financial difficulties as this study found a moderate to high level of perceived stress for the undergraduate students. Although factors that contribute toward stress was not within the scope of the study, given the comprehensive global and local literature review on stress of undergraduate students, it can be inferred that the factors described are more than likely a predominant feature for these students. These factors can be seen as normative and unlikely to change for university undergraduates, however, this may be an indication that the available interventions or support provided by the university are either inadequate or need improvement. The finding also provides evidence that it is necessary to review the processes and dynamics of protective factors against stress for undergraduate students.

As expected, there is a strong, negative relationship between resilience and perceived stress and so the level of resilience can contribute to the perceived level of stress. This finding indicates that there is a need to continue to establish efforts to increase or strengthen resilience of undergraduate students. There are numerous factors that influence resilience and can strengthen resilience. These factors differ from person to person. Perhaps resilience



strengthening interventions which could take several forms for example, one-on-one time with lecturer/teacher; academic support programmes; group work interventions etc. should happen earlier at secondary and or primary institutions in support of what learners might not be exposed to in other areas. It is also important to note that resilience is strengthened or diminished by several factors and so attachment was analysed to determine its relationship to perceived stress and resilience.

An interesting and unexpected finding of this study was the significant negative relationship between all attachment styles, including secure attachment style, and resilience. Because secure attached people often have good self-esteem and have no problem sharing their feelings or seeking social support, one would expect that when secure attachment increases so does resilience levels. However, this finding could imply that the picture of what secure attachment looks like versus understanding of what is necessary to be resilient needs further investigation. Perhaps, in this sample, what this means is that securely attached individuals do not 'rely' on others as much and have a better sense of capability to manage stress more effectively. If resilience is dependent on attachment, then these individuals would not reflect on their resilience in the same way.

Furthermore, for undergraduate students who have preoccupied, dismissive, and fearful attachment styles and often experience high perceived stress levels, it would be helpful for them to reflect not only on their relationships but how they relate to others, i.e., their relationship style. Most interventions at university level tend to be focused on the self in relation to academics, depression, and anxiety and not necessarily the self and relationships and quality of relationships – perhaps the interventions need to be specific to how students relate to themselves and others. This study may inform future interventions and research about the ways in which attachment styles influence resilience and perceived stress of undergraduate students in South African universities.

## 6.2. Limitations of the Study

The present study provides a step towards understanding the relationship between resilience, perceived stress, and attachment, however, the study also acknowledges some of its limitations. This study only employed a sample of undergraduate students across seven faculties, although the results of this study may provide an understanding of resilience and attachment and the prevalence of perceived stress among this population, at the same time these results may not be used to make generalisations to other populations. The scales i.e., PSS-10, BRS and RSQ, that were employed in this study were all self-reporting measures, therefore, participants responses were guided by their own subjective perceptions, this may influence the accuracy of the data and reduce its internal validity.

The RSQ has its challenges. For example, there is not a lot of research that has been conducted on its psychometric properties and use in different contexts. Also, the RSQ is a 30-item scale, however, only 17 items are used to make up four attachment styles (i.e., secure, preoccupied, dismissive, and fearful). It is unclear whether only 17 items can be used on their own or all 30 items can be included when assessing attachment styles. In addition, in order to accurately determine attachment style, qualitative, clinical interviews are indicated. Consequently, there remains a question regarding whether the scale is sufficient to accurately reflect an attachment style. Therefore, the variability in the way that attachment styles are measured by the RSQ may have an impact in the accuracy of the results.

The BRS is only a six-item scale and although it is a widely used scale, resilience is a complicated construct comprised of several components. The sample size could have been a little larger.

The Positive Psychology framework for resilience (Seligman's 3P's) encapsulates how individuals perceive the world and how their viewpoint might affect their ability to

quickly ‘bounce back’ and grow after hardships or adversity. However, the applicability of the theory has some limits. For example, only some of the aspects of the theory apply more than others (i.e., *personalisation*) to the findings of this study. There is also a gap in terms of academic research studies that have employed the theory to interpret the findings. The theory also does not capture the attachment styles variable of this study – perhaps attachment theory or stress and coping theories would have been appropriate frameworks for this study.

### **6.3. Recommendations of the Study**

The present study provides a basis for future longitudinal or experimental methodologies that would assess resilience and perceived stress of university students during their academic careers. It also recommends further research into the construct of attachment and its effects on resilience and how these individuals manage stress. Given the association identified in the present study between fearful and avoidance attachment styles and perceived stress, to enhance resilience it would be essential to explore additional, effective coping mechanisms.

The findings from the present study indicated that undergraduate students with insecure attachment style may benefit from psychoeducation and interventions aimed at improving their coping strategies such as stress management and problem-solving skills. The university’s psychological counselling services may also help through programs that could assist students to develop better social skills to improve the quality of their relationship.

Promoting attachment security via repeated attachment security priming could decrease dispositional attachment anxiety and perceived stress (Giliath & Karantzas, 2019). Another recommendation is for student’s counselling centres to involve students in self-care programmes where undergraduate students would learn how to take care of themselves both physically and mentally which will help them to be better equipped to handle challenges (Omari et al., 2023). Furthermore, future research studies could use multiple methods such as

peer evaluation and observations to reduce the effect of subjectivity. Moreover, the study recommends that future research may make use of moderation analysis instead of mediation analysis to assess the effect of attachment styles as the moderating variable of the relationship between resilience and perceived stress.



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## Appendix A: Ethics approval



UNIVERSITY of the  
WESTERN CAPE



12 August 2022

Ms M Nkuna  
Psychology  
Faculty of Community and Health Sciences

**HSSREC Reference Number:** HS22/5/36

**Project Title:** An exploration of the relationship between resilience, perceived stress and attachment of undergraduate students, university in the Western Cape.

**Approval Period:** 11 August 2022 – 11 August 2025

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology, and amendments to the ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

**Please remember to submit a progress report by 30 November each year for the duration of the project.**

For permission to conduct research using student and/or staff data or to distribute research surveys/questionnaires please apply via:

<https://sites.google.com/uwc.ac.za/permissionresearch/home>

*The permission letter must then be submitted to HSSREC for record keeping purposes.*

The Committee must be informed of any serious adverse events and/or termination of the study.

*Ms Patricia Josias  
Research Ethics Committee Officer  
University of the Western Cape*

NHREC Registration Number: HSSREC-130416-049

Director: Research Development  
University of the Western Cape  
Private Bag X 17  
Bellville 7535  
Republic of South Africa  
Tel: +27 21 959 4111  
Email: [research-ethics@uwc.ac.za](mailto:research-ethics@uwc.ac.za)

FROM HOPE TO ACTION THROUGH KNOWLEDGE.



## Appendix B: Information Sheet



# UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa  
 Tel: +27 21-959 3096 Fax: 27 21-959 2453  
 E-mail: 4113729@myuwc.zc.za

### INFORMATION SHEET

**Project Title:** *An exploration of the relationship between resilience, perceived stress and attachment of undergraduate students.*

#### **What is this study about?**

*This is a research project being conducted by Munene Nkuna at the University of the Western Cape. We are inviting you to participate in this research project because you are a student whose involvement will contribute to relevant information to achieve the aims and objectives of the intend study. The purpose of the study is to explore any existing relationships between perceived stress, resilience and attachment among undergraduate students.*

#### **What will I be asked to do if I agree to participate?**

*You will be asked to complete four questionnaires in a form of an Online Survey which will include demographics questionnaire, the Perceived Stress Scale (PSS-10), the Brief Resilience Scale (BRS) and Relationship Scales Questionnaire (RSQ). The estimated time to complete the four questionnaires is 25 – 30 minutes. Participation to the research study is voluntary and there will be no adverse consequences if you choose not to participate.*

#### **Would my participation in this study be kept confidential?**

*The researcher will ensure that your identity and the nature of your contribution remains protected. To ensure your anonymity, no personal identifiers or names of participants will be recorded on the questionnaires. All information that you share will be kept confidential and securely stored. Only the researcher and research supervisor will have access to the information gathered in the study*

#### **What are the risks of this research?**

*All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention. The researcher will refer them to one of the four counselling services, namely, the Centre of Student Counselling Services (CSCS), Student Counselling*

*Helpline at the University of the Western Cape, South African Depression and Anxiety Group (SADAG) or Lifeline.*

- *Centre for Student Counselling Services (CSCS): 021-959-2299*
- *Student Counselling Helpline: 0800-222-333*
- *SADAG: Help Line 080 0212223/Depression and Anxiety line: 0800 70 80 90/  
WhatsApp: 076 882 2775*
- *LifeLine: (021) 461-1111 /Toll free Counselling line: 0861 322 322*

### **What are the benefits of this research?**

*The benefits to you is research is not designed to help you personally, but the results may help the researcher learn more about the factors that contribute to stress and the prevalence rate of perceived stress among university students. We hope that, in the future, other people might benefit from this study through improved understanding of how attachment contributes to the ability of an individual to remain resilience when experiencing stressful challenges and adversity.*

### **Do I have to be in this research and may I stop participating at any time?**

*Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.*

### **What if I have questions?**

*This research is being conducted by Munene Nkuna 4113729@myuwc.ac.za under the supervision of Dr Isaacs at the Department of Psychology, University of the Western Cape. Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact us at:*

Dr. Serena Isaacs  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
sisaacs@uwc.ac.za

Prof. Anita Padmanabhanunni  
Head of Department of Psychology  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
apadmana@uwc.ac.za

Prof Anthea Rhoda  
Dean: Faculty of Community and Health Sciences  
University of the Western Cape

Private Bag X17  
Bellville 7535  
[chs-deansoffice@uwc.ac.za](mailto:chs-deansoffice@uwc.ac.za)

This research has been approved by the University of the Western Cape's Humanities and Social Sciences Research Ethics Committee (HS22/5/36).

Humanities and Social Sciences Research Ethics Committee  
University of the Western Cape  
Private Bag X17  
Bellville  
7535  
Tel: 021 959 4111  
e-mail: [research-ethics@uwc.ac.za](mailto:research-ethics@uwc.ac.za)





**Appendix C: Consent form**

**UNIVERSITY OF THE WESTERN CAPE**

Private Bag X 17, Bellville 7535, South Africa  
*Tel: +27 21-959 3096 Fax: 27 21-959 2453*

**CONSENT FORM**

**Title of Research Project: An exploration of the relationship between resilience, perceived stress and attachment of undergraduate students at a university in the Western Cape.**

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve, and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

**Participant's name**.....

**Participant's signature**.....

**Date**.....

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## Appendix D: Permission to conduct research



### UNIVERSITY OF THE WESTERN CAPE PERMISSION TO CONDUCT RESEARCH

DEAR **Present Munene Nkuna**

This serves as acknowledgement that you have obtained and presented the necessary ethical clearance and your institutional permission required to proceed with the project referenced below:

#### RESEARCH TOPIC

An exploration of the relationship between resilience, perceived stress and attachment of undergraduate students, university in the Western Cape.

<b>Name of researcher</b>	:	Present Munene Nkuna
<b>Permission valid till</b>	:	11 August 2025
<b>Institution</b>	:	University of the Western Cape
<b>Ethics reference</b>	:	HS22/5/36
<b>Permission reference</b>	:	UWCRP487421

You are required to engage this office ([researchperm@uwc.ac.za](mailto:researchperm@uwc.ac.za)) in advance if there is a need to continue with research outside of the stipulated period. The manner in which you conduct your research must be guided by the conditions set out in the annexed agreement: Conditions to guide research conducted at the University of the Western Cape.

Please be at liberty to contact this office should you require any assistance to conduct your research or require access to either staff or student contact information.

Regards  
Dr Ahmed Shaikjee  
Deputy Registrar Academic Administration

Approval status: **APPROVED** 22 August 2022

To verify or confirm the authenticity of this document please contact the University at [researchperm@uwc.ac.za](mailto:researchperm@uwc.ac.za).



UNIVERSITY OF THE WESTERN CAPE  
Robert Sobukwe Road, Bellville, 7535 Republic of South Africa