THE INFLUENCE OF MINDFULNESS ON EMPLOYEES' RESILIENCE AT ESKOM, NORTHERN CAPE

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20 November 2023

DECLARATION

I, Mophomotseng Millicent Motaung, student number 2017431699, declare that the research submitted herein for the qualification of Master in Business Administration at the University of the Free State Business School, titled “The influence of mindfulness on employees’ resilience at Eskom, Northern Cape” is my own independent work and that all the sources I used have been indicated and acknowledged using complete references. I also declare that the management of Eskom, Northern Cape, has granted me permission to conduct the research.

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ACKNOWLEDGEMENTS

I want to express my sincere gratitude to my supervisor, Dr Ronel Kleynhans. I am a project on my own, but you are always patient with me. Your assistance has been invaluable, and I will forever be grateful.

To my dad, Ntlaba Motaung, I am forever grateful for always being my cheerleader.

To my siblings, thank you for your understanding, especially during the holidays I spent in isolation because of my studies. I am nothing without you, and without your continued support, I would have given up a long time ago.

I want to thank the University of the Free State for accepting me as a student in its Master's programme: Business Administration. It has been challenging and extremely rewarding.

Eskom Northern Cape's General Manager, thank you for allowing me to do the study on the organisation.

My colleagues, thank you for always being there when I need you the most.

Lastly, I want to express my gratitude to all the participants who willingly participated in this study.

This study is dedicated to my late mother, Lephina Motaung and sister, Modiehi Motaung.

ABSTRACT

International trends such as globalisation, epidemics, and rapid technological developments impact individuals locally and internationally on all levels of society, with electricity companies experiencing increased challenges. The various challenges and stressful working conditions lead to employees experiencing exhaustion when trying to cope with the demanding work environment. Therefore, resilience, defined as one's capability to adapt to changes, adhere to, and accomplish objectives despite existing challenges, is necessary for survival in such a turbulent environment. For Kelly et al. (2019), mindfulness is the antidote to resilience. Mindfulness is one of the individual qualities advocated to assist employees in properly managing psychological stress in the workplace and is a critical psychological resource for improving employee performance. Thus, mindfulness can be viewed as a unique personal feature of employees that protects them from negative emotions connected with a demanding workload and stressful work conditions, thereby reducing emotional tiredness. Therefore, this study aimed to determine if mindfulness influences employees' resilience at Eskom, Northern Cape (NC). The study also aimed to determine if a relationship exists between mindfulness and resilience among employees at Eskom, NC. Lastly, using a non-experimental research design, the study aimed to determine if gender differences exist in career resilience among employees at Eskom, NC. A non-experimental quantitative survey research design was utilised to obtain the data from employees at Eskom (a large electricity company) in Northern Cape, South Africa (SA). Questionnaires used to obtain the data included the demographic questionnaire, the Adult Resilience Indicator (ARI) questionnaire, and the Mindfulness Attention Awareness Scale (MAAS) questionnaire. Data was analysed using regression analyses, correlational analyses and the t-test for independent groups. The results indicated that mindfulness positively influences career resilience. Furthermore, the results indicated no significant differences in resilience in terms of gender. The study thus

provides new knowledge on the relationship between mindfulness and resilience. It also presents the rationale for implementing mindfulness training in organisations to assist employees in positively adapting to the pressures experienced by electricity companies in South Africa.

Keywords: Resilience, Mindfulness, Protective factors, Risk factors, Resources, Assets, Risk Employee well-being, Stress, Gender, Age

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LIST OF ABBREVIATIONS

ARI	Adult Resilience Indicator
BRS	Brief Resilience Scale
CD-RISC	Connor-Davidson Resilience Scale
CEO	Chief Executive Officer
CFI	Comparative Fit Index
CNC	Customer Network Centre
ESCOM	Electricity Supply Commission
EWT	Endangered Wildlife
FMI	Freiburg Mindfulness Inventory
IAA	Intention, Attention, and Attitude
IPA	Interpretative Phenomenological Analysis
IPP	Independent Power Producers
KPI	Key Performance Indicators
MAAS	Mindful Attention Awareness Scale
MBCT	Mindfulness-Based Cognitive Therapy
MBI	Mindfulness-Based Intervention
MBSR	Mindfulness-Based Stress Reduction
OU	Operating Unit
PPMC	Pearson Product-Moment Correlation

POPIA	Protection of Personal Information Act
SA	South Africa
RMSEA	Root Mean Square Error of Approximation
RSA	Resilience Scale for Adults
SRMR	Standardised Root Mean Square Residual

CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

1.1 Introduction

International trends such as globalisation, epidemics, and rapid technological developments impact individuals locally and internationally on all levels of society (Autio et al., 2021). According to Autio et al. (2021), the impact is felt especially in electricity companies that must address some of these advancements and keep up with the latest technologies, increasing the uncertainties in businesses as they expect employees to be more flexible and mobile. Furthermore, the electrical energy market has moved away from the conventional business paradigm of centrally generating electricity, transmitting and distributing electricity to a captive power generation plant that produces electricity for its owner's or a group's use (Amin et al., 2021). The electrical supply has become more complex due to modern infrastructure, quickly evolving technology, and falling production costs (Fattouh et al., 2019).

The South African landscape is no different, as demand patterns are shifting because relatively affordable self-generation, energy efficiency, and storage technologies have become available (Boamah, 2020). Electricity companies are challenging and vertically integrated entities that struggle to adjust to changing market conditions, posing uncertainties in potentially managing the supply side (Zobaa & Aleem, 2020). According to O'Brien and Leichenko (2020), potential problems that electricity companies experience include extreme pressures due to the severity of large-scale emergencies, such as those triggered by severe weather caused by climate change. The situation is particularly challenging for megacities in the Global South, which are already struggling to keep pace with population expansion and poor infrastructure (Hunt & Watkiss, 2020). Moreover, the energy crisis in South Africa (SA) has escalated to almost catastrophic proportions, with far-reaching effects that include the

closure of multiple small to medium-sized businesses and increased job losses in the labour market (Raihan, 2023). A sequence of events has been experienced since the first loadshedding in 2008 (Sapari et al., 2018). The SA sole supplier company of electricity, Eskom, acknowledged that such interruptions of the power supply are probably going to persist for the next five years due to a combination of rising coal plant outages caused by the fast ageing fleet and reactive strategic planning for the establishment of new power facilities (Sapari et al., 2018).

According to Davidson et al. (2018), extreme working environments, such as those caused by loadshedding, heavy workloads and uncertain job expectations, are increasingly experienced by employees of electricity companies. Employees at these companies have extreme levels of risk and adversity that they must deal with to adapt positively and demonstrate resilience (Vakilzadeh & Haase, 2021). Daniel (2019) found that workers in today's workplace typically put in longer hours since their increasing responsibilities demand them to work even harder to fulfil rising expectations for job performance. Maben et al. (2022) highlighted that people's reactions to these stressful circumstances vary widely, with some individuals overcoming and adapting to increasing challenges and adversity, while effective functioning is significantly compromised in others, with resilience identified as a critical issue in today's ever-demanding environment (Shatté et al., 2017).

For Stavroula et al. (2017), employees' inability to adapt positively to these extreme work environments can cause severe damage to their well-being and even lead to death due to continually being exposed to stress for a long period of time. Flach (2020) found that focusing on resiliency may lead to fresh approaches to long-standing problems, such as dealing with grief and addressing unresolved personal issues. Success and failure in the modern, competitive, and dynamic workplace are likely to be determined by an individual's level of resilience (Shatté et al., 2017). According to Blaustein and Kinniburgh (2018),

resilient people are aware of their strengths and shortcomings, embrace opportunities, and adapt to change and uncertainty. Resilient people understand how to regulate themselves and recognise when pressures at work become stressful. Thus, they can handle the expectations imposed on them, particularly while dealing with continuously changing priorities and heavy workloads (Blaustein & Kinniburgh, 2018). Rushton et al. (2018) found that employees in the healthcare industry benefit more from being resilient as it shields them from emotional fatigue and helps them achieve their personal goals. Flach (2020) added that individuals develop resilience in response to intermittent and regular exposure to various stresses at different times and varying degrees in a complex and ever-changing environment. Unfortunately, no study was found on resilience that focuses directly on employees of electricity companies in SA, creating a need to determine the levels of resilience of employees in the electricity field. Interestingly, Tugade and Fredrickson (2017) discovered that people with higher degrees of mindfulness show an increase in resilience due to the positive effect it has on emotions, which could be a strategy to improve resilience, thus assisting individuals to positively adapt to the pressures experienced in the field of electricity in SA (Clarkson et al., 2019).

1.2 Background to the Study

The English physician William Gilbert first used static electricity to undertake an extensive investigation of electricity and magnetism in the 1600s (Jeschonnek et al., 2016). The early 19th Century saw a steady expansion in the use of electricity, as well as the development of businesses that required electricity (Nye, 1990). The necessity for interconnected networks between generating plants and their users arose as consumers increased (Creamer, 2018). In the same era, the transformer was invented, allowing electricity to be generated in centralised power stations and transmitted across countries with increasing technological and cost efficiency (Patterson, 1999). Power lines connect towns and cities

worldwide (Zhang et al., 2017). Today, electricity is used for various purposes in society, making artificial intelligence, such as robots, computers, and many other things, possible (Mhlanga, 2021).

Global developments such as urbanisation and the growing frequency of extreme weather events have sparked much interest in techniques for improving the flexibility of critical services such as power generation (Yue & Gao, 2018). The generation and usage of electricity are essential components of modern life (Hoang & Nguyen, 2021).

In 1882, in the Northern Cape (NC) Province of SA, Kimberley became the first town in the southern hemisphere to have electric street lighting (Morgunov & Labunsky, 2021). A few years later, the South African Government founded Escom (the Electricity Supply Commission) under the Electricity Act in 1922. At that time, its Afrikaans name was Evkom (Elektrisiteitsvoorsieningskommissie), and in 1986, the two names merged into Eskom.

Currently, almost 95% of the power used in South Africa is generated by Eskom, which also generates approximately 45% of the energy used in Africa. Eskom has approximately 44,000 workers nationwide and is divided into three divisions: Generation, Transmission, and Distribution. The Generation division produces electricity through hydropower plants, solar and wind farms, and coal-burning plants. The Transmission division is one of Eskom's divisions which is responsible for transporting electricity via power lines from generation power stations to distribution networks in Zimbabwe, Swaziland, Namibia, Botswana, and Mozambique, including other African countries (Jonathan et al., 2020). Power is transmitted to residential and industrial users via transmission and distribution networks. Lastly, the Distribution division includes constructing and maintaining equipment to transform the power supply to match consumer needs. The distribution function of distributing electricity to consumers is shared between municipalities and Eskom (Baker & Burton, 2018). Eskom

Distribution monitors customer consumption levels, provides the appropriate billing and collects payments at the administrative level (Jonathan et al., 2020).

Furthermore, Eskom Distribution is divided into nine provinces: Free State, Northern Cape, Limpopo, Mpumalanga, Eastern Cape, KwaZulu-Natal, Western Cape, North West and Gauteng. For more than 20 years, the NC Province was divided into several distributors and regions, whereby the North-Western, Central and Western regions controlled the sections of the territory. Eskom NC lost its identity for a while and even disappeared off the Eskom radar as the Operating Unit (OU) when it operated with only 46 employees across the province while servicing thousands of customers, making it impossible to cover the vast NC. As a result, Eskom NC had to rely entirely on the three regions (North-Western, Central and Western) for support (Khoza & Kanjere, 2014). Over the past few years, however, the area encountered a massive development in the mining industry, requiring rail ability to the ports and increased generation of the NC's sustainable power through independent power producers (IPP). Eskom distribution was restructured along provincial borders in September 2011, and Eskom Northern Cape was established as a result (Baker & Phillips, 2019).

The mandate and mission of Eskom NC is to, first and foremost, provide power effectively and maintainably. Secondly, they aim to improve the economy and people's satisfaction in SA and the surrounding area by providing reliable electricity to improve people's quality of life in the NC. Lastly, they aim to add value to large businesses and give hope to small businesses (Jonathan et al., 2020). Eskom NC has more than 300 employees from over 40 departments, including 19 customer network centre (CNC) offices in 19 different towns across the province (Ting & Byrne, 2020). However, Eskom NC does not function in isolation and is influenced by the national business model, which is a vertically integrated monopoly marked by a deficiency in operational excellence, transparency, and adaptability, as well as a generalised inefficiency stemming from a lack of accountability and consequence

management (Tshidavhu & Khatleli, 2020). This is supported by the latest update of Eskom's former Chief Executive Officer (CEO), who fled the country after an interview in which he laid bare the extent of corruption at the embattled utility (Du Venage, 2023). Due to the lack of transparency regarding cost and resource allocation, Eskom finds it extremely difficult to fully comprehend its competitive advantages (Jonathan et al., 2020). Thus, steering the company down a long-term healthy path has become difficult due to multiple leadership changes, specifically pertaining to the organisation's CEOs of the past ten years (Ting & Byrne, 2020). Acute skills and capacity erosion have occurred due to Eskom's decline over the past ten years, both at the technical and governance levels. The new mega-coal power plants (Kusile and Medupi) have not been functioning reliably or optimally due to corruption and mismanagement of funds (Ballim, 2021). Since 2007, Eskom no longer invests in cost-plus mines and has instead acquired coal on costly, short-term contracts, resulting in significant transportation expenses (Tshidavhu & Khatleli, 2020). Furthermore, Eskom has not reliably acquired this coal on time, which has resulted in significant coal shortages that, in certain situations, have aided in loadshedding (Sapari et al., 2018).

Added to the national challenges, Eskom NC experiences additional challenges, such as having a high staff turnover, leading to Eskom NC being understaffed (Longden, 2022). Accommodation in the NC province is also costly, and the Eskom housing allowance is insufficient to cover the accommodation costs of employees (Scheba & Turok, 2023). Some employees use Eskom NC only as a stepping stone and then leave to join different OUs, resulting in a loss of knowledge and skills (Xia et al., 2022). Furthermore, the COVID-19 pandemic put increased pressure on the already understaffed NC offices, as employees above 60 years of age were not allowed to return to work (Diab-Bahman & Al-Enzi, 2020), adding to the pressure that a single employee must do more than one job. Also, the appointment of new personnel is currently on hold as Eskom is being overstaffed in most other provinces.

Lastly, employees from other provinces do not want to deploy to the NC because of the conditions of service that recently changed, whereby employees no longer receive relocation allowance and other benefits that used to form part of a relocation agreement (Tshisikhawe, 2019).

Environmental pressures on Eskom NC include high flood rates and birds colliding with the lines, creating faults resulting in unplanned power outages (Barnes, 2020). According to the key performance indicator (KPI), power must be restored within a specific timeframe if employees want to meet some of their targets, resulting in employees losing their production bonuses if these targets are not met (Tshisikhawe, 2019). Also, mines face significant production losses because of the increased rate of transformer failures due to ageing and lack of maintenance, leading to the mines threatening to sue Eskom NC for these losses (De Nooij et al., 2021). The available employees at Eskom NC are expected to perform all the duties of those operating at fully resourced capacity (Al-Romeedy et al., 2019). Furthermore, the province's enormity extends travelling time, impacting employees' relationships as they spend less time with their families (Shahdadi & Rahnama, 2018). Adding to the already burdened employees, Eskom NC adopted a style of rotating managers within the departments (Al-Romeedy et al., 2019). This arrangement often frustrates employees who have to adapt to different leadership styles and managers with less work experience, negatively impacting productivity (Nastaca, 2020). Some managers take time to familiarise themselves with new strategies and processes, leading to frustration, anxiety, and overall psychological distress among Eskom NC’s employees (Casad, 2012). When exposed to such extreme and prolonged stress, people experience emotional changes, such as increased anxiety and decreased positive affect (Crosswell et al., 2021).

Even though the challenges mentioned above for Eskom employees in general and the NC remain a reality, there are ways to regain a sense of control (Crosswell et al., 2021).

According to Connor and Davidson (2003), one such technique is resilience, which may be defined as stress management that allows an individual to perceive a stressful circumstance as a challenge and engage in overcoming it. Hamby et al. (2018) described resilience as a positive response to a stressful circumstance that comprises an assessment of protective factors, including defence capacities that allow an estimate of the individual's adaptability and ability to tolerate psychological trauma. Resilience appears to buffer the association between psychological distress (depression and anxiety) and subjective well-being, as well as the impact of everyday problems on psychological well-being (Vigna et al., 2018). In this study, the working definition of resilience is the latter definition compiled by Visser (2007), which is the ability of people to cope and adapt successfully, to overcome or "bounce back." It is utilised for this study since it is the definition on which the Adult Resilience Indicator (ARI) is based. Aydemir (2018) added that resilience is a critical resource for employees because it helps them survive, adapt, and succeed in a complicated working environment. Therefore, it can be assumed that resilience may be a way of coping with these challenges in Eskom NC (Vigna et al., 2018).

Furthermore, gender plays a vital role in resilience, revealing that men may be regarded as more resilient than females (Nikolova et al., 2015), possibly because women are often the victims of sexual abuse and violence, which creates vulnerabilities and reduces their resilience. However, Fallon et al. (2020) discovered that females are more resilient than males, while Campbell-Sills et al.'s (2006) study revealed no significant difference in resilience among males and females. Thus, it seems that the results regarding resilience and gender are inconclusive, with further research needed. Kelly et al. (2019) highlighted that mindfulness has been referred to as the antidote to resilience. The notion of resilience as an outcome assumes that resilience is influenced by both internal and external influences, such as awareness of thoughts and emotions through mindfulness (Liu et al., 2017).

Mindfulness is one of the personal attributes that has been repeatedly supported in studies to help employees manage psychological stress in the workplace (Charoensukmongkol & Puyod, 2022). According to Charoensukmongkol and Puyod (2022), mindfulness is a critical psychological resource that improves employee performance. In this respect, mindfulness can be viewed as a unique personal feature of employees that protects them from negative emotions connected with a demanding workload and stressful work conditions, thus reducing emotional tiredness. Additionally, the unpredictable climate characterising South African organisations, and very appropriately Eskom, burdens leadership and organisations (Jonathan et al., 2020). According to Howe-Walsh and Turnbull (2016), these hurdles are persistent, requiring leaders to use resilience as a vital resource to restart optimal functioning following a setback.

According to Koon and Pun (2018), being more resilient protects employees from emotional exhaustion and contributes to personal accomplishments. At the same time, mindfulness is described as a coping tool for "raising well-being and resilience across the population as a preventative strategy to keep people healthy" (Ramasubramanian, 2017. p. 310). Based on this consideration, the hypothesis of resilience and mindfulness interventions can potentially improve mental health (Lester et al., 2020). In this study, the working definition of mindfulness has been compiled by Brown and Ryan (2003), who defined mindfulness as a trait-like dynamic state of attention to have an awareness of present-moment occurrences; it is utilised for this study since it is the definition on which the Mindful Attention Awareness Scale (MAAS) is based. Mindfulness is a scientifically validated method of cultivating a skilled engagement with life, used as a self-cultivation strategy to enhance mental health. Individuals with high mindfulness have a more balanced approach to proactive and reactive cognitive control than those with poor mindfulness, who mostly rely on proactive control (Gunasekara & Zheng, 2019).

Additionally, workplace mindfulness is believed to increase individual well-being and performance, including organisations' agility, productivity, and innovative strength (Greiser & Martini, 2018). As a result, more conscious people exhibit greater flexibility, as both critical processing modes are active. Individuals also demonstrate more adaptable performance due to higher non-judgemental present-moment attentiveness (Aguerre et al., 2020).

1.3 Problem Statement

Electricity use is critical for daily life internationally and locally (Longden, 2022). According to Khoza and Adam (2018), Eskom SA is the only utility company that went from being named the worldwide electricity company of the year in 2001 to being unable to maintain the national supply-demand balance since 2008. Eskom experienced its first loadshedding in 2008 due to old infrastructure; fourteen years later, the issue is no different; instead, it escalated (Inglesi-Lotz & Ajmi, 2021). The supply and demand are even higher, the infrastructure is old, and the maintenance is poor (Inglesi-Lotz & Ajmi, 2021). The power lines are not complying with Endangered Wildlife Trust (EWT) standards, which require that electricity companies install bird flappers on the power lines to prevent the death of precious bird species; birds excrete waste while sitting or nesting on the power lines (Keith & Burgman, 2021). Employees are under increasing pressure due to increased competition and ongoing change in the workplace because of technical advancements and business strategies (Linnenluecke, 2017).

Due to the various challenges and stressful working conditions, employees experience exhaustion in an attempt to cope with the demanding and stressful work environment; employees need to be resilient (Davidson et al., 2018). Therefore, resilience is necessary for survival in a turbulent environment (Holfeld & Baitz, 2020). Improved resilience is thus a way for Eskom NC to deal with these challenges.

According to Ramasubramanian (2017), mindfulness is an efficient strategy to improve resilience. The combination of these issues produces a complex working environment and conditions prone to stress and fatigue (Kumar, 2019). Although research has shown that mindfulness can help people cope with stress, some gaps remain to be filled (Linnenluecke, 2017). Also, Kelly et al. (2019) found that gender is an inconsistent and unreliable predictor of resilience.

Therefore, this study aimed to determine the influence of mindfulness on employees' resilience at Eskom NC. Furthermore, the study investigated gender differences regarding resilience at Eskom NC. Research questions have been set based on the problem formulation; these are presented in the next section.

1.4 Research Questions

In this section, the main research questions, as well as the secondary research questions, are clarified.

1.4.1 Primary research question

- Does mindfulness influence employees' resilience at Eskom NC?

1.4.2 Secondary research questions

- Does a relationship exist between mindfulness and resilience among employees at Eskom NC?
- Do differences exist in levels of career resilience among men and women at Eskom NC?

1.5 Primary and Secondary Objectives

1.5.1 Primary Objective

- To determine using a non-experimental research design if mindfulness influences resilience among employees at Eskom NC.

1.5.2 Secondary Objectives

- To determine if a relationship exists between mindfulness and resilience among employees at Eskom NC.
- To determine using a non-experimental research design if gender differences exist in career resilience among employees at Eskom NC.

1.5.3 Research Hypothesis

Hypothesis 1:

H_o1: Mindfulness does not explain a statistically significant proportion of the variance in resilience among employees at Eskom NC.

H_a1: Mindfulness does explain a statistically significant proportion of the variance in resilience among employees at Eskom NC.

Hypothesis 2:

H_o2: No relationship exists between mindfulness and resilience among employees at Eskom NC.

H_a2: A relationship exists between mindfulness and resilience among employees at Eskom NC.

Hypothesis 3:

H_o3: There are no statistically significant differences in the scores achieved on career resilience with regard to gender among employees at Eskom NC.

H_a3: There are statistically significant differences in the scores achieved on career resilience with regard to gender among employees at Eskom NC.

1.6 Research Methodologies

The structure of any logical study, which offers guidance and organises the research, is known as the research design. All research methodologies are appropriate. However, the

decision to conduct a particular study is based on its ability to assist in answering the research question and achieving the research goal (Saunders et al., 2019).

1.6.1 Research Design

According to Osuagwu (2020), the research design directs a researcher through gathering, analysing, and interpreting data to comprehend and solve organisational challenges. The main objective of the research design is to respond to research questions while controlling variance (Rahi, 2017). A solid study design should also produce consistent outcomes (Fellows & Liu, 2021). The study applied a quantitative research methodology, followed by a cross-sectional quantitative research approach, to reach the study's objectives.

1.6.2 Sampling Strategy

The target group for this study was employees at Eskom NC. Participants were chosen and recruited using a non-probability convenience sampling technique. The study population comprised 330 employees at Eskom NC, of which the sample size of participants totalled 192.

1.6.3 Data Collection Method

Data are unprocessed, unorganised, and unanalysed facts that have little value and provide limited benefit to decision-makers and managers (Mohajan, 2017). Standardised questionnaires for the two variables, resilience (Adult Resilience Indicator) (ARI) and mindfulness (Mindful Attention Awareness Scale (MAAS), were distributed to Eskom NC employees together with a separate demographics questionnaire. Participants were in different Eskom NC offices and were approached via e-mail. The email included a summary of the research[1] and the Protection of Personal Information declaration form,[2] indicating that the participant's personal information would be protected.

[1] Refer to Chapter 3 for an in-depth outline of the data collection procedure.
[2] Refer to Annexure J for the Protection of Personal Information Declaration form.

1.6.4 Statistical Methods

The Pearson Product-Moment Correlation (PPMC) determines the strength of a linear relationship between two variables (Stangor, 2015). Regression analysis was performed to determine the relationship between the dependent (resilience) and independent (mindfulness) variables and depicted how dependent variables changed when independent variables changed due to factors (Huang et al., 2019). The t-test for independent groups was conducted to determine if any differences in resilience between the two groups (e.g., males or females[3]) existed.

1.7 Ethical Considerations

Ethical considerations in research guide the study designs and procedures (Sobočan, 2019). When collecting data from participants, a researcher must always follow a set of rules, which include:[4]

1. **Permission obtained –** The study was approved by the Faculty of Economic and Management Science's Ethics Committee of the University of the Free State (approval number UFS-HSD2022/1090/22).[5] Written permission was also obtained from the Eskom NC OU management and respondents before participating in the study; it was in line with the company policies.[6]
2. **Informed consent** – The fundamental purpose of informed consent is for the participant to make an informed decision with knowledge of whether or not to engage in the research. Participants were fully informed about the questions that would be asked of them, how the data would be used, and any potential implications (if any). No vulnerable participants have been included in the study. Participants received a research study information leaflet and consent form (POPIA form[2]) via e-mail,

[3] Refer to Chapter 3 for an in-depth outline of the statistical methods.
[4] Refer to Chapter 3 for an in-depth outline of the ethical considerations.
[5] Refer to Annexure I for the ethics approval certificate.
[6] Refer to Annexure D for the "Permission to Conduct a Study" letter.

which outlined the study's aim and purpose, the researcher's role and responsibilities, and the withdrawal option should the participant feel uncomfortable with the process.[7]

3. **Voluntary participation** – Participants had the option to withdraw at any point during the course of the study without adverse effects on themselves or their relationship with the researcher. Under no circumstances were the participants forced to participate in the distributed questionnaires, as it was strictly voluntary. This right is protected by national law, international law, and scientific community rules of conduct (McCorquodale, 2017).
4. **Confidentiality and anonymity** – Maintaining participant confidentiality means managing participant data in a confidential manner. Participants' identities must remain anonymous, and all information must remain confidential (Ogletree & Kawulich, 2012). According to Lancaster (2017), anonymity is defined as not revealing a participant's name, ethnic or cultural background, or any other sensitive information about them.
5. **No harm** – Assuring participants of the potential consequences while removing, isolating, and reducing the risk in a descending manner is the proper method for evaluating the risk of harm (Quick & Hall, 2015). No favourable or negative comments were made to or against the participants.

1.8 Field of Study

The study falls within the field of Positive Psychology, specifically focusing on employee well-being (McVeigh et al., 2017). Constructs within the particular field include resilience and mindfulness (Ndubisi & Al-Shuridah, 2019).

[7] Refer to Annexure K for an e-mail sent to participants.

1.9 Chapter Layout of Study

The study comprises five chapters.

Chapter 1: Introduction

The first chapter introduced the study, highlighting the importance of studying the relationship and influence of resilience and mindfulness at Eskom NC. The chapter presented the problem statement, primary and secondary research questions, primary and secondary objectives, and the research hypothesis. The study aimed to determine whether mindfulness influences employees' resilience, whether there is a relationship between resilience and mindfulness, and whether there are differences in resilience scores achieved among Eskom NC employees with regard to gender.

Chapter 2: Literature Review

A literature review gives credibility to a study (Wood et al., 2020). The main focus of Chapter 2 is to briefly discuss the two variables of the study: 1) the dependent variable, resilience, and 2) the independent variable, mindfulness. Also, the literature review encompasses an in-depth study of the organisation and various theories and models around resilience and mindfulness (Biddle et al., 2020).

Chapter 3: Research Methodology

Chapter 3 addresses the research methodology and design used to conduct the study. It includes the sample selection, the data collection procedures, and the analysis of the results.

Chapter 4: Data Analysis and Interpretation

Chapter 4 provides the results obtained from the collected data after data analysis and aims to answer the research questions. Furthermore, this chapter compares the findings against the literature.

Chapter 5: Conclusion and Recommendations

Chapter 5 focuses on the presentation and discussion of the data obtained in the study. Chapter 5 also aims to answer the research questions formulated in the current chapter and address the study's limitations, recommendations, and value.

1.10 Conclusion

The study aimed to determine the influence of mindfulness on employees' resilience and the differences in resilience concerning gender among employees at Eskom NC. The next chapter elaborates on the two variables, resilience and mindfulness. Lastly, a non-experimental research design will be used to determine if gender differences exist in career resilience among employees at Eskom NC.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Due to the rapid globalisation and digitalisation of the business world, the modern working environment is volatile and complex (Erhan et al., 2022). The rapid pace of change impacts predictability, making businesses susceptible and unable to leverage their competitive edge for significant expansion (Kumar, 2019). In order to accomplish the required objectives, these environmental factors necessitate complex and multivariate systems that include resource acquisition, mobilisation, and rationalisation (Jengwa & Pellissier, 2022). According to Erhan et al. (2022), resilience is a strategically essential business behaviour for growth, organisational success, and even survival, as this dynamic working environment appears to be the norm (Erhan et al., 2022). Therefore, if employees apply resilience, they will have the stamina to cope with peak periods and stressful events (Van Tongeren et al., 2019).

The more resilient people are, the better they adapt to challenging situations (Van Tongeren et al., 2019). For Luthans et al. (2008), resilience includes adaptive processes and mechanisms that integrate risk and asset factors in a cumulative and interacting pattern, in addition to an individual's total assets and risk factors. Youssef and Luthans (2007) highlighted that resilience is distinct from other psychological capacities, such as efficacy, hope, and optimism, due to several distinctive features. Resilience, for example, understands the necessity to adopt both reactive and proactive steps in the face of adversity (Youssef & Luthans, 2007). Importantly, the perseverance component of resilience encourages endurance in the face of adversity (Luthans et al., 2007). While the context of the setbacks may be different, resilience inspires perseverance and a "keeping at it outlook" (Avey et al., 2010, p. 430).

Mindfulness has the ability to enhance resilience as mindful people can respond to challenging events more effectively without reacting in automatic and non-adaptive ways (Vos et al., 2021). According to Kaplan et al. (2017), mindful people are more likely to be creative and are better able to handle challenging ideas and feelings without losing control or becoming depressed. Understanding how and why mindfulness may foster resilience becomes an interesting concept requiring thorough research (Vos et al., 2021).

This chapter will provide a literature review, giving insight into the theory governing the research questions (Fellows & Liu, 2021). The chapter will first focus on resilience, the dependent variable, followed by mindfulness, the independent variable, and thereafter, the relationship between the two constructs in the context of the complex environment of an electricity provisioning company in South Africa, such as Eskom.[8]

2.2 Resilience Overview

> *"Your perseverance is aided by your tenacity and dedication."*
>
> *"The Light in the Heart."* (Bennett, 2020, p. 1)

2.2.1 Conceptualisation of Resilience

"Resilience" is derived from the Latin verb *resilire*, which means "to bounce back" (Aydemir, 2018). The term was initially used in the scientific sector to refer to engineering and ecology and has traditionally been regarded as implying a high level of optimism about one's ability to overcome hardship (Artuch-Garde et al., 2017). In more recent studies, the emphasis has shifted from considering resilience as a personal trait to viewing resilience as a mechanism that allows one to overcome adversity when protective factors are present (Ainsworth & Oldfield, 2019).

In all areas of psychology, there is a growing interest in comprehending the concept of resilience (Vella & Pai, 2019). Uncertainty over resilience's conceptualisation and the

[8] Refer to Chapter 1 1.1 for an in-depth discussion on the company, Eskom.

differences between its measurement and antecedents has formed part of the rise in interest in resilience (Pfefferbaum et al., 2017). Furthermore, it is not apparent if approaches frequently employed in organisational stress research can help to understand resilience in employees subjected to various work demands or traumas that vary in frequency, intensity, and duration (Vella & Pai, 2019).

There is no consensus among definitions of resilience nor a single way to focus on the critical components that influence it and its consequences (Martin & Sunley, 2011; Visser, 2007). As a result, there are a variety of perspectives and theories surrounding resilience. For example, Fisher et al. (2019) defined resilience as the capacity to successfully adjust to disruptions (e.g., challenges, stressors, or demands) that can disrupt a person's functioning. Southwick et al. (2014) describe resilience as a sustained trajectory of healthy functioning following an unpleasant incident. As defined by Lines et al. (2020), resilience is the process of adjusting well in the face of adversity or difficult circumstances or "bouncing back" from a challenging experience.

According to Masten (2018), resilience is a positive indication of an individual's recovery from career setbacks. For Cooper et al. (2020), resilience is the ability to remain stable and balanced in the face of workplace adversity, with adversity being any negative, difficult, or challenging period. Resilient individuals usually have a strong motivational framework and are likelier to keep to their goals (Fadardi et al., 2010). Individual resilience aids individuals in overcoming misfortune, particularly difficulties related to their work (Levey et al., 2016).

Moreover, resilience refers to the ability to counter career constraints, barriers, and emotional stressors in the workplace (Sieg, 2020), while career resilience focuses more on how a person adapts and learns from experiences by using self-assessment and decision-making activities (Mishra & McDonald, 2017). According to Coetzee and Schreuder (2011), career resilience is the capacity to adjust to shifting circumstances by embracing changes in

one's position and organisation, anticipating forming relationships with new and diverse individuals at work, and being willing to take risks.

Houston (2018, p. 21) added a valuable metaphor: “Resilience is not a trampoline, whereby a person can be down one moment and up the next. It is more like ascending a mountain without a map, and it needs time, strength, and assistance from others.” Hartmann et al. (2020) defined resilience in terms of three orientations: trait, process, and outcome. According to trait resilience, resilience is viewed as a personal trait that aids people in overcoming adversity and achieving positive adjustment and growth. Resilience is thus viewed as a personality trait that protects people against the effects of hardship or traumatic experiences (Kalisch et al., 2017) and assists individuals in adapting successfully (Cornum et al., 2011).

Instead of a "one-size-fits-all" approach, Jones (2019, p. 552) defined resilience as a process that varies within and between populations based on both personal and contextual diversity. More contextually, sensitive conceptualisations have revealed resilience to be a dynamic process facilitated by interactions between individuals and the organisation effects, which subsequently affect behaviours such as delinquency and engagement (Brody et al., 2018).

Resilience can also be viewed as a phenomenon characterised by both processes and outcomes. Resilience, for instance, is described as "the success (positive developmental outcomes) of the (coping) process involved (given the circumstance)" (Infurna & Luthar, 2018, p. 43). The resilience as a process approach assumes that resilience depends on internal and external factors found in the individual's social or external environment, referred to as resources (Liu et al., 2017). Resources are positive factors that exist outside of the individual but assist them in overcoming risk exposure. Social support and religion are examples of external resources. Regardless of risk factors, assets and resources increase the likelihood of

positive outcomes (Visser, 2007). Resilience is sometimes referred to as a protective factor in psychology because it is supposed to safeguard people from developing major issues due to stress or adversity, known as risk factors (Fletcher & Sarkar, 2013). Moreover, resilience has been highlighted as a significant protective component of well-being, as it may insulate individuals from bad experiences in daily life (Fletcher & Sarkar, 2013). According to this viewpoint, risk and protective factors, which can come from either an individual or the environment, interact dynamically to create resilience (Ellis et al., 2017).

Risk factors can interfere with a person's ability to perform normally, which may cause them to become distressed. According to Anasori (2020), risk variables predispose (predict poor outcomes) people to the development of undesirable consequences. Personality and unique characteristics are important factors influencing how people respond to dangers; this helps explain why and how people respond to situations or change with time in different ways (Anasori et al., 2020). Resilience may be “a class of phenomena characterised by good outcomes despite serious threats to adaptation or development” (Ellis, 2017, p. 565). Conversely, adversity is characterised as a bad experience that a person encounters and can seriously reduce that person's capacity for adaptation over the long and short terms (Jayawickreme et al., 2021). When confronted with risk and adversity, resilient people utilise their resources or assets to reduce their exposure to risk factors (Ellis et al., 2017). In addition to adversity, risk factors are defined as significant occurrences in an individual's life that might result from a single traumatic event, several life stressors, or a combination of stressors (e.g., a divorce, a family member passing away, or another type of trauma). Thus, the presence of promotive and risk or protective factors that either bring about a positive outcome or lessen or eliminate undesirable consequences is an important component of resilience (Fergus & Zimmerman 2005; Visser 2007).

Resilience is a complicated construct involving several interconnected components (Masten & Tellegen, 2012). Due to the different definitions of resilience, Visser (2007) integrated definitions of various authors and defined resilience as people's ability to cope and adapt successfully, to overcome or "bounce back" from difficult life circumstances, and to draw on their internal strengths and skills to maintain psychological well-being and health despite threats, adversity and risks (Fergus & Zimmerman 2005). The latter definition, compiled by Visser (2007), was used in this study because it forms the basis for the Adult Resilience Indicator (ARI). This definition states that resilience is the ability of people to cope and adapt successfully to overcome or “bounce back” (Visser, 2007), viewing resilience as a factor such as risk (divorce or some other form of trauma), vulnerability (negative rumination and helplessness) and protective (confidence and optimism, social support and facing adversity). Therefore, two conditions must be present before one may be deemed resilient. Firstly, an individual must endure hardship that would have a detrimental impact on their daily lives. Secondly, regardless of the existence of risk factors, the individual must adjust without significant negative consequences to their life (Visser, 2007). As there are various conceptualisations of resilience, several models exist, each pertaining to a particular viewpoint, as discussed in the following section.

2.2.2 Resilience Theoretical Models

It is critical to understand that resilience results from a complex interplay of many factors at several levels of analysis (Van der Vegt et al., 2015). According to Ellis et al. (2017, p. 109), "resilience research shows that protective factors in one setting have the capacity to make up for risks that may be present in other settings". Ellis (2017) further explained that a single supportive relationship may be sufficient to increase resilience. Researchers have developed various models to aid in conceptualising how protective and risk factors interact within a resilience framework from different viewpoints of resilience. For example, the

protective model emphasises how resilience results from multiple factors interacting to lower depression and anxiety risks (Ellis et al., 2017). A key idea in the challenge model is that modest levels of risk exposure may be advantageous because they give employees the time to develop their abilities or use resources. A compensatory model is evident when a factor directly influences the outcome of interest and does not interact with a risk factor in the prediction of the outcome. As a result, the protective factor applies to everyone, regardless of whether they are exposed to risk. The following section discusses the theoretical models of resilience, which view resilience as a trait and process. The models include the Hypothesised Path, Challenge, Compensatory, and Protective Factor models of resilience. These models were chosen due to their comprehensive explanation of resilience (Haddadi & Besharat, 2010). The Hypothesised Path Model represents the trait view of resilience. The three models that viewed resilience as a factor and were used in the study are the Challenge, Compensatory, and Protective Factor models, which also support the Adult Resilience Indicator (ARI) scale (Visser, 2007), which are discussed next.

2.2.2.1 The Hypothesised Path Model. According to Coulter et al. (2016), the early theories of personality explained human behaviour in terms of a person's fundamental characteristics or tendencies. These views characterised traits as durable, steady, and constant. Self-efficacy and safe attachments with others help people develop trait resilience, which refers to how people adapt to and cope with their surroundings (Li & Yang, 2016). According to Li and Yang (2016), secure attachments are formed based on the parent-child relationship and the level of closeness involved in that interaction.

Based on these premises, Li and Yang (2016) developed the Hypothesised Path Model of Resilience to explain how stress affects an individual's level of self-efficacy, secure attachment, and trait-based resilience. Unlike the Protective Model[9] (Fergus & Zimmerman,

[9] Discussed in Section 2.2.2.4

2005), which focuses on the environment and context in which resilience emerges, the Hypothesised Path Model highlights the effect of external factors on internal processes (Li & Yang, 2016). It is paramount to consider the external factors that can lessen one's personal agency and intrinsic motivation, especially in the organisation. Events surrounding a person in their context can have informative or controlling elements (Li & Yang, 2016). Work environments featuring controlling elements show pressure to achieve desired results, reducing self-motivation. Guan et al. (2016) argued that salient informational features, on the other hand, offer feedback that supports the desire for competence and autonomy. In an attempt to cope with stress, Helgeson (2018) discovered that when people encounter some form of stress or stressor, they first turn to their internal resources and then to their external resources. According to Li and Yang (2016), people develop specific coping abilities when confronted with a stressful scenario, and they use those skills in difficult situations in the future. Thus, people form a pattern for dealing with stressful situations (Li & Yang, 2016).

Figure 2.1

The Hypothesised Path Model of Resilience (Li & Yang, 2016, p. 320)

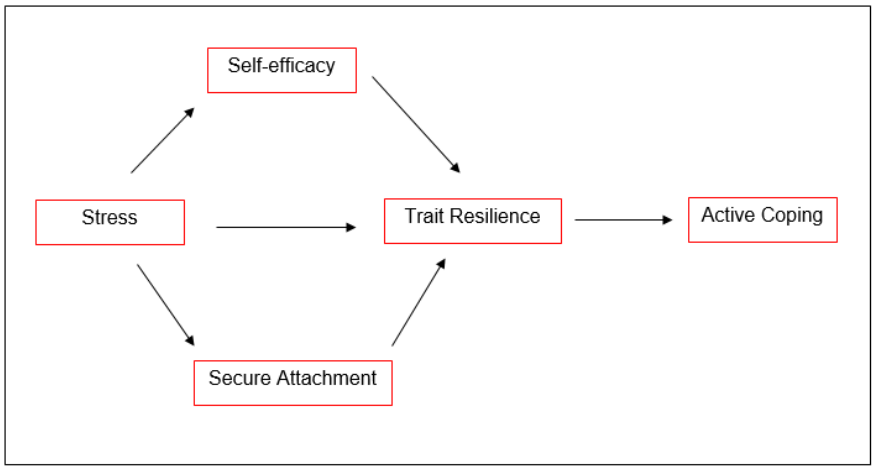


Figure 2.1 depicts how stress results in an individual calling on self-efficacy and secure attachments with others to develop adequate coping and adapting skills, known as trait resilience. The development of trait resilience contributes to the individual coping with all life's stressors and challenges. The Challenge Model of Resilience is presented next,

providing a comprehensive understanding of resilience from the risk exposure perspective and overcoming that risk (Fergus & Zimmerman, 2005).

2.2.2.2 The Challenge Model. The risk factor and outcome correlation in the Challenge Model follows a curved path, implying that exposure to both high and low concentrations of a risk factor is linked to unfavourable results. Nonetheless, less unfavourable (or favourable) outcomes are associated with intermediate risk levels (Fergus & Zimmerman, 2005). The notion is that people exposed to moderate levels of risk are met with enough of the risk factor to learn how to overcome it but not enough to make it impossible (Luthar & Zelazo, 2003). Challenge models require longitudinal data to assess how often exposure to problems prepares people to deal with adversity in the future (O'Leary, 1998).

Figure 2.2

The Challenge Model of Resilience (Benard, 1993, p. 202)

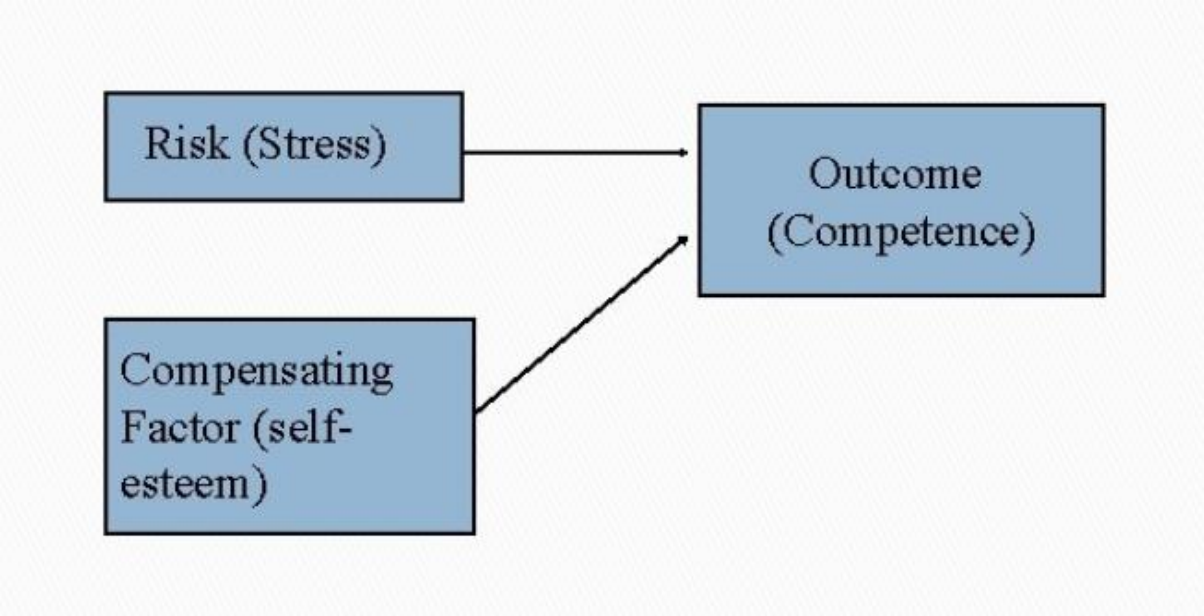
Richardson (2002) used a challenge model to highlight that resilient reintegration is the most important beneficial conclusion of a process, including an individual's reactions to adversity or stress related to a stressful working environment. According to the underlying hypothesis, individuals are genetically inclined and have more potential than they realise. This potential can be accessed through the disruptive resiliency method (Fonagy et al., 2017). Due to the requirement of validating the quadratic term utilising growth curve modelling with longitudinal data and knowledge of variation in risk exposure over time, the Challenge Model

has not been thoroughly researched, which is one of its weaknesses (Zimmerman et al., 2013).

2.2.2.3 The Compensatory Model. The Compensatory Model is a complementary strategy for understanding work motivation that aims to clarify, challenge, and expand on existing notions. The Compensatory Model explains how a risk factor interacts with a resilience factor in the opposite manner. The resilience factor directly impacts the outcome, which is unaffected by the impact of the risk factor (Andersson & Ledogar, 2008). In a decision-making process, the model considers both the advantages and disadvantages of the options under consideration and permits the advantages to compensate for the disadvantages (Andersson & Ledogar, 2008).

Figure 2.3

The Compensatory Model (Andersson & Ledogar, 2008 p. 70)



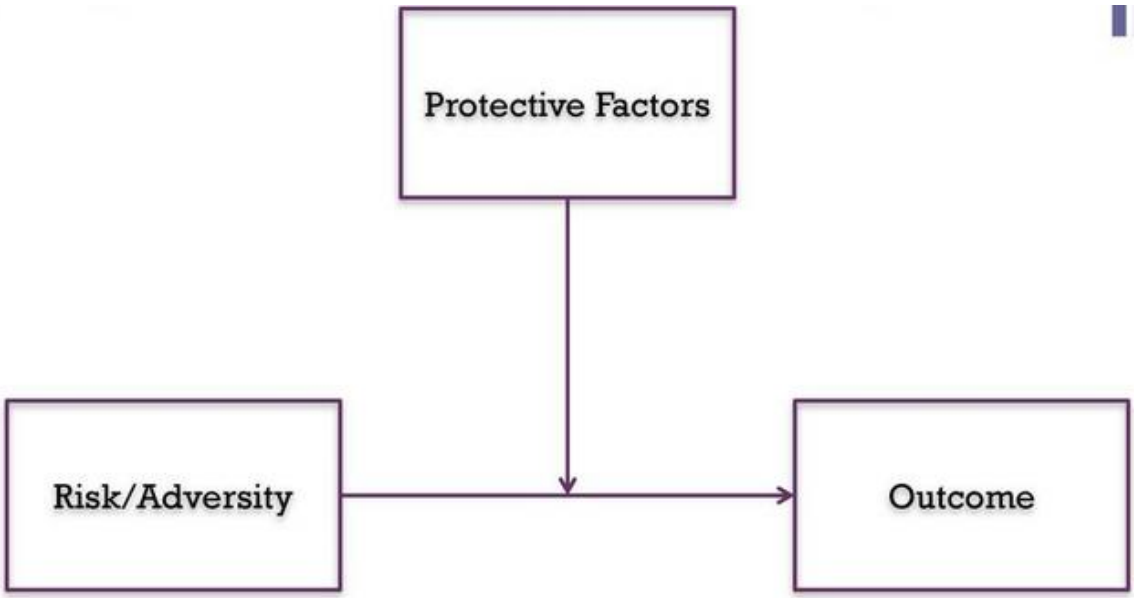
The Compensatory Model views resilience as a factor that neutralises risk exposures. Compensatory and risk factors independently influence the outcome of the prediction. The strength of the Compensatory Model is that it is independently and directly associated with a lower risk for suicide in a stressful working environment (Andersson & Ledogar, 2008). In contrast to compensatory factors, protective factors interact to alter the consequences of risks

(Rutter, 1987). A regression equation with a multiplicative term of the risk and promotional factors can be used to assess protective effects (Schmeelk-Cone et al., 2003). The Protective Factor Model is presented next.

2.2.2.4 The Protective Factor Model. The Protective Factor Model highlights how assets and resources influence risk factors by moderating their effects on the individual, thus influencing the outcome (Fergus & Zimmerman, 2005). The Protective Model of Resilience also shows the interaction between protective and risk factors associated with stress, including how they influence the individual's outcome (Fergus & Zimmerman, 2005; Windle, 2011; Zolkoski & Bullock, 2012). Resources moderate the effects of a risk on a bad outcome, while assets mitigate the effects of a risk on a bad outcome. This model can identify high-risk employees needing attention (Li et al., 2021). Protective factors can have several effects on outcomes (Stainton et al., 2019). It may help mitigate the negative effects of dangers by diminishing but not entirely removing them or amplifying the positive impact of another motivating factor in reaching a goal (Windle, 2011). According to Windle (2011), the Protective Model also describes how the presence of resources could influence the direction of the risk. Thus, it can create a more positive or negative outcome, primarily when used in an extreme working environment such as electricity companies. According to the Protective Model, an individual's personality traits can determine how much stress they feel, with risk variables interacting with protective factors to influence the outcome (Garmezy et al., 1984; Zolkoski & Bullock, 2012).

Figure 2.4

The Protective Factor Model (Fergus & Zimmerman, 2005, p. 410)



This model's strengths and protective factors are anticipated to contribute to well-being and the specific pathways through which they are proposed to foster resilience (Grych et al., 2015). The model has additional protective factors and strengths that might influence coping behaviours and assessments. As a result, it provides potential pathways through which intrapersonal attributes result in adaptive outcomes (Crouch et al., 2019). However, this paradigm does have certain limitations. For example, the many definitions of resilience make developing a model that truly depicts the notion difficult (Fergus & Zimmerman, 2005). Researchers, such as Tarter and Vanyukov (1999), have suggested that resilience is a trait and that the Protective Model of Resilience does not match the alternative concept of resilience (Fergus & Zimmerman, 2005). However, Visser's (2007) viewpoint on resilience[10] aligns with the Challenge, Compensatory and Protective Factor models, which formed this study's theoretical framework and fits in with the Factor Framework of Resilience. In order to present a more comprehensive view of resilience, the scales of resilience are discussed next.

[10] Visser's definition of resilience in Section 2.2.1.

2.2.3 Scales of Resilience

There is a lack of widespread adoption of resilience scales, and no scale is favoured over the other (Windle, 2011). Variations in the methods used to quantify resilience among research projects have resulted in inconsistencies concerning the characteristics of possible potential vulnerabilities and protective processes. The objective was to provide a broad selection of resilience measures, considering the significance of context and intended application, hoping one or more of them could satisfy the study's requirements. According to Windle et al. (2011), no “gold standard” exists among the 15 resilience measures. Subsequently, the conceptual and theoretical suitability of some scales was questioned. In total, the highest ratings were given to three measures: i) the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003), ii) the Resilience Scale for Adults (RSA) (Friborg et al., 2003), and iii) the Brief Resilience Scale (BRS) (Smith et al., 2008). However, Windle et al. (2011) concluded that one could consider these questionnaires to be of only moderate quality. The Brief Resilience Scale (BRS) was created using data from patients with chronic pain and heart disease as well as undergraduate students in the United States (Zlatkina, 2021).

Zlatkina (2021) added that the young adult population in the United States served as the basis for developing the Connor-Davidson Resilience Scale (CD-RISC). Neither of these scales was developed in South Africa. As a result, Visser (2007) developed the Adult Resilience Indicator (ARI) in a South African context. The next section discusses the Brief Resilience Scale (BRS), the Connor-Davidson Resilience Scale (CD-RISC), and the Adult Resilience Indicator (ARI).

2.2.3.1 Brief Resilience Scale (BRS). A wide range of resilience assessments focus on the factors contributing to resilience development; however, the Brief Resilience Scale (BRS) is a self-rating questionnaire that assesses an individual's capacity to recover from stressful

situations. Although Smith et al. (2008) did not employ this instrument in the clinical population, it might provide some crucial insights to people experiencing stress linked to their health. According to Amat et al. (2014), the BRS instrument comprises three positively and three negatively worded items—each of these six items concerns one's ability to bounce back from adversity. The participants were given a 5-point Likert-type scale, with 1 signifying strongly disagree and 5 signifying strongly agree; they had to select one choice for each statement to represent their level of agreement or disagreement. The scale's development controlled for protective factors such as social support to produce a reliable resilience measure (Smith et al., 2008).

2.2.3.2 Connor-Davidson Resilience Scale (CD-RISC). Connor-Davidson first developed the scale in 2003 as a self-report measure of resilience. The CD-RISC comprised 25 items, each rated on a 5-point scale (0-4), with higher scores reflecting greater resilience (Connor & Davidson, 2003). The scores should be based on how the person felt the previous month. The scale assesses a person's ability to cope with adversity by focusing on the following factors (Connor & Davidson, 2003):

- Personal Competence: An individual working to attain certain goals.
- Acceptance of Change and Secure Relationships: Individual's ability to adapt to change.
- Trust/Tolerance/Strengthening Effects of Stress: A person's ability to handle unpleasant feelings.
- Control: An individual's overall perception of being in control of his or her life.
- Spiritual Influences: An individual's belief that fate or God can help.

One of the measures with a higher score in the psychometric assessment of resilience is the CD-RISC, with many studies completed using this tool across a wide range of groups (Connor & Davidson, 2003). However, the CD-RISC was developed in the American context

and showed some weaknesses. Firstly, neither exploratory nor confirmatory component analysis was able to reproduce the original factor structure (Campbell-Sills & Stein, 2007). Moreover, Campbell-Sills and Stein (2007) demonstrated a preference for the orthogonal rotation approach of scale structure analysis when it makes sense to consider the likelihood that resilience's hypothetical dimensions are correlated, as it tends to be the case with other latent variables.

In response to the various limitations and applicability of other resilience questionnaires in the South African context, Visser (2007) developed the Adult Resilience Indicator (ARI). The ARI is discussed in the following section.

2.2.3.3 The Adult Resilience Indicator (ARI). The Adult Resilience Indicator was created in South Africa to measure adult resilience by evaluating the internal and external resources people typically turn to in difficult and trying circumstances. Visser's (2007) approach to developing the ARI reflects the multilevel and multidimensional perspective of resilience, which Jowkar et al. (2010) regard as necessary yet scarce. Furthermore, the ARI was developed to assess the psychometric properties of South African adult resilience and to explore the concept of adult resilience in the South African context (Visser 2007). According to Visser (2007), two conditions must be present before one may be deemed resilient. Firstly, an individual must endure hardship that would have a detrimental impact on their daily lives. Secondly, regardless of the existence of risk factors, the individual must adjust without significant negative consequences to their life (Visser, 2007).

Visser's scale requires participants to name two or three examples of adversity they have faced in the last two years. Then, they must indicate on a 5-point Likert-type scale the rating that best expresses their way of thinking and feeling when confronted with that specific adversity (Visser, 2007). The questionnaire utilises a 5-point Likert-type scale, with responses ranging from 1 to 5 (1 = *This is almost never true of me*; 5 = *This is almost always*

true of me) (Visser, 2007). The questionnaire initially had 82 items. However, due to several items failing to reach the decision rule of 0.5 to be maintained, a factor analysis decreased the number of items in the final version of the scale to 50 (Visser, 2007).

According to Visser (2007), the ARI has eight dimensions constituting the most central aspects of resilience. These dimensions are confidence and optimism, positive reinterpretation, facing adversities, social support, determination, negative rumination and helplessness, religion and faith, and emotional regulation, which will be discussed next (Visser, 2007).

- Confidence and optimism refer to a person's self-assurance and ability to persevere in the face of adversity. It also entails having a positive outlook on the future.
- Positive reinterpretation is defined as the ability to view any unpleasant circumstance positively. This involves the ability to grow from adversity.
- Facing adversities refers to an individual's ability to face and overcome obstacles and adversity.
- Social support systems might include family, friends, and peers.
- Determination is defined by one's ability to persevere in the face of challenging tasks and adversity to overcome obstacles.
- Negative rumination and helplessness correspond to how much people ruminate on negative thoughts and pity themselves in stressful situations.
- Religion and faith refer to faith in a higher power common among resilient people who rely on it in times of adversity.
- Emotional regulation relates to managing and controlling emotions, particularly unpleasant ones.

Three factors have been identified by Visser (2007) based on a second-order factor analysis of the many resilience-measuring dimensions. The first element comprises four

dimensions: Confidence and optimism, positive reinterpretation, facing adversity, and determination. This factor is referred to as "Assets" because it signifies internal protection mechanisms that can stop or slow the emergence of bad outcomes. The second aspect is referred to as “Vulnerabilities”. It covers the dimensions of emotional regulation, negative rumination, and helplessness since, if present, they may contribute to the emergence of unfavourable results (Van Breda & Theron, 2018). “Resources” are described as external defences and include religion and social support. Individuals with high scores on the seven positive dimensions and low scores on the negative rumination and helplessness dimensions have a high level of resilience with resulting positive outcomes (Visser, 2007). For Jaffee et al. (2018), resilience is more firmly linked to the need to take proactive and reactive steps in the face of adversity. The following sections will discuss the factors impacting resiliency, including mindfulness.

2.2.4 Factors Impacting Resiliency

According to McCray and Joseph-Richard (2020), resilience includes both the ability to bounce back from “trauma” and the capacity to continue performing in the face of hardship and ongoing change. Developing an individual's coping ability is the most crucial effect of resilience (Lamb, 2009; Li & Yang, 2016). This is a skill that someone possesses due to their high levels of resiliency (Masten & Tellegen, 2012). The study conducted by Sambu and Mhongo (2019) revealed that gender had a greater influence on individual levels of resilience. Additionally, mindfulness has been identified as potentially boosting an individual's resilience (Morrison & Pidgeon, 2017). Based on these arguments, these studies place mindfulness as an antecedent to resilience (Cepeda-Carrion et al., 2018). Thus, gender differences and the impact of mindfulness on resilience necessitate further discussion.

2.2.4.1 Gender Difference in Resilience. Sink and Mastro (2017) define gender as the roles, attitudes, activities, and characteristics that are socially and culturally produced and

deemed appropriate for men and women in a particular society. Based on this definition, gender differences encompass both genders' beliefs, attitudes, and behaviours, which impact well-being and health. Several studies indicate differences in resilience between women and men. Luthar and Zelazo (2003) also noted that while being male decreased the likelihood of generating internalising responses, being female decreased the likelihood of creating externalising responses. These findings imply the existence of gender-specific strengths and vulnerabilities that could either partially or fully counteract the impact of familial hardship on the likelihood of adolescent difficulties. Neufeld et al. (2020) found a significant gender variation in resilience and subjective well-being, with men reporting higher levels of resilience in dealing with adversity than women. According to the externalisation and internalisation models, gender had very different effects when it came to mitigating the effects of childhood adversity (Luthar & Zelazo, 2003). Zubair's (2018) research findings revealed that males in Pakistan and Russia were more resilient than females. While women are more likely to experience stress, Hundera et al. (2021) found that women have lower resilience scores. Furthermore, women are more likely than males to use emotion-based coping mechanisms in stressful situations, whereas men tend to be more action-oriented (Hundera et al., 2021). Studies, such as Stainton et al. (2019), emphasise the role of females as a protective or compensatory factor and have paid less attention to males as a source of resilience.

A gap remains in understanding how to interpret each stressful experience and the behaviour that follows, despite evolutionary progress in acknowledging gender differences and their importance in resilience (Newman & Newman, 2022). One of the causes is the inadequate analysis and understanding of how gender roles are seen, as well as the assessment of responses, feelings, coping mechanisms, and strengths. Furthermore, the idea that women are less resilient than males has been fuelled by the exclusion of social domains

linked to women's resilience from the resilience assessment process. Given the prevalence of women in insecure employment and the challenges they experience when entering previously male-dominated industries, increasing understanding of the relationship between gender and resilience is imperative from a practical and policy perspective (Healy et al., 2019). Research on resilience tends to highlight white-collar employment or managing exceptional crises, lacking an emphasis on resilience in the face of everyday experiences of insecure labour and interrupted careers, which are characteristics of work that female workers encounter disproportionately (Rudolph et al., 2021).

The idea that men and women have distinct personality traits that affect how they handle adversity also guides gender variations in resilience factors. Men, for example, tend to say less when faced with hardship. Compared to women who talk more and gain empathy and other forms of support, men ultimately receive less assistance and empathy as a result (Sun & Stewart, 2007). Men rely more on individual protective factors, but women tend to use protective factors from their families and communities. It is evident from the above that gender is an erratic and unreliable indicator of resilience. The results regarding resilience and gender are mixed, and more research is needed (Singh & Singh, 2021).

2.2.4.2 The Impact of Mindfulness on Resilience. Mindfulness and resilience are strongly correlated, whereby mindfulness plays an important role in enhancing the level of resilience of employees in the workplace (Morrison & Pidgeon, 2017). Combining mindfulness with high levels of resilience may aid employees in reducing their risk of burnout (Roberts et al., 2014). On the other hand, employees may be better prepared to deal with the pressures of their jobs if mindfulness techniques are encouraged (Rushton et al., 2018). According to Halliday (2018), mindfulness has the power to encourage self-awareness, which contributes to boosting resilience. Furthermore, interventions to promote resilience use various techniques that are not explicitly related to resilience, such as

mindfulness-based cognitive behaviour therapy, hardiness enhancement, and coping skills training, all to improve well-being (Palacio et al., 2019).

Goldhagen et al.'s (2015) study on medical students suggests that a mindfulness-based resilience intervention can benefit the individual. As a result, this research suggests that mindfulness is a precursor to resilience and that mindfulness training can help people become more resilient (Verdonk et al., 2017). Stress evaluation, coping strategy selection, and emotion control have all been presented as processes to explain the link between mindfulness and resilience. Additionally, individuals with higher degrees of mindfulness have lower stress levels when confronted with difficulties and are more likely to cope effectively with stressors (Weinstein et al., 2009). According to Tyng et al. (2017), mindfulness is a cognitive activity influenced by emotional processes and positively affects overall resilience. Mindfulness practice promotes resilience development, minimising the hazards associated with overwhelming and constant stress (Pierotti & Remer, 2017).

2.2.4.3 Age. Some elements that affect resilience in traumatised people are likely to be age and gender. However, gender has a stronger impact on people's levels of resilience at a certain age. In the same way that men are more resilient than women are, older people score higher on the resilience scale than younger age groups (Sambu & Mhongo, 2019). Syed et al. (2020) found that respondents between the ages of 56 and 77 had higher resilience levels. *This could be ascribed to* the fact that older people had already gone through similar types of traumatic experiences and had developed improved coping strategies to help them through difficult situations that could change their lives. This was particularly obvious among the respondents who *shared facing* hardships that had disturbed their lives in the previous years. They were able to build coping mechanisms due to being exposed to hardships (e.g., the fire disaster). Age-related increases in resilience may also be related to a greater capacity to cope with negative life events, which promotes acceptance and better coping, or what Egan et al.

(2017) refer to as positive re-integration. The middle/younger respondents (35-55 years old) in a related study by Egan et al. (2017) scored moderately on the resilience scale. *This could be because* people at these ages are burdened *with* more obligations in terms of their work, familial responsibilities, and other duties, which contributes to their increased sense of overwhelm in times of adversity. The age composition for the study was *divided* into youth (18-35 years) and adult (36-65 years) (National Youth Development Agency, 2015). The outcomes of resilience on the individual and the effects on organisations are examined separately and will be discussed next (Lamb, 2009).

2.2.5 Outcomes of Resilience

The following section discusses the outcomes for resilient individuals and organisations.

2.2.5.1 Outcomes of Resilience for Individuals. According to Baumeister and Tierney (2019), *highly resilient individuals* have more resources for harm reduction, promotion, health protection and a flexible self-regulating system that allows self-control to play a more moderating role. They also portray higher self-esteem and a stronger ability to undertake adaptive behaviours. *In addition,* Legnick-Hall et al. (2011) found that resilient individuals are more likely to recognise opportunities for organisational growth and are more comfortable pursuing and capitalising on these opportunities than their non-resilient counterparts. Resilience predicts an individual's morale, success, and other outcomes (Ainsworth & Oldfield, 2019). According to Mansfield and Beltman (2019, p. 583), resilience is linked to "numerous positive outcomes for individuals, including commitment, efficacy, job satisfaction, well-being, motivation, and positive sense of identity." Resilient individuals keep a high level of motivation, which helps their output success (Avey et al., 2010). Lastly, higher self-esteem, enhanced confidence and reduced sensitivity to mental diseases are other outcomes of resilience (Levey et al., 2016).

2.2.5.2 Outcomes of being Resilient for the Organisation. Empirical studies conducted by Youssef and Luthans (2007) indicated that resilience-related constructs, such as self-efficacy and competence, influence an organisation's outcomes and bottom line. According to Anitha (2014), organisational success motivates employees to strive for increased goal achievement. When people have a higher level of motivation, they are more likely to be happy when they achieve their goals and have fewer negative feelings when accomplishing them becomes challenging (Franken et al., 2020). Organisations that value resilience emphasise training programmes that equip employees with the necessary skills to be competent and efficient in their daily functions (Lamb, 2009), thus leading to a positive cycle as resilient employees experience higher job satisfaction, seeking solutions to problems that will contribute to overall positive organisational outcomes and decreasing the likelihood of transitions to other jobs and organisations (Lamb, 2009; Youssef & Luthans, 2007).

2.3 Conclusion

In this chapter, various definitions of resilience were discussed. Furthermore, Visser's (2007) conceptualisation of resiliency as a factor was discussed as the basis of resilience for the study. The theoretical models of resilience, including the Hypothesised Path Model and the Challenge, Compensatory, and Protective Factor models, were highlighted. This was followed by the scales of resilience and factors impacting resilience, which include gender differences in resilience and the impact of mindfulness on resilience. Lastly, the outcomes of resilience were also covered. The next section discusses the mindfulness overview.

2.4 Mindfulness Overview

"Everyday embodiment is needed to nurture self-acceptance, kindness, and self-compassion if mindfulness is to have any value" (Kabat-Zinn, 2011, p. 289).

2.4.1 Conceptualisation of Mindfulness

The term "mindfulness" has its roots in Buddhist psychology that spans hundreds of years (Brown et al., 2007). T. W. Rhys Davids originally translated the Buddhist term "Sati" and used it to refer to the term "mindfulness" (Gethin, 2011). According to Black (2011), researchers at first regarded mindfulness as esoteric, linked to religious ideas, and a skill that is only possessed by certain individuals. The Sanskrit word Sati, which can also be rendered as "remembrance" or "memory," has been used to denote lucid awareness of what is happening within the phenomenological field and to refer to the original concept of mindfulness (Davis & Thompson, 2017).

However, at the beginning of the 2000s, mindfulness meditation began to appear often in the popular media in the United Kingdom (UK) and the United States (US) (Van Dam et al., 2018). Later, it was introduced into non-religious institutions, such as schools, hospitals, and prisons, while the general public was picking it up on their own, facilitated by the development of popular apps, local drop-in sessions, private courses, and a growing literary genre for guided self-practice (Ashdown, 2011). At least two major conceptualisations of mindfulness exist: the first is a traditional Buddhist approach, and the second is a contemporary Western perspective (Karl et al., 2022). From a Buddhist approach, mindfulness is a state of consciousness and attentiveness that, if it becomes stagnant, reverts its attention to the present. On the other hand, the Western perspective involves purposefully focusing on one's internal and external events taking place in the present (Karl et al., 2022). Delaney (2018) found that journalists expressed an increasing interest in meditation's ability to help people from all walks of life.

Based on an increasing interest, different authors developed different definitions; some define mindfulness as a state or trait. According to Brown et al. (2007), the traditional meaning of mindfulness is an awareness of what is happening before or beyond

psychological and emotional categorisations of what is or has happened. According to Marx and Jones (2017) and Baer (2017), mindfulness is the ability to remove anxiety and embrace quietness by intentionally paying attention to the present experience in a non-judgemental or non-evaluative way. This direct experience is also non-evaluative or non-judgemental, rooted in the present moment rather than being distracted or occupied by past or future concerns (Bishop et al., 2004). This viewpoint is consistent with Eastern mindfulness practices, as non-judgemental awareness can help to minimise reactionary behaviours such as violence (Gethin, 2011). Attention (the ability to focus directly on one's experience) and awareness (the ability to notice what is happening within one's experience) are frequently shared aspects in mindfulness definitions (Brown & Ryan, 2003). A highly mindful person is open, aware, attentive, and accepting of reality rather than dwelling, judging, worrying, comparing, or avoiding it (Crane et al., 2017).

Importantly, mindfulness is about remaining alert, aware, and prepared to deal well with every scenario while in the moment (Delaney, 2018). For Morrison and Pidgeon (2017), mindfulness is the foundation for building attentiveness. MacDonald and Bexter (2017) see mindfulness as a way of living that allows individuals to be more attentive.

The prevalent tendency in mindfulness and its use in organisation evaluations has been to build disciplinary-based reviews that take a "gap spotting" approach, for example, psychological measures of individual mindfulness as a state or trait (King & Badham, 2020). State mindfulness is the ability to develop a specific mental state while meditating. Additionally, mindfulness as a state is defined as a non-judgemental awareness of and attention to moment-by-moment cognition, emotion and sensation without fixation on past and future thoughts (Kabat-Zinn 2003). Bishop et al. (2004) operationalised Kabat-Zinn's definition of mindfulness. According to these authors, mindfulness should be viewed as a specific focus of attention with at least two distinct characteristics: the first characteristic

involves self-regulation of attention to the present moment, and the second is the adoption of an orientation characterised by openness, curiosity, and acceptance. More specifically, the first component describes mindfulness as a type of mental skill or state that manifests when a person intentionally directs their attention to their present-moment experience, while the second component discusses the personality characteristics that underlie mindfulness tendencies, both components of which are closely related (Bishop et al., 2004).

According to Brown et al. (2007), mindfulness as a trait is rooted in the behaviours of consciousness, attention, and awareness. Therefore, being conscious requires being mindful, increasing awareness and acceptance (Bamber & Schneider, 2022). For Kabat-Zinn (1994), mindfulness is intentionally and non-judgementally paying attention to the present moment. Traits of mindfulness include the length of time, frequency, and intensity with which a person frequently engages in states of mindfulness (Liang et al., 2018). Additionally, trait mindfulness is a dispositional attribute that is consistent. Mindfulness is a dynamic, trait-like state of attention that involves being aware of what is happening in the present (Brown & Ryan, 2003). Brown et al. (2007) added that mindfulness at the trait level describes cross-situational, generally persistent individual differences in the propensity to be in a state of attentive awareness. According to research on trait mindfulness and engagement, which is sometimes seen as the opposite of burnout, dispositionally mindful workers are more likely to interact with their work in a constructive and healthy manner (Leroy et al., 2013; Marzuq & Drach-Zahavy, 2012). Brown et al. (2007, p. 212) defined mindfulness as “receptive attention to and awareness of present events and experiences”. “It is impossible to define, let alone operationalise, mindfulness” (Brown et al., 2007, p. 216). Although mindfulness has been studied extensively, there is still conflict in research on mindfulness, which may be better conceptualised as a state rather than a trait (Mesmer-Magnus et al., 2017). Despite some

confusion about the nature and meaning of mindfulness, there is agreement on its fundamental nature (Floridi & Chiriatti, 2020).

Brown and Ryan's (2003) definition of trait mindfulness as a dynamically shifting state that comprises awareness and attention to current events and experiences will be used in this study, as it corresponds to the one-dimensional concept used to quantify mindfulness as the presence or absence of present-moment awareness (Gibson, 2019). Since the beginning of mindfulness in Western psychology research, researchers have tried to record and interpret its mechanisms, resulting in many models of mindfulness (Bamber & Schneider, 2022).

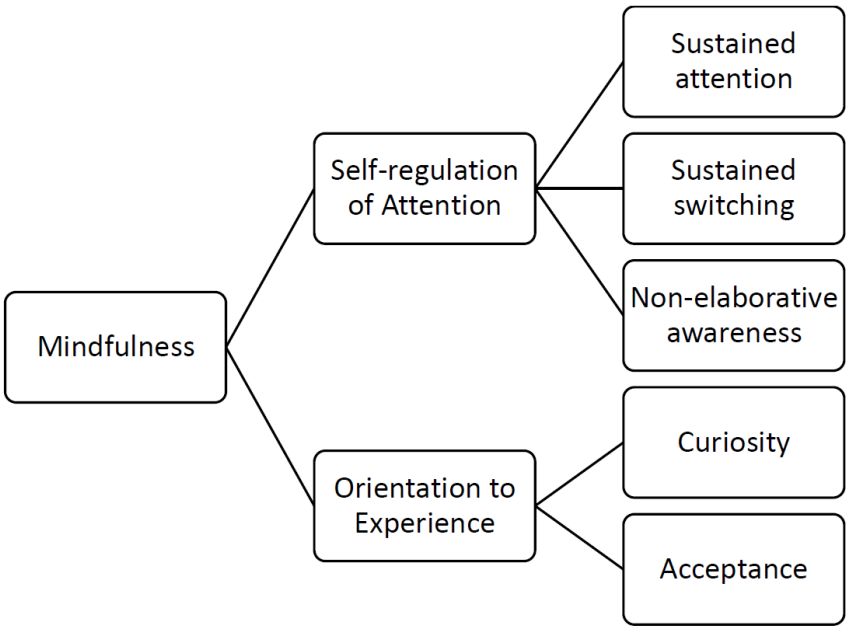
2.4.2 Mindfulness Theoretical Models

According to the Two-Component Model of Mindfulness, which views mindfulness as a state, it cultivates a state of non-judgemental awareness that fosters openness to experience (Bishop et al., 2004). For Shapiro et al. (2006), Intention, Attention and Attitude (IAA) are the core components or axioms of mindfulness. Brown and Ryan (2003), who established the Mindful Attention Awareness Scale (MAAS), identified mindful attention awareness as one of the core components of mindfulness. As a result, Shapiro et al. (2006) developed the Axiom Model of Mindfulness. This study focused on Shapiro et al.'s (2006) Axiom Model of Mindfulness, which focuses on the components of intention, attention, and attitude to explain mindfulness mechanisms and view mindfulness as a trait. It correlates well with Brown and Ryan’s (2003) definition of mindfulness, which focuses on attention and awareness of the present-moment experience and views mindfulness as a trait. Both these models are presented in the following sections.

2.4.2.1 The Two-Component Model of Mindfulness. Bishop et al. (2004) developed the Two-Component Model of Mindfulness. The first component, as shown in Figure 2.5, is the self-regulation of attention to the experience of the present moment, while the second component is one's orientation to the experience of the present moment.

Figure 2.5

The Two-Component Model of Mindfulness's conceptual framework (Bishop et al., 2004, p. 233)



2.4.2.1.1 Self-Regulation of Attention. Mindfulness starts by bringing awareness to current experiences, feelings, *and* sensations from moment to moment by regulating the focus of attention, observing and attending to the changing field of thoughts (Bishop et al., 2004). This leads to one becoming acutely aware of what is occurring in the present moment. It is often described as feeling fully present and alive in the moment (Bishop, 2004). According to Haydicky et al. (2017), the model also suggests that self-regulation enhances one's capacity for sustained attention, attention switching, and non-elaborative awareness. Bishop et al. (2004) define sustained attention as the ability to maintain a state of awareness for an extended amount of time. The ability to consciously vary one's focus of attention in response to a change in need is known as attention switching (Wimmer et al., 2016). As a result, attention switching entails shifting attention from one item to another. According to Bishop et al. (2004), attention control fosters a non-elaborative awareness of one's thoughts, feelings, and sensations as they arise and the ability to avoid immediately responding to events.

2.4.2.1.2 Orientation to Experience. Bishop et al. (2004) maintained that one should remain curious about one's experience in the present moment when one is in a state of mindfulness since this promotes acceptance of the event. Mindfulness might thus be defined as a process of honestly interacting with one's own experiences (Aasan et al., 2022).

In essence, mindfulness is defined as an approach to managing attention to bring a quality of non-elaborative awareness to current experiences and a quality of relating to one's experience while maintaining an attitude of inquiry, experiential openness, and acceptance (Bishop et al., 2004). Mindfulness can also be defined as a process of acquiring insight into one's mind and adopting a de-centred view (Safran & Segal, 1990) on thoughts and feelings, allowing them to be experienced in terms of their subjectivity (rather than their required validity) and transient nature (versus their permanence).

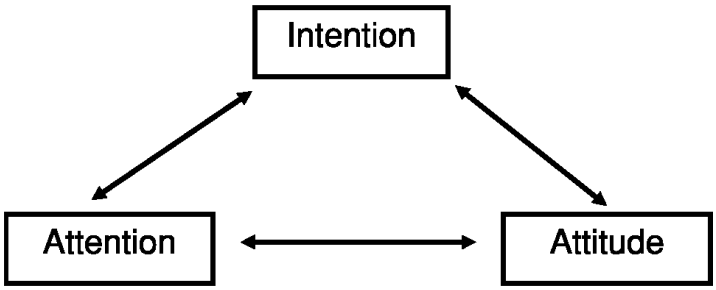
According to Shapiro et al. (2006), the three axioms are the core components of mindfulness. Intentionally (I) attending (A) with openness and non-judgement (A) results in a major shift in viewpoint, known as reperceiving, and has a beneficial effect. Brown and Ryan (2003) defined mindful attentive awareness as one of the core components of mindfulness. The axiom model of mindfulness presented by Shapiro et al. (2006), which focuses on the components of intention, attention, and attitude to explain the mechanics of mindfulness, was the subject of this research. It aligns with Brown and Ryan's (2003) definition of mindfulness, emphasising attention and awareness of the present moment. For this purpose, the Axiom Model of Mindfulness is necessary, and it is discussed next.

2.4.2.2 The Axiom Model of Mindfulness. Based on Kabat-Zinn’s (1994) definition of mindfulness, Shapiro et al. (2006) proposed a three-axiom model to explain the mechanisms and processes of mindfulness. Based on the model, attitude reflects non-striving, compassion and patience when a person is engaged in attentional practice. The intention, attention, and attitude (IAA) axioms include four sub-mechanisms: i) self-regulation; ii) values

clarification; iii) cognitive, emotional, and behavioural flexibility; and iv) exposure. In Figure 2.6 (Shapiro et al., 2006), the three axioms underpinning the concept of mindfulness are clearly illustrated and briefly discussed in the following sections.

Figure 2.6

The Axiom Model of Mindfulness (Shapiro et al., 2006, p. 375)



Axiom I. Intention. Kabat-Zinn (2003) defined the term "intention" as a person's unique vision of what they hope to achieve through practising mindfulness. Kabat-Zinn (1994) highlighted that a person acts as a reminder of what matters most and sets a tone for what is attainable. Generally, intention relates to understanding what it is that one is doing and why one is doing it (Shapiro et al., 2006). This personal vision, or aim, is frequently fluid and changes over time (Freedman, 2005). A highly stressed businessperson, for example, might start a mindfulness practice to lower his blood pressure (Shapiro & Schwartz, 2000).

Axiom II. Attention. Attention is a second important aspect of mindfulness. This element alludes to present-moment consciousness, which is necessary for seeing things. Attention is particularly important in cognitive-behavioural treatment, which focuses on the ability to pay attention to internal and external behaviours (Bishop et al., 2004). Sustained attention, attention switching, and cognitive inhibition are all methods for guiding one's awareness focus (Shapiro et al., 2006).

Axiom III. Attitude. Attitude is the emotive and evaluative component directed towards a specific object or action, and it pertains to the attributes of attention. This axiom states that the attitude with which one approaches attention is crucial (Shapiro et al., 2006).

"Intentionally attending with openness and non-judgement results in a significant shift in perspective known as re-perceiving" (p. 377). By adopting an observer perspective, re-perceiving includes becoming aware of the content of awareness (Shapiro et al., 2006). They further stated that re-perceiving improves self-control, cognitive, value clarification, behavioural flexibility, and emotional and situational exposure (Shapiro et al., 2006).

Self-regulation improves as a result of re-perceiving, which allows one to observe the contents of awareness and become more aware of internal reactions that may have previously controlled one's behaviour. On the other hand, being conscious of one's internal reactions provides information that may be used to choose how to respond to a situation rather than reacting to it constantly (Shapiro et al., 2006). According to Brown and Ryan (2003), individuals scoring higher on mindfulness also report higher levels of self-regulation and are more conscious of the contents of their mental arena that guide their behaviours and values, helping them to clarify their values (Shapiro et al., 2006).

Individuals start to realise awareness as independent from mental events through re-perceiving and disidentifying with mental events, allowing for more adaptive responses that are appropriate in the present moment (Shapiro et al., 2006). The ability to disidentify from previous patterns and beliefs and thus understand a situation more clearly leads to cognitive, emotional, and behavioural flexibility (Shapiro et al., 2006). The Axion Model was used to break mindfulness into a simple and comprehensible construct, while the Two-Component Model of Mindfulness was used to describe the components in terms of their specific behaviour, implicated psychological processes and experiential manifestation (Kabat-Zinn, 2013). Reviewing the components of mindfulness measured by the existing validated mindfulness scales is required for this goal and is discussed next.

2.4.3 Scales of Mindfulness

While other approaches have been proposed, self-assessment instruments predominantly measure mindfulness (Sauer et al., 2013). To date, several scales have been developed and, in certain cases, have undergone psychometric validation. The quantity of scales is indicative of the broad interest in the study (Hussey & Hughes, 2020). A summary contrasting, describing, and evaluating the various methodological techniques for measuring mindfulness, including questionnaires and alternative techniques, has not yet been presented, despite some authors beginning to compare the underlying concepts and operationalisations of these scales (Janssen et al., 2018). The most popular scales of mindfulness are discussed next. These include the following: The Freiburg Mindfulness Inventory (FMI), which is the scale that was developed to measure mindfulness within a mindfulness mediation training context; the Toronto Mindfulness Scale (TMS), which represents mindfulness as a state; and the Mindfulness Attention Awareness Scale (MAAS), which focuses on mindfulness as a trait.

2.4.3.1 The Freiburg Mindfulness Inventory (FMI). The foundation of the Freiburg Mindfulness Inventory (FMI) measure is explicitly Buddhist psychology (Kohls et al., 2009; Walach et al., 2006). According to a recent study, a two-dimensional factorial structure that emphasises the present moment component (factor presence) and a factor of accepting others' viewpoints (factor acceptance) is preferable. A 14-item version and a 7-item version have also been suggested in addition to the original 30-item version (Jimenez et al., 2010). Examples of such statements include the following: "I am receptive to the here and now" (presence factor) and "I am able to smile when I notice how I occasionally make life difficult" (acceptance factor). A recent qualitative examination of the German scale, a 14-item FMI, revealed that those who do not have an experience in meditation consistently misunderstood items 1 (“I am willing to experience the present moment”), 2 (“I sense my body, whether eating, cooking, cleaning or talking”), 3 (“When I notice an absence of mind, I

gently return to the experience of the here and now"), and 7 ("I feel connected to my experience in the here-and-now") (Griffiths et al., 2009). The authors suggested modifying these items. In summary, both the short and long forms of the FMI appear unsuitable for people unfamiliar with mindfulness or Buddhist concepts since individuals may systematically misunderstand at least some items without meditation experience.

However, the FMI is recommended for usage in populations who are accustomed to meditation since it may be especially well-suited to address mindfulness-related issues for experienced meditators. With more "advanced" items on the scale, it may be able to distinguish between different types of meditators. Different aspects of the mindfulness construct cannot be measured due to the FMI's unstable factor structure. This poses a serious obstacle to examining the unique contributions made by each mindfulness component and their relationships to other concepts (Smith & McCarthy, 1995). Thus, the FMI's absence of a well-defined framework may have more to do with mindfulness's fundamental qualities than with the scale's limitations. The limitation raised the need to explore another mindfulness scale: The Toronto Mindfulness Scale (TMS).

2.4.3.2 The Toronto Mindfulness Scale (TMS). The Toronto Mindfulness Scale (TMS) assesses mindfulness as a state rather than a trait, in contrast to all other scales (Ainley, 2019). The conceptual foundation is based on the work of Kabat-Zinn (2013). Though it has not been used much until now, this measurement technique provides a fresh angle on the subject of research because it was created to assess state mindfulness in a particular circumstance. The scale asks about a person's experiences during an immediately preceding meditation session. Sample items include: "I observed slight changes in my mood," "Openness to my experiences was more important to me than trying to control or alter them." The TMS's trait version was created and tested in meditators and non-meditators (Davis & Thompson, 2017). Other trait mindfulness scales showed favourable connections with trait

decentring and trait curiosity, with trait decentring showing stronger correlations. Those with extensive meditation sessions scored higher on the trait decentring scale. In a similar vein, the state version of the TMS validation study found that while state curiosity was only elevated in a subgroup of meditators trained in mindfulness meditation as defined by MBSR, it was not increased in the Shambhala subgroup; state decentring was generally higher in meditators with more experience.

These results imply that the TMS's interest subscale might be unique to certain conceptions of mindfulness. The Shambhala Buddhist tradition places more emphasis on refocusing attention on the meditation object than it does on observing and exploring distracting experiences (as is the case in the non-secular practice of MBSR). This may help to explain why this practice has been shown to have no effect on curiosity (Ainley et al., 2019). In addition, the Shambhala tradition emphasises living as a "warrior" in the world and pursuing enlightenment out of compassion for all living things (Rabjam, 2007). In contrast, every curiosity item in the TMS is aimed towards the individual (TMS item 32: "*I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations*").

In summary, the TMS assesses two components of mindfulness: decentring and being curious. Thus, the TMS has the advantage of clearly assessing the decentred stance to experiences, which is underrepresented among current mindfulness scales as a core feature of mindful attention (Goldberg et al. 2019). Moreover, the TMS mindfulness scale assesses state mindfulness. Bishop et al. (2004) proposed that the TMS focuses on the second component of mindfulness (mindful orientation). However, this scale does not explicitly measure self-regulation of attention. Results from meditator subgroups indicated that the curiosity subscale of the TMS may be closely associated with certain conceptualisations of mindfulness, such as mindfulness as taught in MBSR, rather than a broader mindfulness construct. As a result,

there is a need to discuss a scale that views mindfulness as a trait, which is the view of the current study. Thus, the Mindfulness Attention Awareness Scale (MAAS) is discussed next.

2.4.3.3 Mindfulness Attention Awareness Scale (MAAS). Despite recent criticism, the Mindfulness Attention Awareness Scale (MAAS) is probably the most commonly used scale to date (Van Dam et al., 2018). The definition of mindfulness as including both an emotional and an attentional aspect is found in most other scales. According to the MAAS, mindfulness is limited to an attentional component. The purpose of the 15-item MAAS scale is to evaluate a fundamental aspect of mindfulness. The fundamental traits are characterised by a receptive state of mind in which attention is directed towards observing what is happening in the present moment, guided by a sensitive awareness of what is happening in the world (Brown & Ryan, 2003; Carlson & Brown, 2005). Numerous research studies have replicated the one-dimensional structure of the MAAS (Carlson & Brown, 2005). Participants are asked to score their frequency or infrequency of mindfulness experiences on a 6-point Likert scale ranging from 1 (almost always) to 6 (almost never). Together, the objects show "an absence of mindfulness" (Brown et al., 2009). The MAAS originally consisted of an acceptance factor and a presence factor. Because it did not offer an "explanatory advantage over that shown by the presence factor alone," the acceptance factor was omitted from the final version (Brown & Ryan, 2004, p. 244). However, while the cognitive aspects of mindfulness are sufficiently measured by the MAAS (Brown & Ryan, 2003), it does not include the elements of objectivity and nonjudgement suggested by Bishop et al. (2004). It should be mentioned that answering a mindfulness questionnaire might benefit the growth of mindfulness in and of itself. Self-monitoring and self-reporting alone can result in desired behavioural change (Matthews et al., 2018). Mindfulness-based interventions may purposefully take advantage of this impact. Based on this, the outcomes associated with mindfulness are discussed next.

2.4.4 Outcomes Associated with Mindfulness

According to Yu and Zellmer-Bruhn (2018), the benefits of mindfulness in fostering healthy professional growth have been well documented. Mindfulness is a technique linked to increased resilience and decreased burnout (Harris & Bostain, 2021). Mindfulness practices also develop attitudinal qualities such as openness, acceptance, compassion, curiosity, and non-judgement (Crane et al., 2017). People who practice mindfulness techniques regularly may be able to lessen self-judgement and raise their awareness of well-being (Good et al., 2018). Previous studies have linked mindfulness to a variety of positive career outcomes, including stress resilience, psychological health, increased cognitive and behavioural flexibility (Hayes & Feldman, 2004), decision-making abilities, improved problem-solving, and overall career success and satisfaction (Hayes & Feldman, 2004; Felsman et al., 2017; Weinstein et al., 2009). According to Jha et al. (2010), mindfulness enhances focused attention and improves working memory capacity. Similarly, Anicha et al. (2012) discovered that mindfulness is linked to improved working memory and cognitive control flexibility. It may be claimed that because mindfulness allows for direct, non-judgemental contact with events as they occur, one's consciousness gains clarity and freshness, allowing for more flexible, objectively informed behavioural reactions (Brown et al., 2007). As a result, mindfulness has been linked to better decision-making, with people being more likely to recognise the significance of information in current circumstances and comprehend unexpected outcomes rather than dismissing them (Verdonk et al., 2017).

Increasing mindfulness, or simply mindful practices, on an individual level can result in an upward spiral of psychological and behavioural changes that can influence workplace behaviour and experiences and benefit organisations (Patel, 2017). Mindfulness training practices are discussed next.

2.4.5 Mindfulness training practices

Mindfulness practices aim to cultivate a non-judgemental and accepting orientation towards experience, both internal and external, that is conducive to upholding present awareness (Baer et al., 2004; Kabat-Zinn, 2013; Shapiro & Schwarz, 2000). Nandinee et al. (2022) stated that although it has not yet been applied in published studies on mindfulness, Interpretative Phenomenological Analysis (IPA) is a qualitative method utilised recently in health psychology research. Investigating how individuals interpret their experiences and the significance they have for them is the goal of IPA. Given the current discourse around the practice, IPA can offer insights into how participants comprehend and make meaning of mindfulness as an intervention. Patients undergoing cardiac rehabilitation might join a group customised for Mindfulness-Based Cognitive Therapy (MBCT). A variety of issues have been treated using MBCT, such as anxiety (Luberto et al., 2017), depression (Goldberg et al., 2019), and stress (Hazlett-Stevens et al., 2019). Furthermore, participants in a pilot Mindfulness-Based Stress Reduction (MBSR) programme for women with heart disease showed significant gains in emotional control and coping, as well as significant reductions in anxiety and negative affect. Tacón et al. (2003) reported these results. Additionally, MBSR has been included in a psychoeducational intervention designed for chronic heart failure patients (Zou et al., 2021). A well-researched, methodical approach to patient-centred education, Mindfulness-Based Stress Reduction (MBSR) employs mindfulness meditation training to improve awareness and the capacity to respond effectively to situations that lead to emotional distress and maladaptive behaviour (Dalen et al., 2010). Mindfulness meditation is not a strategy for mood management or relaxation. It is, instead, a highly developed, systematic attentional method designed to "reduce cognitive vulnerability to reactive modes of mind that might otherwise heighten stress and emotional distress" (Bishop, 2004, p. 231).

Jha et al. (2010) found that Mindfulness-Based Fitness Training (MMFT) has the potential to be a useful strategy for boosting soldiers' psychological health and resilience when their job and deployment put them at higher risk of psychological trauma. The number of studies on clinical aspects of mindfulness and neural correlates of meditation practices involving mindfulness is rapidly increasing. However, what is understood as mindfulness and the practice's goals differ across traditions and studies (Dorjee, 2010). Numerous studies have demonstrated the effectiveness of mindfulness techniques as an intervention for the treatment of psychological and physiological symptoms, such as anxiety and depression, and improvements in cardiovascular health. According to Daken and Ahmad (2018), mindfulness has been extensively researched. Mindfulness training has been proven to improve the psychosocial well-being of cancer patients and reduce depression in dementia caregivers (Berk et al., 2018). Also, mindfulness improves the well-being of caregivers of people with intellectual or developmental disabilities (Donnchadha, 2017). However, not all systematic research or meta-analyses found immediate or long-term advantages of mindfulness therapies. Mindfulness training can help people feel re-energised and better understand their surroundings (Yu & Zellmer-Bruhn, 2018). Improvements in stable or dispositional mindfulness are frequently considered to result from mindfulness training and explain many of its beneficial outcomes (Kiken et al., 2017). The effects of mindfulness interventions are discussed next.

2.4.5.1 Effects of Mindfulness Interventions. According to the studies examined thus far, a positive correlation *exists* between several psychological health indices and mindful awareness measures, as well as a beneficial effect of mindfulness interventions on psychological health (Burgdorf et al., 2019). Even though MBSR intervention has been shown to improve psychological well-being in several trials, it is unclear if these benefits are related to increased mindfulness (Ridderinkhof et al., 2017). While there is growing evidence

of the benefits of Mindfulness-Based Stress Reduction (MBSR) on psychological well-being, little research has been done on the central hypothesis that the training's induction of increased mindfulness skills causes these benefits (Parsons et al., 2017). The first published studies on this topic have not *fully clarified* this issue despite the recent introduction of instruments testing various components of mindfulness (Neece et al., 2018). A study done by Jones et al. (2018) found a correlation between pre- and post-intervention changes in mindfulness and changes in perceived stress and mood. However, the absence of a control group in these studies made it impossible to investigate the mediation effect.

2.5 Conclusion

Chapter 2 elaborated on the various definitions of resilience. For this study, resilience is referred to as factors conceptualised as people's ability to cope and adapt successfully to overcome or "bounce back" from difficult life circumstances (Visser, 2007). This view is supported by the Challenge, Compensatory and Protective Factor models, which were also discussed. Furthermore, the interaction between risk factors, protective factors and vulnerability factors, as well as the determinants of resilience, were discussed. The most well-researched resilience scales were presented, highlighting the Adult Resilience Indicator (ARI). Furthermore, factors impacting resilience, the impact of mindfulness on resilience and outcomes of being resilient were presented. Tugade and Fredrickson’s (2017) study indicated that individuals with higher levels of mindfulness showed an increase in resilience due to its positive effect on emotions and may be a strategy to improve resilience.

Thus, employees may benefit from increased mindfulness as a coping skill for dealing with work-related stress, boosting employee resilience, job satisfaction, and retention. For the purpose of this study, mindfulness was conceptualised using Brown and Ryan’s (2003) definition of mindfulness as a trait, which is a one-dimensional construct that pertains to an individual's attention and awareness of present events and experiences. The Axiom Model of

Mindfulness developed by Shapiro et al. (2006) supports this viewpoint. The section encompassed the conceptualisation of mindfulness, including theoretical models of mindfulness such as the Two-Component Model and the Axiom Model of Mindfulness, followed by mindfulness scales, outcomes associated with mindfulness, and mindfulness training practices. The chapter concluded with the effects of mindfulness interventions. The next chapter discusses the research methodology utilised in the study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research is the building block and pillar of each discipline, scientific or otherwise (Tuffour, 2017). The term "research methodology" describes the practical approaches and strategies used to identify, select, process, and evaluate data pertaining to a certain topic (Jansen & Warren, 2020). This study aimed to investigate the influence of mindfulness on employees' resilience at Eskom NC. Also, it aimed to determine whether differences exist in resilience regarding gender among employees at Eskom NC. The chapter provides an overview of the research methodology employed in the study. Secondly, the research designs, selection of the research participants, and data collection methods, including the questionnaires, will be discussed. The statistical methods to analyse the research data will also be addressed. Lastly, the ethical considerations will be highlighted.

3.2 Research Design

A research design is a strategy that guides a researcher through obtaining, analysing, and interpreting data and information to understand and address organisational problems (Osuagwu, 2020). The main objective of the research design is to respond to research questions while controlling variance (Rahi, 2017). In addition, a good research design aims to yield consistent results (Fellows & Liu, 2021). The quantitative research approach was used for this study, necessitating numerical data to analyse the findings (Snyder, 2019).

Quantitative research often emphasises quantification in data collection and analysis (Hennink et al., 2020). Quantitative research is often deductive, objective, and general, meaning samples are often used in relation to a larger "true" population of interest (Mohajan, 2017). Additionally, the deductive process in quantitative research typically begins with

theories. The hypothesis is then tested through verifiable or falsifiable, which implies that the results are independent of the beliefs. Generally, it means that the variables are analysed (Joslin & Muller, 2018). The cross-sectional quantitative research approach was used to assess the influence of mindfulness on employees' resilience at Eskom NC. Cross-sectional research is defined by Sekaran and Bougie (2016) as research that addresses a research issue by concentrating on a single case at a particular point in time. Quantitative research was used to test and confirm the hypothesis of the study.

3.2.1 Research paradigm

A research paradigm is a set of beliefs and guidelines that scientists in a given subject use to determine what should be examined and how research should be conducted (Bryman et al., 2014). According to Bajbai (2011), a research paradigm concerns the foundation, nature, and extension of knowledge. It distinguishes between four research paradigms: positivism, pragmatism, interpretivism, and realism. Positivism is an epistemological approach used for the study, which advocates using natural science reality to make decisions (Bryman et al., 2014). Positivism aims to develop testable hypotheses so that the validity of statements may be determined via deduction. The rigour and replicability of research, the dependability of observations, and the generalisability of conclusions are all concerns for positivists (Sekaran & Bougie, 2016), as was the case in this study.

3.3 Sampling Strategy

The target group for the study consisted of employees at Eskom NC. The study recruited and selected participants using a non-probability convenience sampling technique. According to Etikan and Bala (2017), the probability or likelihood of a subject being included in the sample is unknown in non-probability sampling. According to Babbie and Mouton (2015), the disadvantage of the non-probability technique is that it limits the generalisation of the findings, which will likely restrict the research application. Sekaran and Bougie (2016)

explained that a sample is chosen using a random selection approach in non-probability sampling. This implies that some population units are more likely to be selected than others. The advantage of this approach is that it collects data quickly and inexpensively (Costa & Zalmon, 2019). Convenience sampling is a non-probability sampling strategy in which the researcher chooses participants based on their availability and willingness to participate (Babbie & Mouton, 2015). Assuming that all employees at Eskom NC were literate, self-administered closed-ended questions were appropriate for the study. Self-administered questionnaires can be delivered, e-mailed, or given to participants by hand, increasing data collecting scalability and speed while lowering costs (Kulchtsky, 2021).

Population: According to Allen (2017), the population is the sum of items or objects the researcher is interested in. It can also refer to the total number of persons in an area of the study. This study's population comprised Eskom NC employees, totalling 330 employees. Thus, participants included in the study (inclusion criteria) were employees on a management level, engineers, senior technicians, technicians, HR practitioners, artisans, administrative support, truck drivers and nurses at various offices across the Northern Cape Province at Eskom. Exclusion criteria referred to all employees working at Eskom in other provinces such as Eastern Cape, Limpopo, Gauteng, KwaZulu-Natal, Free State, Mpumalanga, Western Cape and North West, as they are presumably not exposed to the same stress factors as those at Eskom NC.

Sample: The sample is the subset of the population (Turner, 2020). However, in the current study, the whole population, including all employees working at Eskom NC, in their perspective roles and departments, were approached for the study. Based on the supplied data, there were 330 subjects in the population of interest, which were all approached. According to Sekaran and Bougie (2010)[11], a population of 340 requires a sample size of 191

[11] Refer to Annexure C for an in-depth explanation on sample size.

for the results to be generalisable. The population for this study was 330, with a sample of 192. Individuals completed the two questionnaires for resilience and mindfulness, respectively, and 195 were received back; however, only 192 questionnaires adhered to psychometric properties and were thus valid and reliable (Saunders et al., 2020). Based on the sample size, the findings were generalisable. Convenience sampling was not used because the sampling size depends on the availability of the participants at a given time or their willingness to participate (Etikan et al., 2016).

3.4 Data Collection Method

Data refers to unprocessed, unorganised, and unanalysed facts with little value and minimal benefits to managers and decision-makers. They are based on facts that could include anything known to be true, or that exists (Mohajan, 2017). Standardised questionnaires for the two variables, mindfulness and resilience, were distributed to Eskom NC employees. Participants were given instructions on completing the questionnaires. The study was conducted in various offices at Eskom NC, including Kimberley Head Office, Douglas, Jan Kempdorp, Pampierstad, Barkley West, De Aar, Petrusville, Carnavon, Colesberg, Upington, Kakamas, Calvinia, Hotazel, Kuruman, Kathu and Postmasburg. Furthermore, the demographic questionnaire was used to collect demographic variables to describe the sample and address the second research question of whether differences exist in career resilience among men and women at Eskom NC. The variables included gender, ethnicity, home language, marital status, the highest level of education, age and work experience of the sample.

Data was collected using structured questionnaires for both variables and distributed to Eskom NC employees with clear instructions on completing the questionnaires. Participants were in different Eskom NC offices and were approached with an e-mail containing the Protection of Personal Information declaration form, which indicated that the participant's

personal information would be protected and a summary of the research.[2] Upon receiving the declaration forms from participants, the researcher distributed a Survey Monkey link to participants, instructing them that they did not need to contact the researcher as the data would be downloaded directly from the database. The purpose of using Survey Monkey was to minimise duplication and to track the responses. The online questionnaires did not remove the conflict of interest but somewhat mitigated the risk. The surveys did not impact work time as participants completed the questionnaires during lunchtime, after hours at their homes or on weekends. The Eskom NC senior manager allowed 30 minutes every second Friday of the month for participants to participate in the studies related to the organisation. Thus, some of the participants utilised the allocated time. The researcher used a positivistic frame of reference that works with figures and numbers and the relationship between the two variables. Using the validity and reliability of a research instrument helps provide sufficient information for the data collection method used for the study (Carmines & Zeller, 2019).

On a separate questionnaire, questions on various demographic factors such as gender, ethnicity, home language, marital status, highest level of education, work experience and age composition were included. Visser's Adult Resilience Indicator (ARI) questionnaire, which assesses several dimensions of resilience and provides a total resiliency score, was utilised in the study to measure the dependent variable, resilience (Kotzé & Nel, 2013). The Mindfulness Attention Awareness Scale (MAAS) questionnaire, which Brown and Ryan (2003) developed, is designed to assess a core characteristic of mindfulness. It was used to measure mindfulness as the independent variable in the study. The following section discusses the two questionnaires, the Adult Resilience Indicator (ARI) and the Mindfulness Attention Awareness Scale (MAAS).

3.4.1 Adult Resilience Indicator (ARI)

This section discusses the nature and composition, reliability, validity, and rationale for including the ARI developed by Visser (2007).

3.4.1.1 Nature and Composition. The ARI is the most comprehensive measure of resilience currently available in South Africa, with 50 items measuring eight qualities considered most important to resilient people (Kotzé & Nel, 2013; Visser, 2007). The ARI is intended to examine the internal and external resources people use in times of difficulty and adversity. There are no correct or incorrect responses to the questions. When faced with difficulty, answers should reflect how the individual views themselves and what they consider true about themselves (Visser, 2007). The questionnaire utilises a 5-point Likert-type scale, with responses ranging from 1 to 5, with 1 indicating that this is almost never true of me and 5 indicating that this is almost always true of me (Visser, 2007). The questionnaire originally had 82 items. However, due to several items failing to reach the decision rule of 0.5 to be maintained, a factor analysis decreased the number of items in the final version of the scale to 50 (Visser, 2007).

3.4.1.2 Reliability. The Cronbach's alpha coefficient for the full scale has been determined to indicate the measure's internal consistency to assess its reliability (Visser, 2007). The overall scale's alpha coefficient is 0.92 (Visser, 2007). According to Visser (2007), the reliability of the eight subscales (see Table 3.1) is as follows:[12]

[12] Refer to Section 2.2.3.2 for an outline of the eight dimensions.

Table 3.1

The Dimension and Reliability Coefficient of the Eight Subscales

Dimensions	Reliability Coefficient
Confidence and Optimism	0.93
Positive Reinterpretation	0.87
Facing Adversity	0.89
Social Support	0.87
Determination	0.88
Negative Rumination	0.81
Religion	0.78
Helplessness	0.73

Nunnally and Bernstein (1994) recommended obtaining an internal consistency Cronbach's alpha coefficient of at least 0.70. Therefore, the ARI is regarded as reliable and trustworthy (De Wet & Kelly, 2021).

3.4.1.3 Validity. The ARI is the most comprehensive measure of resilience available in South Africa (Kotzé & Nel, 2013). However, the concurrent, construct, and discriminant validity of this measure has not been thoroughly tested (Visser, 2007). Thus, further research is needed in this regard (Kotzé & Nel, 2013). For Visser (2007), the ARI should have a strong concurrent validity. On the other hand, Kotzé and Nel (2013) found that the scale's original factor structure remained stable when replicated in a second sample.

3.4.1.4 Rationale for Inclusion. ARI is the most comprehensive measure of resilience available and the measure that was designed in South Africa to measure resilience in adults (Kotzé & Nel, 2013). Studies also found the ARI's internal consistency satisfactory (Kotzé & Nel, 2013; Visser, 2007).

3.4.2 Mindful Attention Awareness Scale (MAAS)

The nature and composition, reliability, validity, and rationale for including the Mindful Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) are discussed next.

3.4.2.1 Nature and Composition. The MAAS is a 15-item scale meant to examine key mindfulness characteristics. The key qualities are described as a receptive state of mind in which attention monitors what is happening, influenced by a sensitive awareness of what is happening in the moment (Brown & Ryan, 2003; Del Re et al., 2013). The MAAS is a one-dimensional measure comprising 15 items that measure mindfulness indirectly as the presence or absence of present-moment awareness (Osman et al., 2016). Participants are asked to rate their frequency or infrequency of mindfulness experiences on a 6-point Likert scale, with 1 denoting (*almost always*) and 6 denoting (*almost never*). Together, the items reflect an "absence of mindfulness" (Brown et al., 2009). Initially, the MAAS consisted of an acceptance factor and a presence factor. The acceptance factor was omitted from the final version due to its inability to offer an "explanatory advantage over that shown by the presence factor alone" (Brown & Ryan, 2004, p. 244). Therefore, lower scores indicate higher levels of mindfulness and vice versa. The participant's mean responses to each of the 15 items are calculated in order to score the MAAS (Brown & Ryan, 2003).

3.4.2.2 Reliability. An instrument is considered reliable if the results of a study can be replicated using a similar methodology (Mohajan, 2017). Cronbach's alpha reliability on the MAAS for females was 0.75, 0.74 for males, and the overall reliability was 0.76. The correlation between the two parallelism types was 0.54. In a sample of 31 employees, the test-retest reliability was 0.71 after 17 days. Similarly, Kotzé and Nel (2016) found that the MAAS had an acceptable reliability estimate of 0.89 in their South African investigation. Furthermore, Osman et al. (2016) conducted confirmatory factor analyses to validate the MAAS's one-dimensionality, supporting the one-dimensional model.

3.4.2.3 Validity. According to Kotzé and Nel (2016), the MAAS has a moderate correlation with the Freiburg Mindfulness Inventory (FMI), which further indicates the MAAS's convergent validity. Kotzé and Nel (2016) also found that the MAAS, with a Root Mean Square Error of Approximation (RMSEA) value of 0.065, implies a satisfactory one-dimensional model fit. A Comparative Fit Index (CFI) value of 0.97 and a Standardised Root Mean Square Residual (SRMR) value of 0.054 all meet the criteria proposed by Hu and Bentler (1999), which examines the adequacy of the "rules of thumb" conventional cut-off criteria and several new alternatives for various fit indexes used to evaluate model fit in practice. Osman et al. (2016) found that the MAAS has good test-retest reliability, discriminant and convergent validity, known-groups validity, and criterion validity.

3.4.2.4 Rationale for Inclusion. Since 2003, the MAAS has shown outstanding psychometric qualities in numerous research studies (Del Re et al., 2013). A single-component scale structure has been confirmed by factor analysis with undergraduate, community, nationally sampled adult, and adult cancer populations (Brown & Ryan, 2003; Del Re et al., 2013). Furthermore, the internal consistency levels (Cronbach's alphas) are typically in the 0.80 to 0.90 range. The internal consistency value, or Cronbach's alpha, for the MAAS was 0.82 (Brown & Ryan, 2003). Therefore, the MAAS was a valid and reliable instrument to measure adaptability in the study. The following section will discuss the statistical methods used in the study.

3.5 Statistical Methods

Descriptive statistics was used to elaborate on the sample, and inferential statistics was used in the study to test the different hypotheses[13]. The following section discusses the descriptive and inferential statistics used in the study.

[13] Refer to Chapter 1, Section 1.5, for an outline of the hypothesis of the study.

3.5.1 Descriptive statistics

Babbie and Mouton (2015) defined descriptive statistics as a technique for presenting quantitative data comprehensibly by providing quick summaries of the sample and measurements. Descriptive statistics describe the fundamentals used to discuss the demographics and indicate the averages and standard deviations of resilience and mindfulness in a study (Lombard et al., 2010). This entails distilling data from unmanageable details into digestible summaries that can be visually displayed. Frequencies, measures of central tendency such as the mean, mode, and median, and measures of variability such as the range and standard deviation are all included in these statistics (Lombard et al., 2010). Descriptive statistics were calculated in this study to describe the sample's demographic characteristics. In this respect, frequencies, mean, and standard deviations were calculated on discrete and continuous data about the sample characteristics. Descriptive statistics (mean and standard deviation) were also calculated for items in the measurement instruments to evaluate the current level of mindfulness and resilience in Eskom NC's employees.

3.5.2 Inferential statistics

Using descriptive statistics from a sample to draw conclusions about the population (estimation) is known as inferential statistics. According to Alacaci (2004), the sample is the observation, while the estimated population is the inferred value without observation. Inferential statistics are used to infer specific features of the broader population from data gathered from a subset or sample, and they are used to generalise subset data findings to the broader life and cosmos (Lombard et al., 2010). According to Babbie and Mouton (2015), inferential statistics aid in determining the strength of the association between the independent variable (mindfulness) and the dependent variable (response) (resilience). The inferential statistics utilised for the study are discussed in the following sub-sections.

3.5.2.1 Pearson Product-Moment Correlation (PPMC). The correlation between the mindfulness and resilience variables was determined using the Pearson Product-Moment Correlation. The Pearson Product-Moment Correlation and the rationale for its inclusion are discussed in the following sections.

3.5.2.1.1 Discussion of the PPMC. Pearson Product-Moment Correlation, represented as r, measures the strength of a linear relationship between two variables (Stangor, 2015). The Pearson correlation coefficient, r, can vary between +1 and -1. A value of 0 implies that the two variables have no relationship. A positive correlation is indicated by a number greater than 0, which means that as the value of one variable rises, so does the value of the other variable. A value less than 0 implies a negative relationship: when one variable's value rises, the value of the other falls. The greater the relationship between the two variables, the closer the Pearson correlation coefficient, r, is to +1 or -1, depending on whether the relationship is positive or negative (Stangor, 2015). A correlation of 0.7 suggests a strong positive linear association, indicating that certain aspects of mindfulness may help people become more resilient. As a result, a score of -0.7 shows a significant negative linear association or an inverse relationship (e.g., some mindfulness factors may reduce resilience). The following formula was used to calculate the relationship between the two variables (Stangor, 2015):

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\sum X^2 - \frac{(\sum X)^2}{N}}\sqrt{\sum Y^2 - \frac{(\sum Y)^2}{N}}}$$

Where X = Mindfulness

Y = Resilience

r = the correlation coefficient between mindfulness and resilience

ΣX = the sum of scores for the mindfulness

ΣY = the sum of scores for the resilience

N = the sample size

Whether a variable is classified as a dependent or independent variable has no impact on the Pearson Product-Moment Correlation. It considers all variables in the same way (Stangor, 2015).

3.5.2.2 Multiple Regression Analysis. Multiple regression analysis is one of the most popular multivariate techniques for examining the contribution of independent variables, either alone or in combination, to the variance of a dependent variable (Huang et al., 2019). This method works well when exploring two or more predictor variables. Thus, multiple regression analysis aims to ascertain if changes or increases in one variable are associated with changes or increases in another.

The influence of mindfulness on resilience was examined using regression analysis, which shows how changes in the independent variable (mindfulness) affect the dependent variable (resilience). The average rate of rise in the dependent variable with an increase in the independent variable is indicated by the beta (ß) values produced by multiple regression analysis. A positive correlation indicates that the dependent variable's predictive value increases when the independent variable's value increases, and vice versa (Huang et al., 2019). Multiple regression analysis was employed in the proposed study to ascertain whether the mindfulness scores influenced the resilience scores.

3.5.2.3 *T*-test for Independent Groups. The t-test for independent groups was utilised to examine if there were any differences in resilience between the two groups (e.g., males or females). The rationale for the inclusion of the *t*-test for independent groups is discussed in the following sections.

3.5.2.3.1 Discussion of the T-test for Independent Groups. According to Laerd Statistics (2013), an inferential statistical test called the T-test is used to assess whether the means of two unrelated groups differ statistically significantly. The test can be employed when the data values are independent, randomly selected from two normal populations, and the variances of the two independent groups are equal. One variable defines the two groups.

The second variable is the measurement of interest (Laerd Statistics, 2013). While comparing the two means, the null hypothesis is either rejected or not rejected (Laerd Statistics, 2013). If it is not rejected, there is no statistically significant difference between the two means of the independent groups; for example, resilience experienced among employees at Eskom NC does not differ in terms of gender. If it is rejected, it indicates a statistically significant difference concerning the means, indicating that mindfulness experienced amongst employees at Eskom NC is different when gender is factored into the equation (Laerd Statistics, 2013). The formula used for calculating the independent sample t-test is the Laboratory for Automation Psychology and Decision Processes (LAPDP, n.d).

$$t = \frac{(\bar{X}\,1 - \bar{X}\,2) - (\mu 1 - \mu\,2)}{S_{\bar{X}\,1 - \bar{X}\,2}}$$

Where $\bar{X}$ 1 = the sample mean for females (group 1)

$\bar{X}$ 2 = the sample mean for males (group 2)

μ1 = the population mean for females (group 1)

μ1 = the population mean for males (group 2)

S $\bar{X}$ 1- $\bar{X}$ 2 = the estimated standard error of the difference in the means

3.5.3 Summary of analyses performed to achieve research objectives

Different statistical analyses were performed for each objective and are aligned with the relevant objective in Table 3.2.

Table 3.2

A Summary of the Research Objectives and their related Statistical Analysis

Research objective	Statistical analyses performed
Objective 1: To determine using a non-experimental research design if mindfulness influences resilience among employees at Eskom NC.	Regression analysis
Objective 2: To determine if a relationship exists between mindfulness and resilience among employees at Eskom, NC.	Correlational analysis

Objective 3: To determine using a non-experimental research design if gender differences exist in career resiliency among employees at Eskom, NC.	T-tests for independent groups

3.6 Ethical Considerations

Ethical considerations in research are a collection of guidelines that guide the study designs and procedures (Sobočan, 2019). When collecting data from participants, a researcher must always follow ethical guidelines. In this study, the following ethical guidelines were followed:

1. **Permission obtained from the institution of study:** The study was approved by the Faculty of Economic and Management Science's Ethical Committee of the University of the Free State (ethical clearance number: UFS-HSD2022/1090/22).[5]
2. **Permission obtained from the organisation:** Written permission was obtained from the Eskom NC OU management and participants before participating in the study and it was aligned with the company policies.[6]
3. **Informed consent:** The fundamental purpose of informed consent is for the participant to make an informed decision about whether or not to engage in the study. Participants must be fully informed about the questions they will be asked, how the data will be used, and the potential consequences (if any). The informing element of consent is frequently accomplished through a short, properly worded information sheet of one to two pages, typically written in a tone appropriate for the participants and avoids the use of complex academic terminologies (Borbasi & Jackson, 2018). Participants received the research study information leaflet and consent POPIA form[2], which outlined the aim and the purpose of the study, the reason for participating in the study, the roles and responsibilities of the researcher and the withdrawal option should the participant feel uncomfortable with the

process. This information was conveyed to all participants, assisting them in understanding the primary study rationale before agreeing to participate.

4. **Voluntary participation:** At any point, participants had the right to withdraw without affecting their participation in future services, the present programme, and their relationship with the researcher. Under no circumstances were the participants forced to participate in the distributed questionnaires, as it was strictly voluntary. International law, national legislation, and the code of conduct of the scientific community all safeguard this right (McCorquodale, 2017).
5. **Confidentiality and anonymity** refer to keeping participant information private and confidential. Participants' identities must remain anonymous or confidential (Ogletree & Kawulich, 2012). Lancaster (2017) defined anonymity as not identifying participants' ethnic or cultural backgrounds, not referring to them by their names, and refraining from disclosing any other confidential information about a participant. The assurance goes beyond protecting the participants' names to include the avoidance of self-identifying remarks, information anonymity, and confidentiality (Chirico, 2018). The data was solely used to anonymously inform this study, and the researcher ensured it was not used against the interests of anyone involved in the research effort.
6. **No harm:** When assessing the risk of harm, the approach should be by removing, isolating, and reducing the risk in a descending manner, with participants well-informed about the possibilities (Quick & Hall, 2015). No favourable or negative comments were made against the participants. This ethical concern ensures that the participant's safety was not harmed in any manner because of their involvement. The researcher was not in any way conflicted, so the participants were able to respond freely. The participants were not working directly with the researcher as they were general employees who did not report to the researcher. Though it was not possible to

avoid all sources of conflict, it was in the researcher's best interest to recognise and identify the conflicts of interest and take action to nullify or reduce those conflicts. Confidentiality was adhered to at all times. Additionally, no personal information, such as names, was asked during the study.

3.7 Conclusion

The objective of this chapter was to provide an overview of the research methodology used to determine the influence of mindfulness on employees' resilience, as well as the research design followed in this research. Statistical methods consist of descriptive statistics and inferential statistics as well as its components, which include the Pearson Product-Moment Correlation (PPMC), one of the most commonly used methods of correlation analysis for measuring the strength of a linear relationship between the two variables (mindfulness and resilience). The scores for each outcome were used to support comparison of the different measures. Regression analysis was performed to determine the influence of mindfulness on resilience between dependent (resilience) and independent (mindfulness) variables, thus depicting how the dependent variables (resilience) will change when the independent variable (mindfulness) changes. Lastly, the *t*-test for independent groups was applied. According to Laerd Statistics (2013), the *t*-test evaluates whether a statistically significant difference exists between the means of two unrelated groups. The null hypothesis is either rejected or not rejected when comparing the two means (Laerd Statistics, 2013). If it is accepted, it signifies that the two means of the independent groups do not differ statistically significantly from one another. The next chapter presents the research findings obtained from the questionnaires completed by the participants.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the study's results and provides an interpretation thereof. This study's primary objective was to determine, using a non-experimental research design, if mindfulness influences resilience among employees at Eskom NC. The secondary objective was to determine if a relationship exists between mindfulness and resilience among employees at Eskom NC and to determine through a non-experimental research design if gender differences exist in career resilience among employees at Eskom NC.

The chapter first presents and interprets the demographic information portrayed as descriptive statistics about the study sample. Secondly, the presentation and the discussion of inferential statistics are provided. Lastly, the chapter discusses the inferential statistics relating to each objective and hypothesis. The demographic questionnaire was used to collect the demographic variables of interest. These variables were gender, age, home language, culture group, employment status and marital status of the sample. Based on the supplied data, there were 330 subjects in the population of interest, which were all approached.

4.2 Response Rate

According to Sekaran and Bougie (2010), a population of 340 requires a sample size of 191 to be representative of the population for the results to be generalisable.[14] Based on the supplied data, 330 subjects in the population of interest were approached. The response rate for the study was 192 and thus represented 58% of the targeted population. Therefore, the study sample was large enough to meet the statistical requirements of generalisability

[14] Refer to Annexure C for an in-depth explanation of the sample size for a given population size.

(Sekaran & Bougie, 2010). However, the results cannot be generalised because of the non-experimental research design (Swart et al., 2019).

4.3 Discussion of the Demographical Information portrayed as Descriptive Statistics

This section first presents the demographic information obtained from the sample, focusing on gender, age, ethnicity, home language, marital status and the highest level of education achieved by respondents. Thereafter, the main findings will briefly be highlighted.

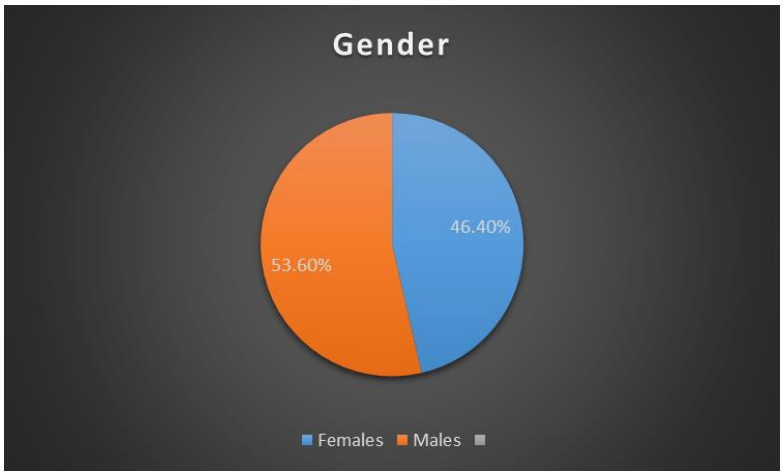
4.3.1 Descriptive Statistics

In the following section, the sample's demographics, which included gender, ethnicity, home language, marital status, highest level of education, age group and work experience, will be highlighted using descriptive statistics**.**

4.3.1.1 Gender. The gender composition of the sample is presented in Figure 4.1.

Figure 4.1

Gender Composition of the Sample in Percentages



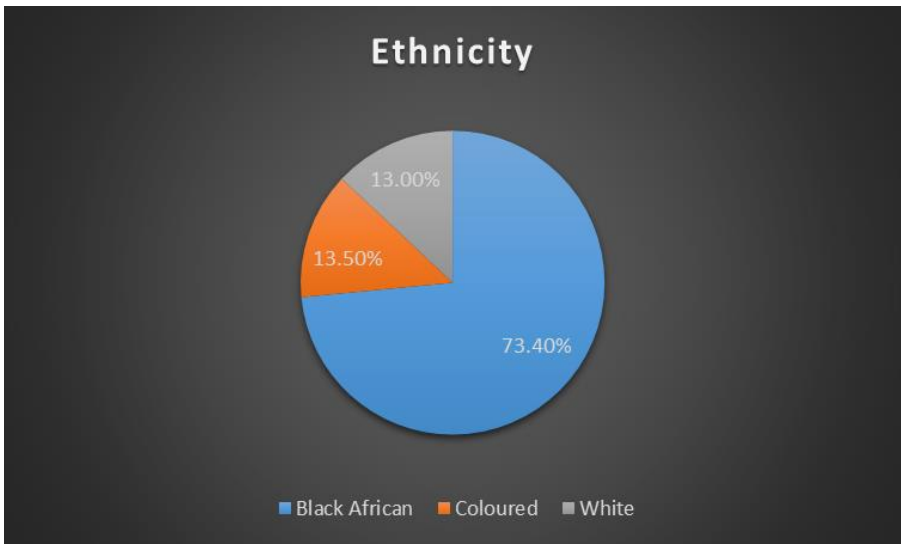
The sample consisted of 103 males, comprising 53.6% of the sample, and 89 females, which represented 46.4% of the sample. The gender split is in line with the overall South African workforce, which, according to Gradín (2021), consists of more males (56.4%) than females (43.6%) due to the country's history, which segregated women's participation in the

labour force. In addition, the gender composition in the sample is in line with the gender composition in Eskom (2023), which consists of more males (67%) and fewer females (33%).

4.3.1.2 Ethnicity. The composition of the sample participants with regard to their ethnicity is presented in Figure 4.2.

Figure 4.2

Composition of the Sample Participants regarding Ethnicity in Percentages

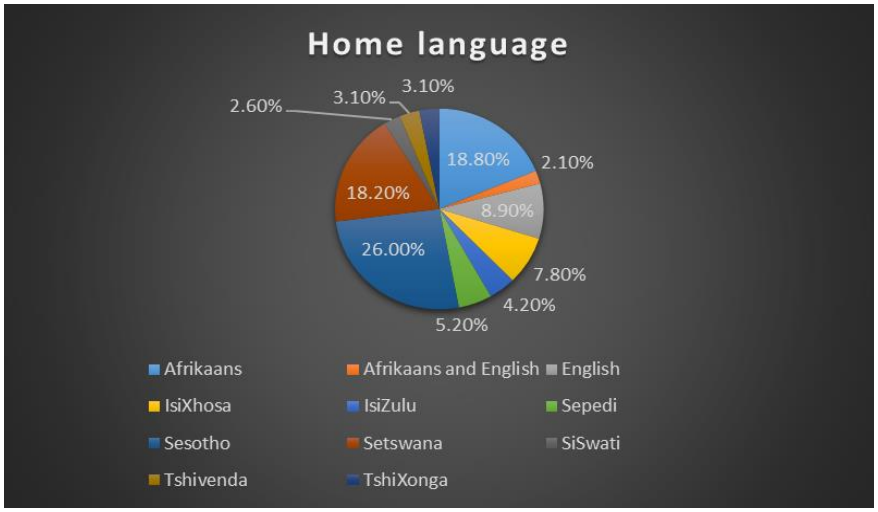


In line with Eskom's workforce and the overall South African workforce (Gradín, 2021), Black African participants were, by far, the largest group, with 141 (73%) participants. The proportion of Whites and Coloureds was split almost equally, at 25 (13%) and 26 (14%), respectively. While these are the three largest ethnical groups in the South African labour force (Knize-Estrada, 2018), the Asian group, which is also noticeably represented in the South African and Eskom workforce (Gradín, 2021), was missing from the sample. Thus, the sample was slightly less representative of South Africa's general population.

4.3.1.3 Home Language. The composition of the sample participants with regard to their home language is presented in Figure 4.3.

Figure 4.3

Composition of the Sample Population regarding Home Language in Percentages



South Africa has twelve official languages. The majority of languages were represented in the study, with only Ndebele and Sign Language missing. In total, 50 (26.0%) of the participants indicated their home language as Sesotho, 36 (18.8%) as Afrikaans, 35 (18.2%) as Setswana, 17 (8.9%) as English, 15 (7.8%) as IsiXhosa, 10 (5.2%) as Sepedi, 8 (4.2%) as IsiZulu, 6 (3.1%) as Tshivenda and XiTsonga, respectively, 5 (2.6%) as SiSwati and 4 (2.1%) as a combination of English and Afrikaans.

4.3.1.4 Marital Status. The composition of the sample participants with regard to their marital status is presented in Figure 4.4.

Figure 4.4

Composition of the Sample Population regarding Marital Status in Percentages

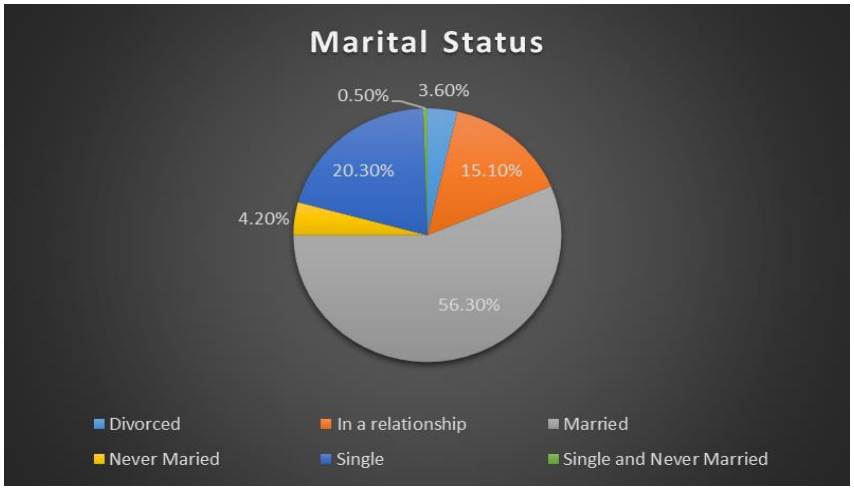


Figure 4.4. shows that various marital statuses were represented in this sample. From the sample, the majority of participants were married, totalling 108 (56.3%), followed by 39 single (20.3%), 29 in a relationship (15.1%), 8 never married (4.2%), 7 divorced (3.6%) and lastly 1 single and never married (0.5%).

4.3.1.5 Highest Level of Education. The composition of the sample participants with regard to their highest level of education is presented in Figure 4.5.

Figure 4.5

Composition of the Sample Population regarding the Highest Level of Education in Percentages

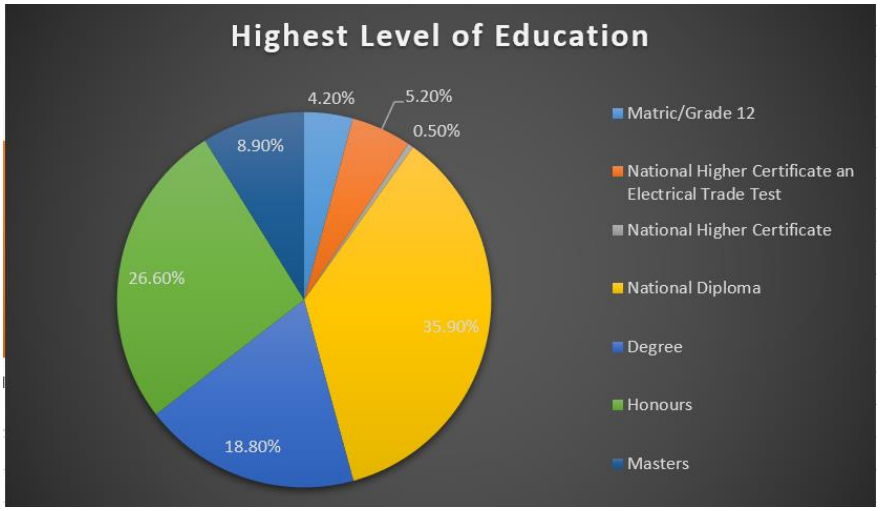


Figure 4.5 shows the frequency distribution of the highest level of education of the participants. Eight participants (4.2%) obtained Matric/Grade 12, while 10 (5.2%) obtained a National Higher Certificate. Furthermore, 1 (0.5%) participant obtained a National Higher Certificate with Electrical Trade Test, while 69 participants (35.9%) obtained a National Diploma. In addition, 36 (18.8%) participants have obtained a degree, followed by 51 (26.6%) participants with an Honours degree and 17 participants (8.9%) have obtained a Master's degree. Most participants (69; 35.9%) have obtained a National Diploma, followed by those with an Honours degree (51; 26.6%). Therefore, participants were generally well-educated to complete the various assessments.

4.3.1.6 Age Group. The composition of the sample participants with regard to their age is presented in Figure 4.6.

Figure 4.6

Composition of the Sample Population regarding Age Group in Percentages

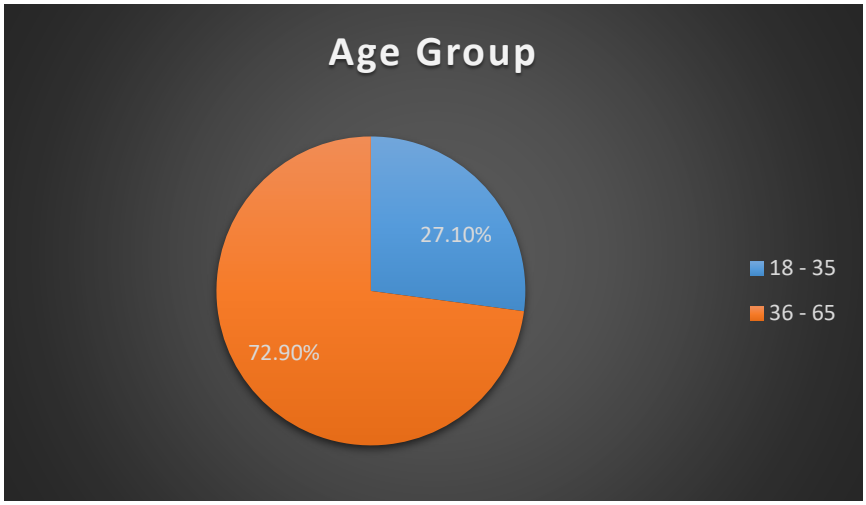
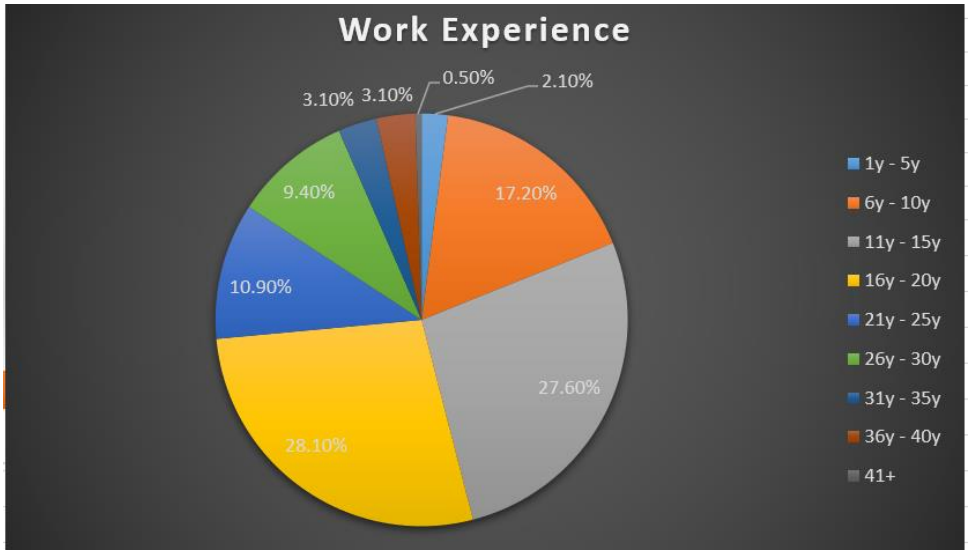


Figure 4.6 shows that the age composition of the sample was split into youth (18-35 years) and adult (36-65 years) (Beukes et al., 2017), with a total of 140 adults (72.9%) and 52 youth (27.1%). None of the participants were younger than 18; thus, all the participants had reached the age of maturity – an age at which a person is legally deemed to be an adult, which is 18 years in South Africa (Gradín, 2021). Such people are deemed able to give their informed consent and share their perceptions about issues in general. Therefore, such participants were deemed able to give their independent opinions regarding mindfulness and resilience as investigated in the study.

4.3.1.7 Work experience. The composition of the sample participants with regard to their work experience (presented in years) is illustrated in Figure 4.7.

Figure 4.7

Composition of the Sample Population regarding Work Experience in Years in Percentages



A total of 54 (28.1%) participants had 16 to 20 years of work experience. Furthermore, 53 (27.6%) participants had 11 to 15 years of work experience. A total of 33 (17.2%) participants had 6 to 10 years of work experience, while 21 (10.9%) participants had 21 to 25 years of work experience. Eighteen (9.4%) participants had 26 to 30 years of work experience, while 6 (3.1%) had 31 to 35 years of work experience. Only 4 (2.1%) participants had 1 to 5 years of work experience, whereas 2 (1.0%) had 36 to 40 years of work experience. Lastly, only 1 (0.5%) participant had 41 or more years of work experience. Notably, most participants (97.9%) had been with Eskom for over five years. Thus, the participants had ample experience in the various challenges evident in an electricity company in South Africa.

4.3.2 Biographical Description of the Sample

The results showed that the sample largely represented the Eskom NC workforce concerning gender, ethnicity (albeit with the Asian group missing), home language, and marital status. In addition, participants had the required minimum level of education, were old enough, and had adequate experience to understand the internal and external dynamics of

the organisation. Therefore, the sample's representativeness implies that the study's results can be generalised to Eskom and, with some degree of caution, to the South African workforce. Such results can also be judged to be credible**.**

However, the convenience sampling research design rendered the results not generalisable. Convenience sampling comprises people who are most easily reachable by the researcher and who might be able to provide the information the researcher needs. Although this is a quick and low-cost method of collecting preliminary data, it cannot yield conclusions that apply to the entire population because it is not possible to determine whether the sample is representative (Mweshi & Sakyi, 2020). There were 330 subjects in the population of interest, which were all approached. According to Sekaran and Bougie (2010), a population of 340 requires a sample size of 191 for the results to be generalisable. The population for this study was 330, and a sample of 192 was obtained. Based on the sample size, the findings were generalisable. However, because of convenience sampling, the sampling size depended on the participants' willingness to participate or their availability at a given time (Etikan et al., 2016).

4.4 Presentation and Discussion of Inferential Statistics Results

The primary phase of research's data collection can overshadow the quality of outcomes by reducing the possibility of errors that may occur during research. The following section will present the reliability of the data collection instrument, as well as outliers and normalities for ARI and MAAS.

4.4.1 Reliability of instruments

The data for this study was collected using two measurement instruments: the Adult Resilience Indicator (ARI)[15] and the Mindful Attention Awareness Scale (MAAS).[16] The

[15] Refer to 3.4.1.2 and 3.4.1.3 in Chapter 3 for an in-depth discussion on the reliability and validity of the ARI instrument.
[16] Refer to 3.4.2.2 and 3.4.2.3 in Chapter 3 for an in-depth discussion on the reliability and validity of the MAAS instrument.

measurement instruments were tested for reliability. Since the analysis in this study was done for males and females separately, the reliability of the instruments was also tested for the gender-split data. The results of such tests are presented in Table 4.1.

Table 4.1

Reliability Statistics on the Assessment Instruments and the Gender-Split

	Instrument	Cronbach's Alpha	No. of Items
Males	ARI	0.890	82
	MAAS	0.910	15
Females	ARI	0.897	82
	MAAS	0.903	15
Overall	ARI	0.983	82
	MAAS	0.910	15

ARI = The Adult Resilience Indicator

MAAS = The Trait Mindful Attention Awareness Scale

Cronbach's alpha was used to test for the reliability or internal consistency of the scales. Generally, a scale is deemed reliable if it has a Cronbach's alpha of at least 0.70 (Bujang et al., 2018). The Adult Resilience Indicator (ARI) had good internal consistency reliability, with all the reported Cronbach's alpha being greater than 0.70 for females, males and the overall sample. At the item level, none of the items, if deleted, would have increased Cronbach’s alpha. A few items, if deleted, would have resulted in a negligible increase in Cronbach's alpha.[17] In addition, the Mindful Attention Awareness Scale (MAAS) also had good internal consistency reliability, with all the reported Cronbach's alpha being greater than

[17] Refer to 3.4.2.2 and 3.4.2.4 in Chapter 3 for an in-depth explanation (reliability per research item).

0.70 for females, males and the overall sample. Also, at the item level, none of the items, if deleted, would have increased Cronbach's alpha.

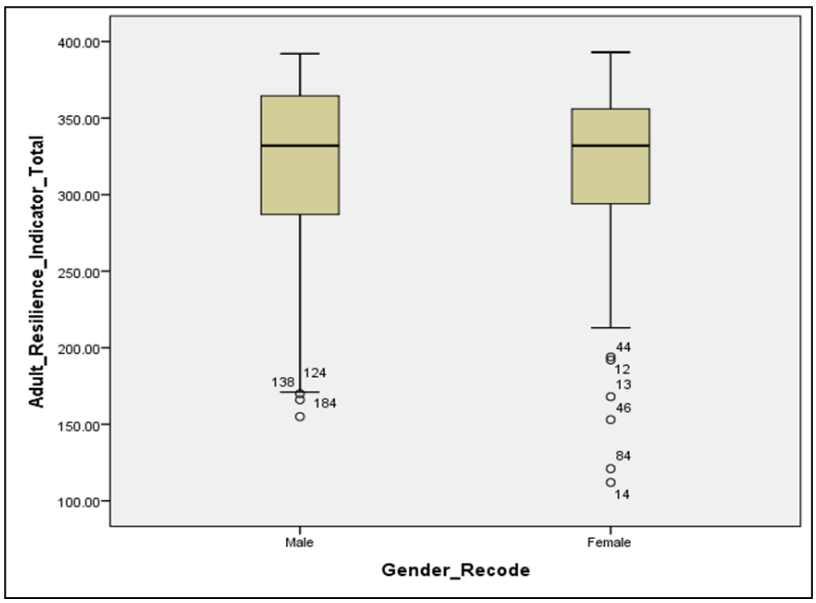
4.4.2 Test for outlier and normality

The collected data were tested for normality and any significant outliers before performing statistical analyses to answer the research questions and hypotheses and achieve research objectives. Test for normality seeks to test if the collected data was normally distributed, with defined standard deviations around an identified mean (Ali & Bhaskar, 2016). The test for outliers aimed to determine if there were responses that were significantly different from the rest of the responses and that including those would distort the results. According to Ali and Bhaskar (2016), including outliers in analysis distorts the statistical measures such as mean, standard deviations and range. The results of each research instrument are presented in this section.

4.4.2.1 The Adult Resilience Indicator. The results of the outlier test for the ARI scale are presented in Figure 4.8.

Figure 4.8

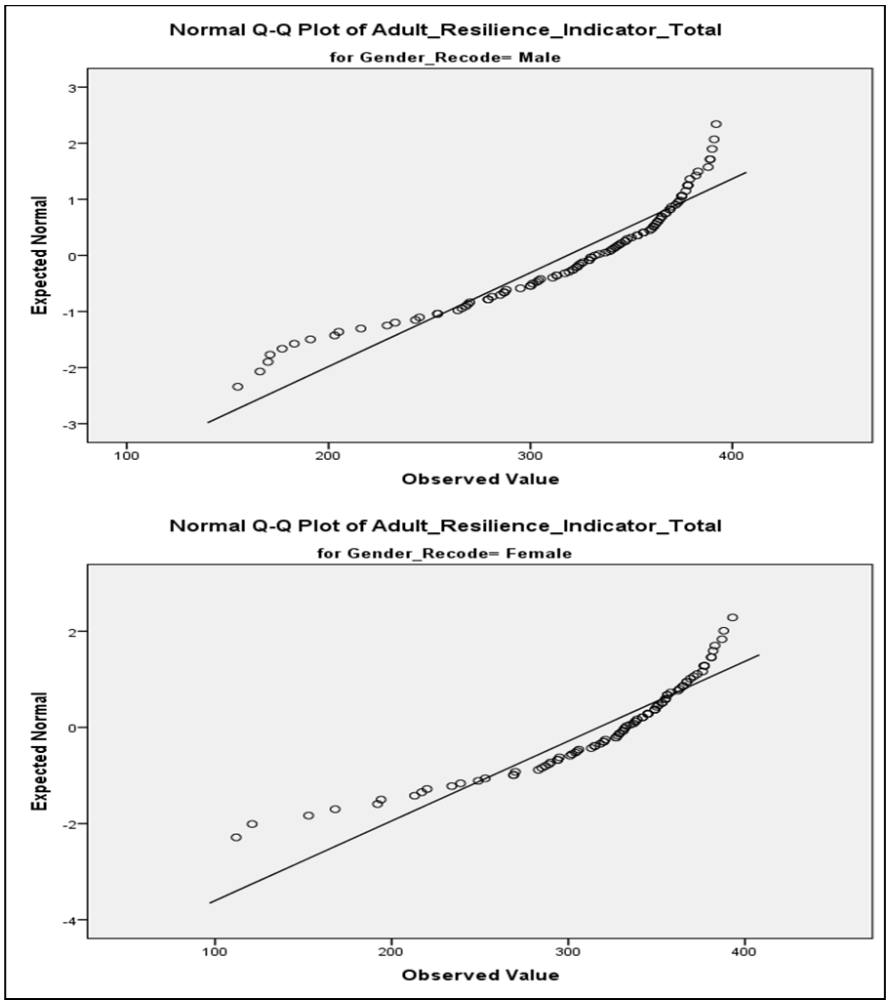
Test for Outliers: ARI



There were several moderate outliers, but no extreme outliers, within both the male and female categories in Figure 4.8. Since these outliers were not due to data entry errors, it was decided to keep these cases in the analysis. Figure 4.9 presents data on the test for normality of data collected through the ARI scale.

Figure 4.9

Test for Normality: ARI



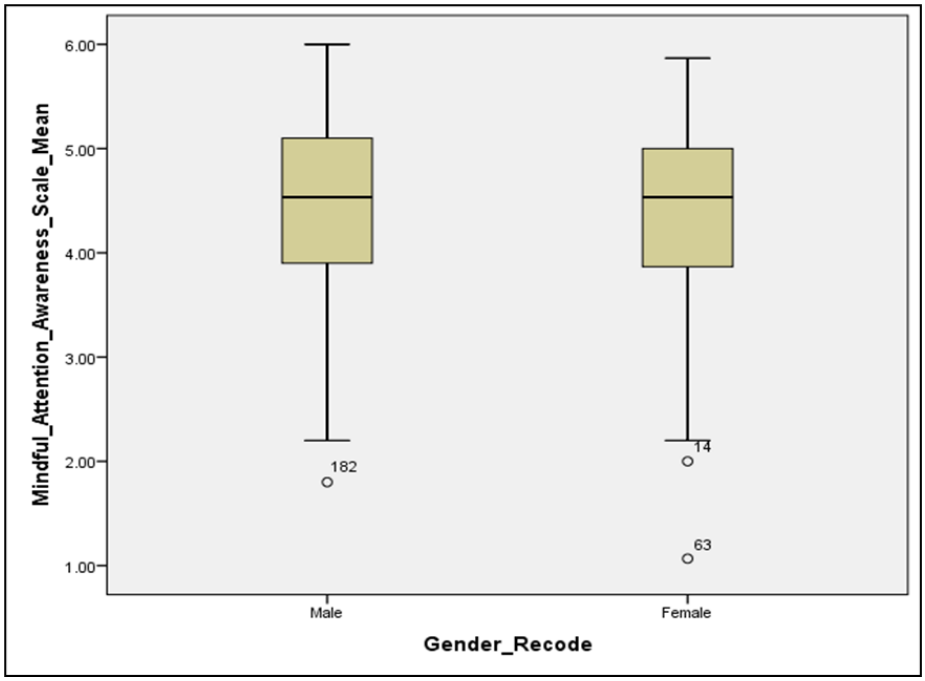
There were some deviations from normality, as seen in the Normal Q-Q Plots above. Independent samples t-test is relatively robust against violations of normality (Ali & Bhaskar, 2016). Therefore, it was decided to conduct the analysis regardless. However, the lack of normalcy is one of the study's limitations the reader should consider. In normally distributed data, the plots in Figure 4.9 should lie along the straight line (Shoari & Dubé, 2018). The

implication of lack of normalcy shows that results from statistical measures, such as mean and standard deviation dependent on the normalcy of data, may not be fully credible. These should be interpreted with caution. Figure 4.10 presents the test results for outliers of the data collected through the MAAS scale.

4.4.2.2 Mindful Attention Awareness Scale. The results of the outlier test for the MAAS scale are presented in Figure 4.10.

Figure 4.10

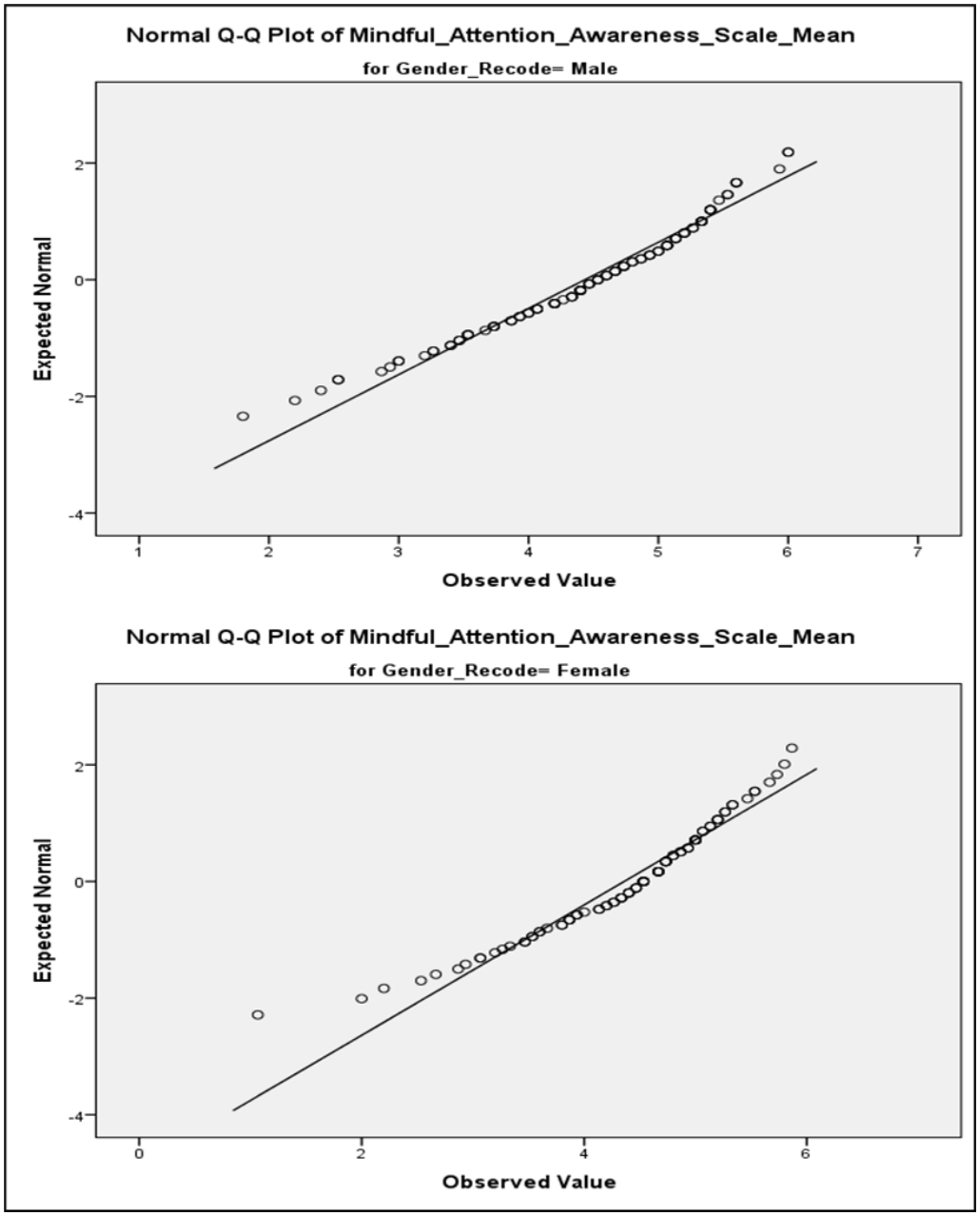
Test for Outliers: MAAS



There was one moderate outlier in the male category and two moderate outliers in the female category, but no extreme outliers in any of the two categories, as shown in Figure 4.10. Since these outliers were not due to data entry errors, it was decided to keep these cases in the analysis. Figure 4.11 shows the results of the test for normality performed for the MAAS instrument.

Figure 4.11

Test for Normality: MAAS



The data was almost normally distributed, as can be seen in the Normal Q-Q Plots in Figure 4.11 above, implying that the results on measures that are dependent on the normality of data, such as mean, standard deviation, and t-tests, relating to MAAS can be presumed to

be relatively valid. The remainder of the chapter presents and discusses the results relevant to the study's primary and secondary research questions and objectives.[18]

4.5 Presentation and Discussion of Inferential Statistics relating to each Objective and Hypotheses

The discussion in this section aims to achieve the following objectives: Firstly, it highlights the composition of the study's sample and assesses how representative the sample was relative to the general workforce dynamics in South Africa and Eskom NC. Secondly, to portray and discuss the results relevant to the various objectives and hypotheses.[19] The results are presented and discussed in the following sections.

4.5.1 PRESENTATION OF THE INFERENTIAL STATISTICS

The inferential statistics relating to each objective and hypothesis are presented in the following sections.

4.5.1.1 Results relating to Objective 1. The first objective was to determine, using a non-experimental research design, if mindfulness influences resilience among employees at Eskom NC. In order to achieve that, regression analyses were performed. The results are presented in Table 4.2. The coefficient of determination (r^2) was used to assess the strength of the cause-effect between mindfulness and career resilience in Eskom NC's employees.[20]

[18] Refer to Chapter 1, Sections 1.4 and 1.5 for an in-depth explanation.
[19] Refer to Chapter 1, Section 1.5 for in-depth information on objectives and hypotheses.
[20] Refer to Chapter 3, Multiple Regression Analysis, for an in-depth explanation.

Table 4.2

Influences of Mindfulness on Career Resilience in Eskom NC

Model Summary									
Model	**R**	**R^2**	**Adjusted R^2**	**Std. Error of the Estimate**	**Change Statistics**				
					R^2 Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.568[a]	0.322	0.319	24.51892	0.322	89.488	1	188	0.000

a. Predictors: (Constant), MAAS

The model developed in this study (Model 1) shows that variations in mindfulness explained 32.2% of the variations in resilience in employees at Eskom NC ($r^2 = 0.322$, $p < 0.01$). Given that the p-value is less than the 0.05 threshold, the influence of mindfulness on Eskom's employees was found to be statistically significant. Therefore, hypothesis H_a1, *Mindfulness does explain a statistically significant proportion of the variance in resilience among employees at Eskom NC*, was confirmed, implying that the null hypothesis was rejected.

4.5.1.2 Results relating to Objective 2. The second objective was to determine if a relationship exists between mindfulness and resilience among employees at Eskom NC. Correlation analyses were performed to achieve this objective. The correlation coefficient analyses (*r*) were used to assess the effect size of the relationship between mindfulness and career resilience in Eskom employees.[21] The results are presented in Table 4.3.

[21] Refer to Chapter 3, Pearson Product-Moment Correlation (PPMC), for an in-depth explanation.

Table 4.3

Correlation between Resilience and Mindfulness

		Adult_Resilience_Indicator_Total	Mindful_Attention_Awareness_Scale_Mean
Adult_Resilience_Indicator_Total	Pearson Correlation	1	.760**
	Sig. (2-tailed)		.000
	N	192	192
Mindful_Attention_Awareness_Scale_Mean	Pearson Correlation	.760**	1
	Sig. (2-tailed)	.000	
	N	192	192

**. Correlation is significant at the 0.01 level (2-tailed)

Table 4.3 shows a strong positive correlation between mindfulness and resilience (r= 0.76*;* $p < 0.01$). The correlation was found to be statistically significant ($p < 0.01$). These results indicate that H_o2, *No relationship exists between mindfulness and resilience among employees at Eskom NC*, is rejected, and H_a2, *A relationship between mindfulness and resilience among employees at Eskom NC*, is accepted.

4.5.1.3 Results relating to Objective 3. The third objective was to determine through a non-experimental research design if gender difference exists in career resilience among employees at Eskom NC. In order to achieve that, the *t*-test for the independent group was calculated.

Table 4.4

Independent Samples Test (ARI) – Male vs Female

Independent Samples Test										
Pearson Product-Moment Correlation		*t*-test for Equality of Means								
		F	Sig.	*t*	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ARI	Equal variances assumed	.188	.665	.136	192	.892	1.18098	8.68482	-15.95007	18.31202
	Equal variances not assumed			.136	185.520	.892	1.18098	8.69018	-15.96330	18.32525

The results show that there was homogeneity of variance, as assessed by Pearson Product-Moment Correlation (p = 0.665). Table 4.4 shows no significant differences in career resilience scores between males and females, t (192) = 0.136, p=0.892. Group statistics were used to confirm the t-statistics results presented in Table 4.5.

Table 4.5

Group Statistics - ARI

Group Statistics					
Scale	**Gender**	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
ARI	**Male**	103	3.3523	1.4047	0.13842
	Female	89	3.3961	1.40943	0.14940

The *t*-test results are confirmed in the group statistics in Table 4.5, showing only a slight difference in mean career resilience scores between males (*Mean* = 3.35, *SD* = 1.40) and females (*Mean* = 3.40, *SD* = 1.41). Even the variability of the mean scores is relatively similar, as can be seen from the standard deviations of mean scores (*SD* Male = 1.4047 compared to *SD* Females = 1.40943). Overall, it can be concluded that there are no significant differences in the levels of resilience in Eskom between male and female participants. Therefore, the hypothesis H_o3, *There are no statistically significant differences in the scores achieved on career resilience with regard to gender among employees at Eskom NC*, was accepted, while the alternative hypothesis H_a3, *There are statistically significant differences in the scores achieved on career resilience with regard to gender among employees at Eskom NC*, was rejected.

4.5.2 Summary of Hypothesis Testing

Hypothesis testing is summarised in Table 4.6.

Table 4.6

Summary of Hypothesis Testing

Objectives: #	Hypothesis	Test Results and Significance	Accept/Reject
1	H_o1: Mindfulness does not explain a statistically significant proportion of the variance in resilience among employees at Eskom NC. H_a1: Mindfulness does explain a statistically significant proportion of the variance in resilience among employees at Eskom NC.	$r^2 = 0.322$, $p < 0.01$	Reject H_o1 and accept H_a1
2	H_o2: No relationship exists between mindfulness and resilience among employees at Eskom, NC. H_a2: A relationship exists between mindfulness and resilience among employees at Eskom NC.	$r = .760$, $p < 0.01$	Reject H_o2 and accept H_a2
3	H_o3: There are no statistically significant differences in the scores achieved on career resilience regarding gender among employees at Eskom NC.	$t(190) = 0.136$, $p=0.892$	Accept H_o3 and reject H_a3

Objectives: #	Hypothesis	Test Results and Significance	Accept/Reject
	H_a3: There are statistically significant differences in the scores achieved on career resilience regarding gender among employees at Eskom NC.		

The results show that the first hypothesis is confirmed, namely, that mindfulness does explain a statistically significant proportion of the variance in resilience among employees at Eskom NC. The second hypothesis, namely that a relationship exists between mindfulness and resilience among employees at Eskom NC, was also confirmed. However, the third hypothesis is rejected, implying that there are no statistically significant differences in the scores achieved on career resilience with regard to gender among employees at Eskom NC.

4.5.3 Discussion of Results relating to Objectives

In the following sections, the discussion of the results relating to each objective will be presented.

4.5.3.1 Discussion of results relating to Objective 1. The study's first objective was "to determine using a non-experimental research design if mindfulness influences resilience among employees at Eskom NC". Regression results showed that mindfulness has a positive influence on career resilience. Therefore, these results confirm research hypothesis H_a1: Mindfulness explains a statistically significant proportion of the variance in resilience among employees at Eskom NC.

Thus, the results revealed that mindfulness positively influences career resilience in Eskom NC employees. That implies that high levels of mindfulness influence career resilience levels. These results confirm prior propositions such as those by Morrison and Pidgeon (2017), namely, that mindfulness can potentially boost individual resilience (Morrison & Pidgeon, 2017). That implies that managers who wish to enhance the resilience of their employees should focus on enhancing their levels of mindfulness. That way, the risks

of employee burnout can be reduced (Roberts et al., 2014). The results of this study support the findings of Verdonk et al. (2017). They found that mindfulness is a precursor to resilience. Overall, this study supports studies that propose that mindfulness has a positive effect on career resilience (e.g., Brown & Ryan, 2003; Cepeda-Carrion et al., 2018; Pierotti & Remer, 2017; Shapiro et al., 2006; Tyng et al., 2017; Vercio et al., 2021).

4.5.3.2 Discussion of results relating to Objective 2. The study's second objective was "to determine if a relationship exists between mindfulness and resilience among employees at Eskom NC". The correlation results show a strong positive correlation between mindfulness and resilience, confirming research hypothesis H_a2: A relationship exists between mindfulness and resilience among employees at Eskom NC. Therefore, the hypothesis was not rejected. Thus, the results of this study revealed a strong positive correlation between mindfulness and resilience at Eskom NC. The results of the study are supported by a study conducted by Zubair (2018), who found a significant positive relationship between mindfulness and resilience among university students at Quaid-e-Azam University. Morrison and Pidgeon's (2017) study showed that mindfulness and resilience are strongly correlated, with mindfulness playing an important role in enhancing employees' resilience levels.

Similarly, Bajaj and Pande (2016) reported a positive correlation between mindfulness and resilience. In support, Thompson et al. (2011) stated that mindfulness is associated with resilience. These results imply that self-efficacy and mindfulness can potentially be protective factors in enhancing resilience at Eskom NC (Hughes et al., 2021). Research done by Van Breda and Theron (2018) found that many traits associated with resilience are also associated with mindfulness. According to other theories, mindfulness is a cognitive activity influenced by emotional processes and has a good effect that can improve overall resilience (Tyng et al., 2017). As such, increases in mindfulness are associated with increases in resilience as well as subjective well-being (Waugh & Koster, 2015). Furthermore, additional evidence linking

resilience and mindfulness was discovered by Chavers (2013) and Jha et al. (2010), who found a substantial correlation between mindfulness and resilience, with mindfulness being a significant predictor of resilience. Furthermore, developing high levels of employee career resilience can help employees deal with the pressures of their jobs if mindfulness techniques are encouraged (Rushton et al., 2018).

4.5.3.3 Discussion of results relating to Objective 3. The third objective of the study was "to determine through a non-experimental research design if gender differences exist in career resilience among employees at Eskom NC." Some of the prior studies done by Nikolova et al. (2015) found that gender plays an important role in resilience. Their study revealed that men often have easier access to protective factors. As a result, they may be regarded as more resilient than females. Women are often the victims of sexual abuse and violence, which creates vulnerabilities and reduces resilience (Nikolova et al., 2015). According to Greguletz et al. (2019), women experience more stress than men when coping with certain situations, are often more expressive with their thoughts and emotions, and tend to be selfless when helping others (Greguletz, 2019). Studies suggest that men are more resilient than women (Boardman et al., 2008). Although there has been an evolutionary advance in including gender differences and their role in resilience, there is still a gap in interpreting each stressful situation and the resulting behaviour.

In contrast, the results of this study showed no significant differences in resilience among employees at Eskom NC. This implies that if career resilience ever varies, it does so based on other factors and not gender. According to a study by Campbell-Sills et al. (2006), there was no significant difference in resilience between males and females in young adults regarding personality, coping mechanisms, and psychiatric symptoms. However, gender has been termed an unreliable and inconsistent predictor of resilience (Sambu & Mhongo, 2019). The current study predicted that gender differences would exist in relation to resilience. However,

the findings did not support any statistically significant gender differences in the domain (Bluth et al., 2017), although the review is inconsistent with this view.

In addition, the results in this study are contrary to the findings by Neufeld et al. (2020), who found a significant gender variation in resilience and subjective well-being, with men reporting stronger degrees of resilience in dealing with adversity than women. In a study conducted by Bonnano et al. (2007) on participants who experienced trauma or post-traumatic stress disorder (PTSD), the results also indicated a gender difference, with women being less likely than men to be resilient. Brewin et al. (2000) also discovered the same results in their study on PTSD in trauma-exposed adults. Another surprising discovery made by Bonanno et al. (2007) was that individuals who completed college were less likely to be resilient than those who did not complete high school. This finding contradicts the assumption that more education leads to better psychological well-being. Inconsistent results can be found in several studies on resilience and gender. For example, Nishimi et al. (2021) discovered that women display higher levels of resilience than men. In contrast, Sheerin et al. (2018) and Bonanno et al. (2007) found that men have a higher level of resilience. Gender stereotypes, such as the notion that women are more emotional and display greater weakness (Nishimi et al., 2021), may influence how women demonstrate their perceptions and behaviours, resulting in low perceived resilience.

4.6 Conclusion

In Chapter 4, the study's results were presented, interpreted and set against the hypotheses. The analysis of demographics, including information such as gender, marital status, and ethnicity, has revealed that the sample size (N=192) was largely representative of the Eskom NC workforce with respect to gender, marital status and ethnicity (albeit with the Asian group missing), and home language. Even if the sample was representative, from a statistical

point of view, the reader should be cautious since the sample design made the generalisability of results difficult. The results also showed that participants had the required minimum level of education, were old enough and could give their independent opinions regarding mindfulness and resilience as investigated in the study in the context of Eskom NC. That implies that the results of this study can be generalised to Eskom and, with some degree of caution, to the South African workforce.

The chapter presented the results on the influence of mindfulness on resilience among employees at Eskom NC. The regression analysis found a statistically significant proportion of the variance in resilience among employees at Eskom NC. Secondly, the correlation analyses tested the relationship between resilience and mindfulness in Eskom's employees. The results showed that mindfulness has a strong, positive, and statistically significant influence on resilience. Finally, the chapter presented results on the gender differences in resilience among Eskom's employees. The results revealed no significant gender differences in resilience among employees at Eskom NC. The next chapter focuses on the conclusion of the study's findings and offers various recommendations.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study's findings related to the research objectives, followed by a brief discussion of the study's overall value. The chapter concludes with a discussion about the limitations of the study and makes recommendations for future studies and Eskom NC's management.

5.2 Findings

Data was collected from Eskom NC employees to achieve the aim of the study. The data was analysed statistically, beginning with an analysis of demographic information. The analysis of demographic information revealed that even though the response rate was within acceptable limits, as recommended by Sekaran and Bougie (2010), the results could not be reliably generalised because of the non-experimental research design adopted. The sample largely represented Eskom NC's employee population concerning gender and marital status. The majority of the respondents had at least the basic education required to complete the assessments. They were old and experienced enough to provide their independent opinions of the questions asked in the questionnaire. The language distribution was in line with the location of the study, with the majority of the respondents speaking either Setswana, Sesotho, or Afrikaans, three of the major languages spoken in the Northern Cape Province. The sample was slightly less representative of the population with respect to ethnicity, given that the Asian population group was not represented. A possible reason is that Asian and Coloured numbers are too low compared to other population groups, comprising only 11% of South Africa's overall population. Furthermore, these populations are primarily in KwaZulu-Natal, whereas the study was conducted in the Northern Cape, dominated by Black Africans, Coloureds and Whites (Motsuku et al., 2021).

The instruments used to collect data were evaluated to determine their reliability using Cronbach's alpha. The ARI and MAAS were reliable, with all the reported Cronbach's alpha coefficients being greater than the 0.70 threshold.[22] The collected data was also tested for potential outliers and normality to assess the data quality and to determine if it met the preconditions for inferential statistical analyses. The analysis revealed several moderate outliers, but no extreme outliers, within both the male and female categories of the data collected through the ARI scale. The ARI scale data also showed deviations from normality; nonetheless, the analysis was conducted, given the robustness of the independent samples t-test. For the MAAS scale, the collected data approximated a normal distribution. There was only one moderate outlier in the male category and two moderate outliers in the female category, but none was an extreme outlier. In summary, the data met the preconditions for conducting inferential statistics. The remainder of this section summarises the findings relating to each research objective.

5.2.1 The Influence of Mindfulness on Resilience in Eskom NC

The first research objective was to determine through a non-experimental research design if mindfulness influences resilience among employees at Eskom NC. In order to achieve this objective, a regression analysis was performed. These regression analysis results indicated that mindfulness strongly and positively influenced resilience among Eskom NC employees. Therefore, it can be concluded that mindfulness can influence resilience among employees in Eskom NC.

5.2.2 The relationship between mindfulness and resilience in Eskom NC

The second research objective was to determine if a relationship exists between mindfulness and resilience among employees at Eskom NC. A correlation analysis was

[22] Refer to Chapter 3. Nunnally and Bernstein (1994) recommend that an internal consistency, Cronbach's alpha coefficient of at least 0.7, is obtained.

performed to achieve this objective. These correlation results indicated that mindfulness and resilience were strongly correlated among employees at Eskom NC. Therefore, it can be concluded that a relationship exists between mindfulness and resilience among employees in Eskom NC, which is statistically significant.

5.2.3 Gender differences in career resilience in Eskom NC

The third objective was to determine through a non-experimental research design if gender differences exist in career resilience among employees in Eskom NC. This objective was achieved by conducting independent sample *t*-tests. The analysis revealed no significant differences in the levels of mindfulness in Eskom NC between male and female participants. These results imply no gender differences in career resilience among employees in Eskom NC. Both males and females experience the same levels of resilience.

5.3 Value of the Findings

The current research holds great value for employees at Eskom NC as the results revealed that mindfulness positively and significantly influences resilience in Eskom NC's employees. Researchers such as Pitzer and Skinner (2017) believe that building a person's resilience rather than modifying specific risk factors may be a more effective approach to averting issues and improving well-being, especially for employees working under intense pressures who have extreme levels of risk and adversity that they must deal with to adapt positively and demonstrate resilience (Vakilzadeh & Haase, 2021).

Mindfulness training has been found to lower stress reactivity and promote behavioural flexibility (Waugh et al., 2019). Creating high levels of resilience can be done through strategies such as mindfulness-based cognitive behaviour therapy, hardiness enhancement, and coping skills training, all to improve well-being (Palacio et al., 2019). Improved resilience can significantly lower employees' stress levels when confronted with difficulties, making them more likely to cope effectively with stressors (Weinstein et al., 2009). For

Eskom management, the study proved that developing employees' levels of mindfulness is necessary as this will positively influence their career resilience. According to Howe-Walsh and Turnbull (2016), leaders need to use resilience as a vital resource to restart optimal functioning following a setback.

5.4 Limitations

Even though the researcher has taken all the necessary steps to enhance the quality of this research, the study still had some limitations. One of the first limitations was the cross-sectional design adopted, which meant that data was collected at a particular point in time (Zijlstra et al., 2022). Such a design could not account for variations in mindfulness and resilience over time.

The study also adopted a non-experimental approach, meaning that the researcher could not collect control data or observe the phenomena as they occurred naturally (Swart et al., 2019). The disadvantage of non-experimental research is that it is impossible to have completely accurate and error-free results regarding the relationship between the independent and dependent variables. The conclusion that one variable caused the other cannot be supported by the sheer existence of a relationship, no matter how strong (Gordon et al., 2023).

Furthermore, the population for this study was 330, with a sample size of 192 participants. Thus, although the sample size was large enough, the non-experimental design implied that the results could not be generalised to the entire or another organisation.

Lastly, the study adopted a quantitative research methodology, improving the research's robustness and objectivity (Quintão et al., 2020). However, the trade-off was that the researcher could not ask research participants follow-up questions to clarify choices made in the assessments.

5.5 Recommendations

The study has shown that mindfulness positively and significantly influences resilience and the levels of mindfulness and resilience in Eskom NC's employees. Therefore, the primary recommendation is that Eskom should focus on enhancing its employees' mindfulness, as that will eventually improve the levels of career resilience in its employees. The recommendations made are only illustrative and are not intended to be exhaustive of all the strategies that can be used to enhance mindfulness. The recommendations are divided into two sections, focusing on recommendations for further studies and Eskom managers specifically.

5.4.1 Recommendations for Future Studies

The recommendations based on the limitations are made for future studies.

- In future studies, a longitudinal design should be adopted to determine if the findings in this study could have different outcomes over time.
- The findings in this study can then be used as part of a pilot study for a company-wide study in Eskom NC, especially in the Springbok area, as a limitation to evaluate several aspects of the procedures intended for a more extensive, exacting, or confirmatory study.
- The research focused only on Eskom NC employees. Future studies should explore the links between the variables in a different sample, such as individuals in different stages of their careers or Eskom as a whole on a different skill level.
- In the future, researchers should adopt an experimental approach to improve the generalisability of the research findings.
- In the future, researchers may need to adopt a mixed methods methodology to capture quantitative and qualitative data, providing a richer and more nuanced data set.

5.4.2 Recommendations for Eskom Managers

The following sections highlight various recommendations for Eskom managers.

5.4.2.1 Creating a Favourable Environment. According to Plexico et al. (2019), mindfulness and life happiness can be improved by creating an environment that encourages employees to engage in mindfulness. For Pattnaik and Jena (2020), correct mindfulness influences the thinking process, resulting in the right thinking, communication, and other desirable outcomes. Therefore, appropriate attention is the vigour or vitality that keeps workers fully present in their daily work. The sense of being absorbed and attentive is enhanced by mindfulness, which has a good relationship to work engagement. Receptive attention makes experiences more vivid and clear, which makes people more absorbed and enthusiastic about what they are doing (Brown & Ryan, 2003).

5.4.2.2 Leading by Example. According to King and Badham (2020), leaders can help employees become more mindful if the leaders themselves engage in mindfulness. In organisations, leaders set the tone of what they expect from their followers. Therefore, leaders who engage in mindfulness can influence their followers to do the same. However, this assumes that leaders understand mindfulness. Reb et al. (2019) indicated that knowledge sharing is the act of making knowledge available to others within the organisation and is correlated with organisational performance. Information sharing can enhance crucial outcomes such as decision-making, innovation, and performance. Employees having mindful leaders will feel less stressed, leading to lower stress and performance (Reb et al., 2019). If this is not the case, the formal mindfulness training and development recommended can be administered with the leaders before it is rolled out to employees. Leading by example includes being highly visible and leading change (Kotter, 1996).

5.4.2.3 Formal Mindfulness Training and Development Programmes. According to Mesmer-Magnus et al. (2017), mindfulness can be enhanced through mindfulness training and employee development, which will equip employees with the tools and techniques to increase their mindfulness practices. The training and development programmes can focus on self-regulation, behavioural flexibility, value clarification, emotional and cognitive development, and exposure to the three-axiom model (Kabat-Zinn, 1994). Implementing such programmes in Eskom NC should be viewed from the lenses of strategic change, implying that the programme can only be successful if it follows the preconditions of change management, such as unfreezing, changing, and refreezing (Burnes, 2004). According to Van Dam et al. (2018), once the change has been implemented, it is necessary to have a formal programme for evaluating and controlling progress toward the desired level of mindfulness. It is recommended that Eskom NC administer the mindfulness questionnaire used in this study to its employees regularly to track the progress and areas that may require further or different approaches. Hundera et al. (2021) support constantly evaluating progress and taking corrective actions to develop mindfulness.

5.6 Conclusion

The first section of the chapter presented the study's findings as they relate to each research objective. The first finding indicated a positive correlation between mindfulness and resilience among employees in Eskom NC. Secondly, it was discovered that mindfulness directly influences resilience. Lastly, the finding indicated that the levels of resilience at Eskom NC do not differ between males and females. That was followed by presenting the value of the findings, the limitations and values of the study. The recommendations were divided into recommendations for future studies and Eskom managers.

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ANNEXURES

ANNEXURE A: RESILIENCE INDICATOR QUESTIONNAIRE

THE ADULT RESILIENCE INDICATOR

We all experience adversity at some time in our lives. Adversity is when something happens to us that are unfavourable to our well-being. It can be some form of hardship, difficulty, misfortune or hard time that we go through.

The Adult Resilience Indicator is designed to assess the internal and external resources that people tend to draw on in times of hardship and adversity. The items do not have any right or wrong answers. Your answers should just reflect the way you see yourself and what you believe is true about yourself when you face adversity.

Please indicate to what extend are the following statements true of you. Mark your answer with an X.

Use the following scale:

1 – Almost never true of me
2 – Rarely true of me
3 – Sometimes true of me
4 – Often true of me
5 – Almost always true of me

When I face adversity, difficulties or problems in my life, I …

1. Have confidence in my own ability to overcome my problems.	1 – 2 – 3 – 4 – 5
2. Keep on believing in myself.	1 – 2 – 3 – 4 – 5
3. Become unsure of myself.	1 – 2 – 3 – 4 – 5
4. Start to doubt myself. (Develop self-doubt)	1 – 2 – 3 – 4 – 5
5. Stay confident that I could solve the problem even if there is no apparent solution visible at the moment.	1 – 2 – 3 – 4 – 5
6. Believe that I am capable of dealing with the situation.	1 – 2 – 3 – 4 – 5
7. Start to think of myself as a failure.	1 – 2 – 3 – 4 – 5
8. Expect that all will end well.	1 – 2 – 3 – 4 – 5
9. Anticipate disaster and think that things will not work out for me.	1 – 2 – 3 – 4 – 5
10. Keep on having confidence about the future even though things seem unclear at this moment.	1 – 2 – 3 – 4 – 5
11. Start to doubt if things will work out for me.	1 – 2 – 3 – 4 – 5
12. Am sure that I will be successful in the end.	1 – 2 – 3 – 4 – 5
13. Stay optimistic about the future.	1 – 2 – 3 – 4 – 5
14. Keep a positive outlook.	1 – 2 – 3 – 4 – 5

15. Find ways to avoid dealing with the problem.	1 – 2 – 3 – 4 – 5
16. Face my situation head on even though it might not seem pleasant at that moment.	1 – 2 – 3 – 4 – 5
17. Stand up for what I believe is the right thing to do even though others might disagree with me.	1 – 2 – 3 – 4 – 5
18. Confront my problems even though it is unpleasant	1 – 2 – 3 – 4 – 5
19. Start to feel sorry for myself.	1 – 2 – 3 – 4 – 5
20. Grumble and moan about my situation.	1 – 2 – 3 – 4 – 5
21. Complain about my problems.	1 – 2 – 3 – 4 – 5
22. Feel resentful about what happened to me.	1 – 2 – 3 – 4 – 5
23. Feel bitter.	1 – 2 – 3 – 4 – 5
24. Have recurring negative thoughts about what took place.	1 – 2 – 3 – 4 – 5
25. Endlessly dwell on what happened to me.	1 – 2 – 3 – 4 – 5
26. Feel passive and unmotivated to do something about the problems that I face.	1 – 2 – 3 – 4 – 5
27. Feel that I am stuck.	1 – 2 – 3 – 4 – 5
28. Feel that it is no use trying to do something about my situation.	1 – 2 – 3 – 4 – 5
29. Find it difficult to get myself to do something about it.	1 – 2 – 3 – 4 – 5
30. Try to do something about it (take some form of action) even if it is something small.	1 – 2 – 3 – 4 – 5
31. Give up easily when I run into obstacles.	1 – 2 – 3 – 4 – 5
32. Keep on trying even though I might fail along the way.	1 – 2 – 3 – 4 – 5
33. Become discouraged when I run into obstacles.	1 – 2 – 3 – 4 – 5
34. Keep my focus and steadily start to work towards a solution even though it might take a long time to complete.	1 – 2 – 3 – 4 – 5
35. Persevere with my efforts despite some setbacks that I might encounter.	1 – 2 – 3 – 4 – 5
36. Refuse to accept failure as an option.	1 – 2 – 3 – 4 – 5
37. Overcome obstacles one by one.	1 – 2 – 3 – 4 – 5
38. Find ways (plan) to overcome the problem.	1 – 2 – 3 – 4 – 5
39. Set goals for myself to overcome the problem.	1 – 2 – 3 – 4 – 5
40. Stay focussed on my goals.	1 – 2 – 3 – 4 – 5
41. Keep myself busy with other less important activities.	1 – 2 – 3 – 4 – 5
42. Plan my actions before I start.	1 – 2 – 3 – 4 – 5
43. Act without thinking about it – act impulsively	1 – 2 – 3 – 4 – 5
44. Proceed towards the solution in an orderly and structured way.	1 – 2 – 3 – 4 – 5
45. Actively pursue the goals that I have set for myself.	1 – 2 – 3 – 4 – 5
46. Return (fall back) to my religious conviction.	1 – 2 – 3 – 4 – 5
47. Rely on my religious faith to help me in tough situations.	1 – 2 – 3 – 4 – 5
48. Pray.	1 – 2 – 3 – 4 – 5
49. Have an unshakable belief that God will help me.	1 – 2 – 3 – 4 – 5

50. Accept what came about.	1 – 2 – 3 – 4 – 5
51. Let go and move on.	1 – 2 – 3 – 4 – 5
52. Resign myself to what took place.	1 – 2 – 3 – 4 – 5
53. Feel rebellious and angry about what happened to me.	1 – 2 – 3 – 4 – 5
54. Make peace with where I am.	1 – 2 – 3 – 4 – 5
55. Have a general feeling of resentment within me.	1 – 2 – 3 – 4 – 5
56. Have friends and family that I can go to for support.	1 – 2 – 3 – 4 – 5
57. Reach out to others for support	1 – 2 – 3 – 4 – 5
58. Ask for help and support from people that I know well	1 – 2 – 3 – 4 – 5
59. Make use of the support that friends and family provide me during difficult times.	1 – 2 – 3 – 4 – 5
60. Talk to someone close to me about my problem	1 – 2 – 3 – 4 – 5
61. Receive support from my friends and family.	1 – 2 – 3 – 4 – 5
62. Make a deliberate choice to survive this situation.	1 – 2 – 3 – 4 – 5
63. Take responsibility for where I find myself.	1 – 2 – 3 – 4 – 5
64. Make a conscious decision to do something about the situation.	1 – 2 – 3 – 4 – 5
65. Have a “wait and see” approach.	1 – 2 – 3 – 4 – 5
66. Avoid thinking about the problem.	1 – 2 – 3 – 4 – 5
67. Hope my problems will go away on its own.	1 – 2 – 3 – 4 – 5
68. Take control of my emotions and do not allow it to overwhelm me.	1 – 2 – 3 – 4 – 5
69. Discipline my feelings and focus on what actions I should take.	1 – 2 – 3 – 4 – 5
70. Dream of a better future	1 – 2 – 3 – 4 – 5
71. Develop a vision of an improved future.	1 – 2 – 3 – 4 – 5
72. Think that my current experience will strengthen me for future difficulties.	1 – 2 – 3 – 4 – 5
73. See the positive aspects of life.	1 – 2 – 3 – 4 – 5
74. Change something negative into something positive.	1 – 2 – 3 – 4 – 5
75. Learn from my mistakes.	1 – 2 – 3 – 4 – 5
76. See the best in the situation.	1 – 2 – 3 – 4 – 5
77. Look for opportunities in the adverse situation.	1 – 2 – 3 – 4 – 5
78. Make the best of a bad situation.	1 – 2 – 3 – 4 – 5
79. Find meaning in my adversity.	1 – 2 – 3 – 4 – 5
80. See that my problems are not as bad in relation to the people’s problems.	1 – 2 – 3 – 4 – 5
81. Count my blessings.	1 – 2 – 3 – 4 – 5
82. Turn my bad experience around into something positive.	1 – 2 – 3 – 4 – 5

ANNEXURE B: MINDFULNESS ATTENTION AWARENESS SCALE QUESTIONNAIRE (MAAS)

Mindfulness%20questionnaire.pdf

ANNEXURE C: SAMPLE SIZE FOR A GIVEN POPULATION SIZE (Sekaran & Bougie, 2010)

TABLE 13.3

Sample size for a given population size

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	175	2000	322
55	48	320	181	2200	327
60	52	340	191	2400	331
65	56	360	196	2600	335
70	59	380	205	2800	338
75	63	400	210	3000	341
80	66	420	217	3500	346
85	70	440	226	4000	351
90	73	460	242	4500	354
95	76	480	248	5000	357
100	80	500	260	6000	361
110	86	550	265	7000	364
120	92	600	274	8000	367
130	97	650	278	9000	368
140	103	700	169	10 000	370
150	108	750	186	15 000	375
160	113	800	201	20 000	377
170	118	850	214	30 000	379
180	123	900	234	40 000	380
190	127	950	254	50 000	381
200	132	1000	269	75 000	382
210	136	1100	285	1 000000	384

ANNEXURE D: PERMISSION TO CONDUCT A STUDY

Letter-movitation to conduct research (07

ANNEXURE E: SUPERVISOR DECLARATION

Supervisor Declaration_Motang M

ANNEXURE F: RELIABILITY PER RESEARCH ITEM

THE ADULT CAREER RESILIENCE INDICATOR (ARI)				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Have confidence in my own ability to overcome my problems.	313.6927	3476.423	.739	.983
2. Keep on believing in myself.	313.5781	3483.376	.712	.983
3. Become unsure of myself.	314.0885	3496.751	.591	.983
4. Start to doubt myself. (Develop self-doubt)	314.0156	3482.204	.683	.983
5. Stay confident that I could solve the problem even if there is no apparent solution visible now.	313.8750	3485.660	.755	.983
6. Believe that I can deal with the situation.	313.7135	3488.195	.744	.983
7. Start to think of myself as a failure.	313.6198	3487.514	.782	.983
8. Expect that all will end well.	313.7396	3494.026	.715	.983
9. Anticipate disaster and think that things will not work out for me.	314.0365	3496.182	.605	.983
10. Keep on having confidence about the future even though things seem unclear at this moment.	313.8698	3488.292	.692	.983
11. Start to doubt if things will work out for me.	314.0885	3494.238	.613	.983

12. Am sure that I will be successful in the end.	313.5469	3489.055	.773	.983
13. Stay optimistic about the future.	313.6354	3488.819	.759	.983
14. Keep a positive outlook.	313.5521	3485.851	.837	.983
15. Find ways to avoid dealing with the problem.	314.4740	3529.863	.309	.984
16. Face my situation head on even though it might not seem pleasant at that moment.	313.8646	3476.400	.786	.983
17. Stand up for what I believe is the right thing to do even though others might disagree with me.	313.7188	3475.544	.797	.983
18. Confront my problems even though it is unpleasant	313.7083	3474.469	.830	.983
19. Start to feel sorry for myself.	313.8021	3511.667	.532	.983
20. Grumble and moan about my situation.	313.7917	3492.030	.709	.983
21. Complain about my problems.	313.9063	3490.703	.710	.983
22. Feel resentful about what happened to me.	314.0260	3497.167	.634	.983
23. Feel bitter.	313.6406	3506.336	.612	.983
24. Have recurring negative thoughts about what took place.	313.9427	3504.358	.600	.983
25. Endlessly dwell on what happened to me.	313.9531	3500.380	.624	.983
26. Feel passive and unmotivated to do something about the problems that I face.	313.8646	3485.165	.762	.983
27. Feel that I am stuck.	314.0677	3487.550	.676	.983
28. Feel that it is no use trying to do something about my situation.	313.8125	3476.928	.774	.983
29. Find it difficult to get myself to do something about it.	313.9115	3486.092	.716	.983
30. Try to do something about it (take some form of action) even if it is something small.	313.8594	3491.137	.654	.983

31. Give up easily when I run into obstacles.	313.8281	3480.478	.680	.983
32. Keep on trying even though I might fail along the way.	313.9167	3489.815	.622	.983
33. Become discouraged when I run into obstacles.	313.9688	3473.769	.769	.983
34. Keep my focus and steadily start to work towards a solution even though it might take a long time to complete.	313.7760	3469.745	.827	.983
35. Persevere with my efforts despite some setbacks that I might encounter.	313.7865	3481.666	.787	.983
36. Refuse to accept failure as an option.	313.7969	3477.346	.760	.983
37. Overcome obstacles one by one.	313.7292	3479.842	.850	.983
38. Find ways (plan) to overcome the problem.	313.6615	3479.932	.844	.983
39. Set goals for myself to overcome the problem.	313.7552	3477.275	.804	.983
40. Stay focussed on my goals.	313.7448	3463.982	.831	.983
41. Keep myself busy with other less important activities.	314.3281	3495.311	.549	.983
42. Plan my actions before I start.	313.7813	3479.156	.780	.983
43. Act without thinking about it – act impulsively	313.9427	3511.646	.517	.983
44. Proceed towards the solution in an orderly and structured way.	313.9167	3492.621	.708	.983
45. Actively pursue the goals that I have set for myself.	313.7344	3468.008	.859	.983
46. Return (fall back) to my religious conviction.	314.6563	3570.164	.078	.984
47. Rely on my religious faith to help me in tough situations.	314.5677	3562.341	.128	.984
48. Pray.	313.7604	3532.225	.380	.983
49. Have an unshakable belief that God will help me.	313.9896	3559.487	.171	.984

50. Accept what came about.	314.4740	3549.507	.275	.983
51. Let go and move on.	314.4740	3535.633	.351	.983
52. Resign myself to what took place.	314.7969	3573.430	.070	.984
53. Feel rebellious and angry about what happened to me.	313.9479	3497.421	.642	.983
54. Make peace with where I am.	314.3750	3544.644	.283	.983
55. Have a general feeling of resentment within me.	314.0469	3503.951	.609	.983
56. Have friends and family that I can go to for support.	313.9063	3481.426	.686	.983
57. Reach out to others for support	314.0833	3479.846	.709	.983
58. Ask for help and support from people that I know well	314.2135	3479.928	.698	.983
59. Make use of the support that friends and family provide me during difficult times.	314.0469	3473.877	.779	.983
60. Talk to someone close to me about my problem	314.1771	3480.503	.723	.983
61. Receive support from my friends and family.	313.9427	3481.887	.738	.983
62. Make a deliberate choice to survive this situation.	314.0469	3514.977	.556	.983
63. Take responsibility for where I find myself.	313.8542	3488.701	.778	.983
64. Make a conscious decision to do something about the situation.	313.8021	3478.945	.842	.983
65. Have a “wait and see” approach.	315.4740	3659.214	-.520	.984
66. Avoid thinking about the problem.	314.5781	3606.863	-.198	.984
67. Hope my problems will go away on its own.	313.7552	3484.228	.691	.983
68. Take control of my emotions and do not allow it to overwhelm me.	313.9010	3483.723	.724	.983

69. Discipline my feelings and focus on what actions I should take.	313.8021	3476.201	.836	.983
70. Dream of a better future	313.5573	3507.599	.609	.983
71. Develop a vision of an improved future.	313.5625	3487.305	.775	.983
72. Think that my current experience will strengthen me for future difficulties.	313.5521	3495.118	.681	.983
73. See the positive aspects of life.	313.5469	3480.134	.827	.983
74. Change something negative into something positive.	313.7813	3468.015	.848	.983
75. Learn from my mistakes.	313.4427	3490.080	.848	.983
76. See the best in the situation.	313.7708	3472.429	.840	.983
77. Look for opportunities in the adverse situation.	313.7865	3474.294	.802	.983
78. Make the best of a bad situation.	313.8385	3469.791	.841	.983
79. Find meaning in my adversity.	313.9167	3468.129	.818	.983
80. See that my problems are not as bad in relation to the people's problems.	314.0885	3513.097	.529	.983
81. Count my blessings.	313.5938	3486.253	.782	.983
82. Turn my bad experience around into something positive.	313.7969	3464.089	.869	.983

The Adult Career Resilience Indicator (ARI) had good internal consistency reliability, with Cronbach's alpha = 0.983. None of the items, if deleted, would have resulted in an increase in Cronbach's alpha. A few items, if deleted, would have resulted in a negligible increase in Cronbach's alpha (see rows highlighted in blue in the table above).

THE TRAIT MINDFUL ATTENTION AWARENESS SCALE (MAAS)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I could be experiencing some emotion and not be conscious of it until sometime later.	62.063	153.870	.548	.907
2. I break or spill things because of carelessness, not paying attention, or thinking of something else.	61.313	154.792	.695	.902

3. I find it difficult to stay focused on what's happening in the present.	61.557	152.269	.676	.902
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	61.609	157.119	.566	.906
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	61.854	160.314	.446	.910
6. I forget a person's name almost as soon as I've been told it for the first time.	62.672	155.112	.496	.909
7. It seems I am "running on automatic," without much awareness of what I'm doing.	61.344	152.572	.690	.901
8. I rush through activities without being attentive to them.	61.276	151.541	.751	.899
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	61.370	161.847	.451	.909
10. I do jobs or tasks automatically, without being aware of what I'm doing.	61.208	151.695	.755	.899
11. I find myself listening to someone with one ear, doing something else at the same time.	62.151	154.296	.575	.906
12. I drive places on 'automatic pilot' and then wonder why I went there.	60.922	158.533	.581	.905
13. I find myself preoccupied with the future or the past.	61.750	156.419	.577	.905
14. I find myself doing things without paying attention.	61.526	148.774	.781	.898
15. I snack without being aware that I'm eating.	61.167	154.621	.550	.907

ANNEXURE G: LEVEL OF CAREER RESILIENCE IN ESKOM NC

#	Item	N	Mean	SD
When I face adversity, difficulties, or problems in my life, I …				
1	Have confidence in my own ability to overcome my problems.	192	4.11	1.20
2	Keep on believing in myself.	192	4.22	1.16
3	Become unsure of myself.	192	2.29	1.21
4	Start to doubt myself. (Develop self-doubt)	192	2.21	1.23
5	Stay confident that I could solve the problem even if there is no apparent solution visible at the moment.	192	3.93	1.07
6	Believe that I can deal with the situation.	192	4.09	1.06
7	Start to think of myself as a failure.	192	1.82	1.02
8	Expect that all will end well.	192	4.06	1.03
9	Anticipate disaster and think that things will not work out for me.	192	2.23	1.19
10	Keep on having confidence about the future even though things seem unclear at this moment.	192	3.94	1.13
11	Start to doubt if things will work out for me.	192	2.29	1.20
12	Am sure that I will be successful in the end.	192	4.26	1.01
13	Stay optimistic about the future.	192	4.17	1.03
14	Keep a positive outlook.	192	4.25	0.97
15	Find ways to avoid dealing with the problem.	192	2.68	1.38
16	Face my situation head on even though it might not seem pleasant at that moment.	192	3.94	1.13
17	Stand up for what I believe is the right thing to do even though others might disagree with me.	192	4.08	1.12
18	Confront my problems even though it is unpleasant	192	4.09	1.09
19	Start to feel sorry for myself.	192	2.00	1.10

20	Grumble and moan about my situation.	192	1.99	1.07
21	Complain about my problems.	192	2.10	1.08
22	Feel resentful about what happened to me.	192	2.22	1.12
23	Feel bitter.	192	1.84	1.04
24	Have recurring negative thoughts about what took place.	192	2.13	1.08
25	Endlessly dwell on what happened to me.	192	2.15	1.09
26	Feel passive and unmotivated to do something about the problems that I face.	192	2.06	1.07
27	Feel that I am stuck.	192	2.27	1.17
28	Feel that it is no use trying to do something about my situation.	192	2.01	1.14
29	Find it difficult to get myself to do something about it.	192	2.11	1.13
30	Try to do something about it (take some form of action) even if it is something small.	192	3.94	1.16
31	Give up easily when I run into obstacles.	192	2.04	1.27
32	Keep on trying even though I might fail along the way.	192	3.88	1.24
33	Become discouraged when I run into obstacles.	192	2.17	1.18
34	Keep my focus and steadily start to work towards a solution even though it might take a long time to complete.	192	4.03	1.14
35	Persevere with my efforts despite some setbacks that I might encounter.	192	4.02	1.07
36	Refuse to accept failure as an option.	192	4.01	1.16
37	Overcome obstacles one by one.	192	4.07	1.01
38	Find ways (plan) to overcome the problem.	192	4.14	1.02
39	Set goals for myself to overcome the problem.	192	4.05	1.10
40	Stay focussed on my goals.	192	4.06	1.20
41	Keep myself busy with other less important activities.	192	2.53	1.31
42	Plan my actions before I start.	192	4.02	1.11

43	Act without thinking about it – act impulsively	192	2.14	1.13
44	Proceed towards the solution in an orderly and structured way.	192	3.89	1.06
45	Actively pursue the goals that I have set for myself.	192	4.07	1.12
46	Return (fall back) to my religious conviction.	192	3.15	1.19
47	Rely on my religious faith to help me in tough situations.	192	3.23	1.23
48	Pray.	192	4.05	1.09
49	Have an unshakable belief that God will help me.	192	3.81	1.08
50	Accept what came about.	192	3.32	0.98
51	Let go and move on.	192	3.32	1.09
52	Resign myself to what took place.	192	3.01	0.99
53	Feel rebellious and angry about what happened to me.	192	2.15	1.10
54	Make peace with where I am.	192	3.42	1.09
55	Have a general feeling of resentment within me.	192	2.24	1.07
56	Have friends and family that I can go to for support.	192	3.90	1.23
57	Reach out to others for support	192	3.72	1.21
58	Ask for help and support from people that I know well	192	3.59	1.23
59	Make use of the support that friends and family provide me during difficult times.	192	3.75	1.17
60	Talk to someone close to me about my problem	192	3.63	1.18
61	Receive support from my friends and family.	192	3.86	1.14
62	Make a deliberate choice to survive this situation.	192	3.76	1.01
63	Take responsibility for where I find myself.	192	3.94	1.01
64	Make a conscious decision to do something about the situation.	192	3.99	1.03
65	Have a “wait and see” approach.	192	2.33	1.25
66	Avoid thinking about the problem.	192	2.78	1.06

67	Hope my problems will go away on its own.	192	1.95	1.18
68	Take control of my emotions and do not allow it to overwhelm me.	192	3.91	1.14
69	Discipline my feelings and focus on what actions I should take.	192	4.00	1.07
70	Dream of a better future	192	4.24	1.02
71	Develop a vision of an improved future.	192	4.24	1.03
72	Think that my current experience will strengthen me for future difficulties.	192	4.24	1.07
73	See the positive aspects of life.	192	4.24	1.03
74	Change something negative into something positive.	192	4.03	1.13
75	Learn from my mistakes.	192	4.35	0.91
76	See the best in the situation.	192	4.04	1.10
77	Look for opportunities in the adverse situation.	192	4.02	1.13
78	Make the best of a bad situation.	192	3.96	1.12
79	Find meaning in my adversity.	192	3.89	1.17
80	See that my problems are not as bad in relation to the people’s problems.	192	3.71	1.08
81	Count my blessings.	192	4.20	1.03
82	Turn my bad experience around into something positive.	192	4.01	1.14

ANNEXURE H: LEVEL OF MINDFULNESS IN ESKOM

#	Item	N	Mean	SD
1	I could be experiencing some emotion and not be conscious of it until sometime later.	192	3.67	1.38
2	I break or spill things because of carelessness, not paying attention, or thinking of something else.	192	4.30	1.18
3	I find it difficult to stay focused on what's happening in the present.	192	4.04	1.28
4	I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	192	4.00	1.17
5	I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	192	3.81	1.16
6	I forget a person's name almost as soon as I've been told it for the first time.	192	3.10	1.36
7	It seems I am "running on automatic," without much awareness of what I'm doing.	192	4.22	1.29
8	I rush through activities without being really attentive to them.	192	4.29	1.27
9	I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	192	4.15	1.13
10	I do jobs or tasks automatically, without being aware of what I'm doing.	192	4.34	1.28
11	I find myself listening to someone with one ear, doing something else at the same time.	192	3.51	1.24
12	I drive places on 'automatic pilot' and then wonder why I went there.	192	4.69	1.27
13	I find myself preoccupied with the future or the past.	192	3.83	1.13
14	I find myself doing things without paying attention.	192	4.07	1.30
15	I snack without being aware that I'm eating.	192	4.60	1.49

ANNEXURE I ETHICS APPROVAL CERTIFICATE

2022-1090_GHREC
Ethics Approval_Signe

ANNEXURE J POPIA COMPLIANT CONSENT FORM

Appendix G - POPIA compliant consent.do

ANNEXURE K E-MAIL DISTRIBUTED TO PARTICIPANTS

FW_ UFS- SURVEY FOR FIELD STUDY.ms

ANNEXURE L SCIENTIFIC REVIEW APPROVAL LETTER

09-06-2022_Scientifi c Review_201743169

ANNEXURE M DECLARATION OF EDITING LETTER

Declaration of editing 2023 MMotaung (1).p

Declaration of editing 2024 MMotaung.pdf

ANNEXURE N PERMISSION TO SUBMIT

_CAUTION_EXTERNA L EMAIL_ Permission t