Mental health is a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention

By

Munira Wadiwalla

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Supervisor: Prof Bonginkosi Chiliza

Co-Supervisor: Dr Nokulunga Shabalala

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Declaration

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Dedication

Mum, my heartbeat, this is for you.

Abbreviations

BREC – Biomedical Research Ethics Committee

BRS – Brief Resilience Scale

CAMS-R – Cognitive and Affective Mindfulness Scale - Revised

COVID-19 – Coronavirus Disease of 2019

DOH – Department of Health

HPCSA – Health Professions Council of South Africa

ICD –International Classification of Diseases

IQR – Interquartile Range

KEH – King Edward Hospital

KZN – KwaZulu-Natal

MBI – Maslach Burnout Inventory

MBI – Mindfulness Based Intervention

NHRD – National Health Research Database

NHREC – National Health Research Ethics Council

OBI – Oldenburg Burnout Inventory

PWB – Psychological Well-being

SA – South Africa

SD – Standard Deviation

SPSS – Statistical Package of Social Sciences

TA – Thematic Analysis

US – United States of America

UK – United Kingdom

UKZN – University of KwaZulu-Natal

WEMWBS – Warwick Edinburgh Mental Well-being

WHO – World Health Organization

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Abstract

Medical interns are susceptible to psychological harm; there is significant research evidence that affirms resilience can be beneficial to mitigating psychological distress experienced. Literature related to resilience of healthcare professionals tended to overlook the mental well-being of medical interns during their internship training. It is therefore important to understand how the hospital environment influences the development of resilience in interns. Resilience refers to an individual being able to return to a state of emotional stability after having experienced trauma. Studies suggest the need for supportive interventions being available to healthcare professionals. Interventions are more effective if they are designed to serve the needs of a specific group of healthcare professional. For the purposes of this study, psychological well-being (PWB) is encapsulated into components, namely burnout, resilience and mindfulness.

The purpose of this study is to explore the relationship between the PWB, burnout and resilience of medical interns. Interns participated in an eight week online mindfulness course to understand further insight into mindfulness practice and the affect that it can have on their PWB. A mixed-method study design using methodological triangulation was employed. Medical interns at state hospitals from year 1 and year 2, namely from Addington, King Edward VIII , R.K. Khan, Prince Mshiyeni and Wentworth state hospitals in eThekwini, KwaZulu-Natal (KZN), were sampled as these hospitals offered a high intake for internship training.

The study consisted of three phases; the initial phase consisted of questionnaires, followed by semi-structured interviews and lastly, the appropriateness of an online Mindfulness course. Questionnaires assess the PWB, perceived levels of burnout and resilience of medical interns. Semi-structured interviews explored medical interns' experiences during their internship training and investigated the psychological support offered and/or utilised by interns. Lastly, the online Mindfulness course for an eight-week duration gathered pre-test and post-test data.

Information gathered from this study will be used to inform decision-making changes to better the internship experience of interns. The medical fraternity could look into developing a sustainable support structure for interns to have throughout their internship

journey. The data for the study was collected online due to the circumstances of the current global pandemic, COVID-19. Mindfulness techniques learnt during internship assists in maintaining a positive PWB, which interns can apply to their medical career thereafter.

Keywords: Medical Interns, Internship, Psychological Well-being, Burnout, Resilience, Online Mindfulness Course, Psychological Support, South Africa

CHAPTER 1: INTRODUCTION

1.1 The mental health landscape of medical professionals

A medical career perceived to be one of gratification and fulfilment (McKinley et al., 2020). South Africa's healthcare system has been shaped by the history and hardships of the country's people (Coovadia et al., 2009). Medical professionals are at the forefront in maintaining the health of people, yet they neglect their own health, more so their psychological well-being (PWB) (Kalaitzaki, Tamiolaki & Rovithis, 2020). The workforce is compelled to deal with the pressures of a dilapidated healthcare system and the pressures that come with being a medical professional. In light of the unprecedented global pandemic, COVID-19[1] the mental health of medical professionals has received more attention than previous years (Holmes et al., 2020; Shechter et al., 2020). The global pandemic has highlighted the strains that healthcare personnel are faced with. Under-reporting their mental health problems potentially leads to a greater risk to their health and the patients they serve (Schattner, Davidson & Serry, 2004; Shadbolt, 2002; Markwell & Wainer, 2009; Willcock et al., 2004). Taking cognisance of the duties and responsibilities that come with being a medical professional alludes to the relatively enduring levels of burnout experienced. Clinicians hold feelings and emotions which are highly influenced by their duties and responsibilities (Joshi et al., 2020). Each individual reacts to stressors differently, and medical professionals are no different (Vinker et al., 2020). A study on 295 Taiwanese medical interns found that there is a significant relationship between factors affecting the quality of life of medical interns[2] during their internship training (Lin et al., 2019). Interns are frontline workers at the helm of the medical profession as all medical professionals begin their medical career as an intern. Interns' quality of life decreased as their internship progressed over

[1] The Coronavirus disease of 2019 is an illness that affects the respiratory system of a person. It was considered a global pandemic, affecting people around the world and commonly referred to as COVID-19. https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus

[2] 'Medical interns' is a term given to newly qualified doctors serving their postgraduate year - either year 1 or year 2 of internship. Interns are exposed to performing the duties of a doctor, under the controlled supervision of doctors with years of experience in performing medical procedures.

time and one of the many factors causing this was that interns became affected by their patient's condition (i.e. they experienced symptoms of burnout as their patient had displayed similar symptoms).

Life before internship training is vastly different to life during internship training (Abdulghani et al., 2014). Interns had not been exposed to working shift hours, had not been on-call, had not been sleep deprived or experienced the mental fatigue that accompanies working shift hours of long duration. Junior doctors[3] had alarmingly worrisome levels of burnout and that they described their transition from medical student to a healthcare worker to be that of a journey encapsulated by relative deprivation in all aspects of human functionality. Minimal support by supervisors during internship (i.e mentoring) and the limited hospital resources (i.e staffing relations, emotional support and shift hours) were found to contribute to the burnout experienced (Naidu et al., 2019). A study by Carlsson et al. (2020) encapsulated 12 Swedish junior doctors' experiences during their medical internship, and highlighted that the shift in transitioning requires them to be more independent and make decisions on their own pertaining to their patients' healthcare. From mental fatigue to taking an emotional and physical toll on body functioning (Sturman et al., 2017). Studies have deliberated the likelihood that mental health could further deteriorate if action is not taken to support the well-being of medical interns (Forbes et al., 2020; Hsu & Marshall, 1987; Lindeman, 1996; Tyssen et al., 2000). McCullough and Van Hamel (2020) discuss that support needs to be given to newly qualified doctors to allow for their PWB to be maintained and so that they can swiftly adjust to the workplace. Interns' experience during internship[4] training sets the precedence for continuing to pursue a career in the medical field (Starmer, Frintner & Freed, 2016). Similarly, Hockey et al. (2020) report that the trainee doctors[5] become apprehensive to remain in the medical profession due to them experiencing emotional complexities. Medical interns have

[3] A term used interchangeably with medical interns or trainees in identifying newly qualified doctors.
[4] Internship is defined as the period of duration for an intern to practice medical procedures as stipulated by the medical body registered with the Health Profession Council of South Africa.
[5] Term used interchangeably to describe newly qualified doctors who are learning medical procedures and gaining experience within the hospital context.

reported to have become perturbed by their working environment (Grote, Raouf & Elton, 2012). Junior doctors' emotional health has been reported to have been negatively affected by the healthcare context (Markwell & Wainer, 2009; Parr et al., 2016; Tong et al., 2012). Several studies highlighted the need for specified support to be provided to medical professionals, and that interventions are needed to address the psychological, emotional and contextual[6] needs of medical professionals in healthcare (Dubale et al., 2019; Liebenburg et al., 2018; Roth et al., 2019; Shechter et al., 2020; Vinker et al., 2020).

Studies on the PWB of interns have focused on the determinants contributing to stress, burnout and symptoms indicative of the onset of depression (Naidu et al., 2019; Liebenberg et al., 2018; Rossouw et al., 2013). Studies have noted the relationship between the mental health of doctors and the coping strategies[7] that have been used to remedy negative emotions (Dubale et al., 2019; Riley et al., 2017; Wald, 2020). A study in the United Kingdom (UK) conducted in 2016 illustrated the relationship between resilience, burnout and coping strategies in a sample of 1651 doctors. The study found that 31.5% of the sampled doctors experienced high levels of burnout (McCain et al., 2018). In addition, it was reported that the level of resilience attributed to the burnout experienced. Literature explains resilience to be the potential to positively recover or "bounce back" from negative circumstances (McKinley et al., 2019; Strümpfer, 2003; Wald, 2020). Bahar et al. (2020) stated that it is important for healthcare professionals to maintain their psychological resilience during the COVID-19 pandemic so that they are able to serve their patients. Several studies recommend that future support interventions for medical professionals should incorporate resilience training as the skill demonstrates qualities of a shielding nature (Leppin et al., 2014, Polizzi et al., 2020; Rossouw et al., 2013). There is a need to develop strategies to

[6]The hospital context working environment consists of factors contributing to the experience that medical doctors have within the medical fraternity.

[7] Coping strategies are techniques used by a person to reduce and minimise unwanted effects of circumstances that bring about the negativity a person is feeling. Coping strategies vary according to the situation.

enhance the resilience of medical professionals (Vinkers et al., 2020; Wald, 2020; Wiig et al., 2020).

Internationally, various studies have reported the relationship between mental health and the PWB of doctors and physicians alike (Chandramouleeswaran et al., 2014; Diller et al., 2019; Hayes et al., 2017; Somsila et al., 2015). A study by Liebenberg et al. (2018) found that 81% of medical doctors serving in Cape Town district hospitals were burnt out. The study cited that an increased workforce of medical doctors and improved working conditions would minimise the burnout. Similarly, a study by Rossouw et al. (2013) reported that on the MBI inventory 76% of doctors experienced being burnt out due to their workload, assigned shift hours and working conditions. Over time, research in South Africa has focused on the learning environment of internship training and the preparedness of medical interns to work in the healthcare context (Naidoo, Van Wyk & Adhikari, 2018; Nkabinde et al., 2013; Ross, Naidoo & Dlamini, 2018; Yiga et al., 2016). A study by Ross et al. (2018) focused on a single site hospital in KwaZulu-Natal (KZN) reporting that medical interns were prepared to perform medical procedures and adhered to the prescribed Health Professions Council of South Africa [HPCSA] regulations in working extra hours. Research by Nkabinde et al. (2013) on community service medical officers reported that 75% of medical officers perceived their internship training programme to have adequately prepared them for community service but also cited that they did not develop the finer specialised skills within the internship period. Doctors with greater years of experience working in the medical fraternity and doctors who scored high on the Connor-Davidson Resilience Scale illustrated high levels of resilience (Rossouw et al., 2013). They had experienced minimum burnout due to their achieved scores in the emotional exhaustion and depersonalisation domains of the MBI scale (Rossouw et al., 2013). Little is known about the relationship between the PWB and resilience of medical interns in KZN. Carlsson et al. (2020) reports that medical interns' experiences during their internship training were not sufficiently explored, and therefore warrant further exploration.

The study addresses the gap in research by investigating the relationship between PWB, burnout and resilience of interns at KZN state hospitals during internship training. There existed paucity for research to be conducted on the PWB of medical interns to inform the acceptability of mindfulness techniques to improve the PWB of interns who

undergo internship training in KZN. Resilience of interns is the grounding force that attributes to them continuing their careers in the healthcare fraternity (Winkel et al., 2018). Health and well-being of medical interns are of utmost importance (Rahimi et al., 2014), and in light of them being future medical professionals, their well-being should be researched further.

1.2 Research aims and objectives of the study

The overall aim of the study is to explore PWB, resilience and burnout of medical interns in eThekwini, KZN. Through the process of engaging with medical interns, an understanding of their PWB was gathered, and the support offered to, and used during their internship journey. In addition, the aim was to understand how medical interns are psychologically supported during their internship training.

Specific Objectives:

1. To investigate the rate of burnout of medical interns at state hospital sites in eThekwini, KZN.
2. To investigate the differences in the rate of burnout experienced between year one and year two medical interns.
3. To understand the level of resilience of medical interns at state hospital sites in eThekwini, KZN.
4. To understand the level of resilience development between year one and year two medical interns.
5. To understand the PWB of medical interns during their internship.
6. To investigate the relationship between PWB, burnout and resilience of medical interns in eThekwini, KZN.
7. To understand how medical interns conceptualise their PWB and resilience.
8. To investigate the psychological support provided during internship and how medical interns perceive psychological support within healthcare.
9. To investigate how the PWB of medical interns determines the type of support intervention used.

10. To investigate the benefits of a mindfulness technique in improving the PWB and resilience of medical interns.

1.3 Research questions

In alignment with the above-mentioned objectives, this study proposes to answer the following research questions:

1.3.1 Phase 1: Surveys

i. What is the rate of burnout of medical interns at state hospital sites in KZN?
ii. What is the difference in the rate of burnout experienced between year one and year two medical interns?
iii. What is the level of resilience of medical interns at state hospital sites in KZN?
iv. What is the level of resilience of year one and year two medical interns?
v. What is the PWB of medical interns during their internship?
vi. What is the relationship between PWB, burnout and resilience amongst medical interns in KZN?

1.3.2 Phase 2: Semi-structured interviews

i. How do medical interns conceptualise their PWB and resilience?
ii. What psychological support is provided during internship and how do medical interns perceive psychological support within healthcare?
iii. How does the PWB of medical interns determine the type of support intervention used?

1.3.3 Phase 3: Online Mindfulness course

i. How beneficial is a mindfulness technique in improving the PWB and resilience of medical interns?

1.4 Ethical considerations

This study was approved by the Biomedical Research Ethics Committee[8] (BREC) of the University of KwaZulu-Natal (UKZN) (BREC 00003552/2021) and the KwaZulu-Natal Department of Health (KZ_202111_029).

1.5 Type of study and method

The study consisted of triangulation of methods, quantitative and qualitative, beginning with a survey completed by medical interns during **Phase 1: Surveys,** to participating in semi-structured interviews in **Phase 2: Semi-structured interviews**. Lastly, **Phase 3: Online Mindfulness course** was used by interns gathering quantitative pre- and post-test data over the duration of eight weeks.

1.6 Key terminology

1.6.1 Intern

"The intern in medicine is, of course, not yet a doctor (medical practitioner)" (Health Professions Council of South Africa [HPCSA], 2022, p.51). An intern is newly graduated from medical school and serving internship training under the supervision of qualified medical doctors with the assigned name "trainee doctor" (HPCSA, 2022, p.51). According to the handbook for internship training, the only agreed time when an intern can refer to themselves as a medical practitioner is when they are signing off documentation (HPCSA, 2022, p.55). For the purposes of the write-up, interns have interchangeably been referred to as medical interns, interns, trainee doctors and junior doctors.

[8] A research body that encapsulates biomedical and social research at the University of KwaZulu-Natal (https://uni24.co.za/ukzn-brec-application/).

1.6.2 Psychological well-being

PWB relates to an individual's own sense of ability in conceptualising their difficulties, unity with other individuals, support from colleagues and resilience, as well as self-esteem (Trudel-Fitzgerald et al., 2019). The well-being of an individual consists of their self-esteem, confidence and external perceptions or opinions from people within their immediate surroundings (Trudel-Fitzgerald et al., 2019). Over time, the PWB of an individual develops through social interactions, emotional feelings experienced, personality traits and circumstances experienced in life (Liebenberg & Roos, 2008). Furthermore, PWB can be influenced by several factors: environment mastery, personal success, attainment of goals, meaningful direction towards life, autonomy, favourable interpersonal relationships with people and self-acceptance and acknowledgment of what one has achieved in life thus far (Liebenberg & Roos, 2008; Steyn & Roux, 2009). These conceptualisations of PWB are similar to that of Edwards et al. (2004) who stated that our personal, interpersonal, contextual factors and the changes across our lifespan contribute to our PWB.

1.6.3 Burnout

According to the International Classification of Diseases 11th revised edition (ICD-11), burnout is not classified as a medical condition that an individual is diagnosed with but rather states that it is an occupational phenomenon. Burnout is not an illness or a health-related condition but it is the diminished state of mind as a result of workplace stressors which have not been managed well. The ICD-11 revised handbook provided criteria for a diagnosis of burnout commonly termed as "occupational phenomenon", including: feelings of energy depletion or exhaustion; increased mental distance from one's job or feelings of negativism or cynicism related to one's job; and reduced professional efficacy. The ICD-11 provides this diagnosis of burnout (occupational phenomenon) solely related to the workplace context and not to other aspects of an individual's life (Departmental News, 2019). Similarly, according to the World Health Organization's (WHO) adapted definition of burnout, burnout is to be defined as a health condition that results from an individual poorly managing their stress within the workplace, and that it is due to the stress experienced that they develop the syndrome of burnout (WHO,

2019). An individual experiences stress on a continuous basis within the work context and due to them being unable to manage, cope or remedy the stress of the workplace, they experience burnout.

1.6.4 Resilience

Literature has varying conceptualisation of how the concept resilience is defined as there is no definite explanation of the concept. To assist in conceptualising resilience several definitions will be explored to create a holistic understanding of concept. According to the psychological perspective, resilience is understood to be the ability that an individual possesses to adapt to difficulty they may have experienced within their environment, such that their PWB improves (Hjemdal, 2007; Newman, 2005; Rutter, 2006; Stevenson et al., 2011; Wiig et al., 2020). It is the capability that an individual has to cope, recover from a failed situation and be mindful that they will overcome the hardship they are faced with (Bharti, 2020; Epstein & Krasner, 2013).

However, Howe et al. (2012) mention that an individual need not have acquired the trait of being resilient, but rather that over time has learnt, shaped and mastered the skill of being resilient. Resilience is developed over time. To be resilient requires an individual to have persevered through their failures despite the obstacles and challenges in their path and to have turned their failures into successes ultimately achieving their end goal (Bharti, 2020; Soer et al., 2019; Wagner & Pather, 2019). Resilience of an individual is strengthened by the use of positive coping mechanisms (Rutter, 2006). An individual is able to bounce back from a negative situation by remedying the effects of the adversity and adapting accordingly (Bharti, 2020; Georgoulas-Sherry, 2020). For the purposes of this study, resilience will be deemed as a personal trait that an individual has to adjust to, recover from or bounce back from a circumstance that is considered as an adversity to them. In addition, the individual is able to manage their respective negative emotions and feelings and return to a state of healthy well-being (Georgoulas-Sherry, 2020; Smith et al., 2008).

1.6.5 Mindfulness

Mindfulness is referred to as an individual being open-minded, accepting and appreciative of every experience in their life by holding meaning to a moment in time. Mindfulness is the process of enhancing one's focus on intentionally giving attention to the moment in time and welcoming change by learning to adapt in a healthier way to a situation that disturbs one's emotional state of equilibrium (i.e. level of happiness) (Conversano et al., 2020). Mindfulness encapsulates the understanding that an individual is purposely focusing their attention in-depth on their immediate surroundings and at a level of alertness to comprehend the activities taking place in close proximity without holding any prejudices (Catalano et al., 2019; Conversano et al., 2020).

1.7 Chapter outline

The thesis consists of eight chapters. **Chapter 2** begins by unpacking key concepts and thereafter draws attention to the learning journey travelled by medical interns at the commencement of internship training. It then shifts to discuss the context of internship in South Africa (SA). At the time of the study, the country became affected by the global pandemic of COVID-19 and the researcher therefore discusses the effect that COVID-19 has had on doctors, both internationally and locally. The importance of internship training is discussed thereafter, as well as the power dynamic that exists between young doctors and their seniors in the hospital context. PSW of medical interns is unpacked with a specific mention of burnout experienced and the coping strategies used by doctors. The importance of resilience and resilience in the life of doctors is explained. The researcher also discusses the technique of mindfulness practiced by doctors.

Chapter 3 presents the theoretical framework that underpins this research study. The Ecological Systems Theory is used to make sense of the PWB of interns holistically (Kendler, 2008). As discussed by Eriksson et al. (2018), understanding the individual's mental health according to the microsystem, mesosystem, macrosystem and chronosystem assists in understanding the external factors within their immediate

environment which attribute either negatively or positively towards their PWB. The theory encapsulates the professional resilience displayed by medical professionals. Ryff's Psychological Well-being Model is further used to propose mental outcomes linked to interns' working environment and their experiences during internship training.

In **Chapter 4**, the researcher elaborates on the research process. The chapter outlines the research design, the methodological triangulation methods used (questionnaires, semi-structured interviews and focus group chat) and why these were used. The researcher was restricted in terms of how much detailed information she could provide in respect of demographic characteristics. This is due to the sample being from across state hospitals in KZN and some hospitals consisting of a majority or minority racial group, and therefore the plausible risk of interns being identified. The chapter also discusses the steps of the data analysis process, using Statistical Package for the Social Sciences (SPSS) programme for analysis of the quantitative data collected in **Phase 1: Surveys**, **Phase 2: Semi-structured interviews** and **Phase 3**: **Online Mindfulness course**, and the thematic analysis of the qualitative data collected in **Phase 2**, thereafter generating themes. The chapter concludes by discussing the ethical considerations.

The findings of the study are presented in two chapters. In **Chapter 5**, the researcher presents the findings of the quantitative research component, specifically, **Phase 1: Surveys**, **Phase 2: Semi-structured interviews** socio-demographic information and **Phase 3: Online Mindfulness course**. These findings show that resilience plays a significant predictive role in the burnout experienced by interns. Furthermore, mindfulness techniques play a significant moderator role in the association between PWB of interns and their working environment. In **Chapter 6**, the researcher presents the findings from the qualitative research component in **Phase 2: Semi-structured interviews**; specifically, the themes and sub-themes extracted from the semi-structured in-depth interviews, namely "transition from medical school to medical doctors", "COVID was and is like a war zone", "deteriorating mental health issues during internship", "helplessness and hopelessness related to the internship journey" and "the coping strategies used by medical interns".

In **Chapter 7**, the researcher presents the discussion of the findings, a synthesis of both quantitative and qualitative research findings. The researcher initially begins by

discussing the titled conceptual theme “Ready set go!” which encapsulates the sub-themes; transitioning to the doctor and preparedness to perform medical duties; the themes “Rite of passage” for the junior doctors in the white coats followed by fighting on the battlefield: COVID is a war-zone, and furthermore, the statement shared “COVID is our baby” that explores how interns have had to adapt in a global pandemic. Lastly, the dreaded task shared by interns - “Death is inevitable” - is explored. The chapter then moves to discuss the theme “Helplessness and Hopelessness: What do I do?” which forms the backbone of this research as it illustrates the burnout crisis experienced by medical interns in KZN. The chapter puts a sharp focus on discussing the titled theme: “They are open to everything but not mental health”, which addresses the analogy of medical interns reaching their boiling point and the mindfulness intervention utilised by interns in Phase 3. As the chapter draws to a close, a summary is provided on the culmination of data gathered throughout the study, from Phase 1 to Phase 3.

Chapter 8 offers a concluding discussion, outlines the potential limitations of the study and makes recommendations for future studies.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Dr Moeti (World Health Organisation, 2022) said: "*Mental health is integral to wholesome health and well-being yet far too many people in our region who need help for mental health conditions do not receive it. It's time for radical change*". South African doctors are faced with having to deal with the burnout crisis and the ramifications of a workforce consumed by experiencing burnout (Beseck, 2019; Lemaire, 2017). Internship training is considered to be the most influential period of time in the life of a doctor and literature has affirmed that interns experiencing unpleasant internships are at risk of prematurely shortening their careers or exiting the medical realm (Ripp et al., 2011; Sinsky et al., 2017). Bullock et al. (2013) assert that "team members can provide a supportive working environment for the new doctor, hierarchies also exist" (p. 369). Medical trainees are more susceptible to experiencing burnout due to them being young and fairly new to the hospital environment (Sun et al., 2019). For the mental health of medical personnel to be protected, Ho et al. (2021) advocate that resilience methods be encouraged among the healthcare team. Due to the fast-paced environment that interns find themselves in, Galbraith et al. (2021) affirm that mindfulness techniques would be suitable for interns to practice due to the flexibility that mindfulness offers.

2.2 *"Taking the leap of faith"*: Transitioning to be a doctor

Medical professionals are tasked with the duty of providing healthcare in a fast-paced, driven environment (Bullock et al., 2013). Transitioning between the role of medical student to newly graduated doctor serving an internship is depicted as a life-changing but fundamentally important shift in the career path of a medical doctor. As Bullock et al. (2013) discuss, the unfamiliar working environment of internship can result in the deterioration of interns' mental health. Interns embark on their internship training for them to become familiar with performing medical procedures. Under the watchful supervision of medical professionals with years of experience accumulated in performing healthcare procedures, interns master their medical skills. However, as Bullock et al. (2013) mention, the supervision provided to interns is not necessarily face-to-face but "doctor working the night shift may be a telephone call away" (p.369). Holistically, reviewing the organisational support and individual methods of coping within the hospital context makes for a smooth

transition into internship training. Establishing firm communication networks ensures improved well-being of healthcare workers, as Jagiasi et al. (2021) assert, “developing a good culture and team spirit; good communication and relationships with seniors and team members will never allow these psychological problems to develop among healthcare workers” (p.480).

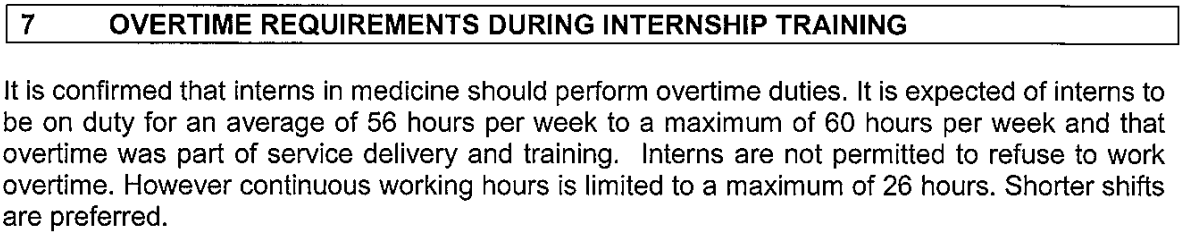
2.3 “Handbook on Internship Training 2022” by HPCSA (2022)

The Health Professions Council of South Africa (HPCSA, 2022) has made it mandatory for medical students studying medicine in South Africa to complete a two-year internship training at a healthcare facility accredited with the Department of Health after graduating from medical school (Erasmus, 2012). The internship training programme allows newly graduated doctors to demonstrate their theoretical understanding, and transition from being medical students (Erasmus, 2012; Moore, O’Brien & Thomas, 2020). Interns reported that their medical knowledge learned during medical school, communication skills and ability to perform medical procedures enable them to cope during their internship (Draper & Louw, 2012). Interns further added that an internship is a time in which they can continue to learn and gain valuable experience, guidance and support from other trained professionals within the healthcare context (Bola, Trollip & Parkinson, 2015; Draper & Louw, 2012).

Interns begin to establish confidence in themselves to be able to deliver quality healthcare services and develop in their career as their confidence strengthens through the support and supervision received by professionals during their internship (Sitobata & Mohammadnezhad, 2022). The HPCSA (2022) asserts that interns are required to train in the different fields of medicine, namely a three-month duration in general medicine, general surgery, paediatrics, obstetrics and gynaecology during their first year of internship (HPCSA, 2022, p.3). Furthermore, during their second year interns are required to serve two months of training in anaesthesiology, orthopaedics and psychiatry. Lastly, interns conclude their second year of internship with six months of training in family medicine (HPCSA, 2022, p.3). As stipulated by the HPCSA (2022), interns are to receive supervised training in the fields of medicine and not be tasked with administrative work: “please ensure that interns are not used purely for administrative work but would benefit from the clinical experience offered by these divisions” (p.4). The HPCSA (2022) asserts that medical interns are to avail themselves and work additional hours, so-called overtime, and that interns cannot object to being asked to work overtime: “interns are not permitted to refuse to work overtime” (HPCSA, 2022, p.5).

The excerpt from the HPCSA *Handbook on Internship Training 2022* illustrates the defined overtime criteria for interns (p.5).

Figure 1 Excerpt illustration of overtime requirements

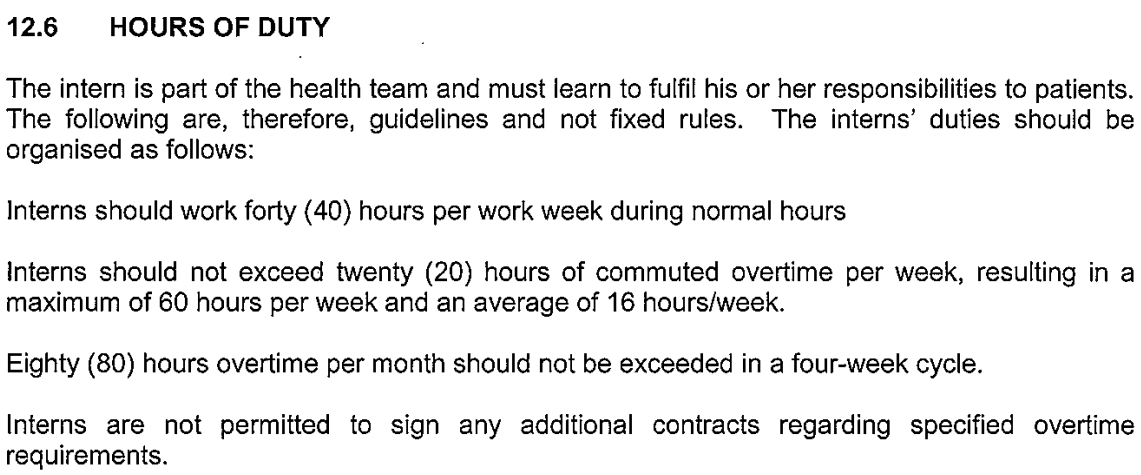


7 OVERTIME REQUIREMENTS DURING INTERNSHIP TRAINING

It is confirmed that interns in medicine should perform overtime duties. It is expected of interns to be on duty for an average of 56 hours per week to a maximum of 60 hours per week and that overtime was part of service delivery and training. Interns are not permitted to refuse to work overtime. However continuous working hours is limited to a maximum of 26 hours. Shorter shifts are preferred.

Furthermore, the HPCSA (2022) provides a detailed outline regarding the hours of duty expected by medical interns. This is illustrated by the excerpt provided from the HPCSA *Handbook on Internship Training 2022* (p.14).

Figure 2 Excerpt stating the hours of duty



12.6 HOURS OF DUTY

The intern is part of the health team and must learn to fulfil his or her responsibilities to patients. The following are, therefore, guidelines and not fixed rules. The interns' duties should be organised as follows:

Interns should work forty (40) hours per work week during normal hours

Interns should not exceed twenty (20) hours of commuted overtime per week, resulting in a maximum of 60 hours per week and an average of 16 hours/week.

Eighty (80) hours overtime per month should not be exceeded in a four-week cycle.

Interns are not permitted to sign any additional contracts regarding specified overtime requirements.

2.4 Internship training life in South Africa

In 2016, a cross-sectional quantitative descriptive study conducted at King Edward VIII Hospital investigated 80 interns' perceptions of internship training. Ross et al. (2018) discussed that 41 of 80 interns, a little over 50%, perceived their internship training to be fairly positive at a single hospital site. This however is not an adequate representation of interns' perceptions regarding the internship programme. A study in 2017 looking at four main regional hospitals in the Pietermaritzburg and Durban area (Naidoo et al., 2017) focused on understanding paediatric medical interns' perceptions of the learning environment at postgraduate hospitals. The findings of the study indicated that the learning environment contributed to the choice of interns remaining to practice medicine in SA. The majority of the

interns (88.4%) wanted to continue practicing medicine in SA and a little over 70% wanted to remain serving in state hospitals. He further highlighted that the learning environment was depicted differently by interns as compared to their supervisors. Interns depicted the hospital environment to be positive and of a nurturing nature. De Vries et al. (2010) and Sinsky et al. (2017) discussed that this sets the precedence of choice for interns to pursue a career in either public or private healthcare. However, supervisors suggested differently as they shed light on the inadequate infrastructure, heavy workloads and limited supervision hours (Naidoo et al., 2017).

SA studies found that a substantial portion (88.4%) of interns preferred to remain in SA after serving their internship, as they were provided with a rare opportunity to craft their skills and align with the demands of the healthcare system (Naidoo et al., 2017; Sein & Tumbo, 2012). Sein and Tumbo (2012) highlight that the valuable supervision provided to trainees is what produces a great medical team and that opportunities during internship are endless with the support structures that comprise of hospital staffing and practical learning. Naidoo et al. (2017) brought to the fore the need for qualitative research to be conducted on the premises of understanding the interpersonal relationships that medical interns have within the hospital environment. Limited research exists on the cohesive relations between intern curators, medical officers and seniors during the internship programme.

Minimal research exists on medical interns' experiences during internship training at state hospitals in KZN, SA. Studies conducted in SA have looked at the perceptions towards, during and after (Naidoo, Van Wyk & Adhikari, 2017; Nkabinde et al., 2013, Silo, Van Deventer & Van der Merwe, 2020) internship training and on specific discipline interns from either year 1 or 2, but have not consisted of year 1 and year 2 interns together. In 2016, a descriptive quantitative research study was conducted on medical interns in Bloemfontein focusing primarily on medical interns' self-perceived readiness in performing basic medical procedures at the University Academic Health Complex (Yiga et al., 2016). The study by Yiga et al. (2016) asserts differently to that of Ross et al. (2018), as approximately 50% of the interns did not feel comfortable with having to perform specific medical procedures which were of a complicated nature. Medical procedures which were unfamiliar and not practiced regularly were less likely to be performed by interns, as they felt apprehensive to perform a procedure unknown to them. Yiga et al. (2016) highlight that medical procedures practiced often created confidence in interns that encouraged hope within them to serve within the healthcare context. However, the study was conducted at a single hospital site,

using quantitative research methods in the form of questionnaires only, and therefore does not adequately represent the greater population of medical interns in SA. A total of 61 second year interns were reported to have participated in the study (Yiga et al., 2016).

2.5 How has COVID-19 affected internship training?

"Managing your mental health and psychosocial well-being during this time is as important as managing your physical health" (WHO, p.2). The 11th March 2020 was the day that the Novel Coronavirus, commonly termed COVID-19, was declared by the WHO as a global pandemic (World Health Organization, 2020). Healthcare professionals were coping with mental health issues prior to COVID-19, but their mental health has been brought to the fore as the global pandemic increased in magnitude over time. The well-being of medical professionals has been under the spotlight but heightened awareness due to the global pandemic (Yates, 2020). Lange's (2021) findings suggest that healthcare professionals are exposed to the COVID-19 infection, exposing their health and mental well-being to traumatic experiences. Support from a colleague or close friend can be perceived as a positive mechanism to get through a period of emotional difficulty.

A study by Kendra et al. (2020) looked into understanding the extent to which interns' PWB was supported by their seniors in the United States (US). Findings indicated that interns experienced distress namely due to sleep deprivation, patient deaths, achieving an identity during training and the inadequate psychological support available. Greenberg et al. (2021) explain that the trauma they are exposed to warrants support, as at times given the nature of the infection, they are tasked with making life-changing decisions that affect their patient's life. With reference to the present global pandemic, support is seen as vitally important for the mental health and well-being of medical professionals. One cannot equate the magnitude of the COVID-19 pandemic with prior pandemics. Previous literature highlighted that during a pandemic, namely HIV/AIDS, Malaria and Ebola, relatively low problems related to mental health of individuals had been reported due to the support they had received from colleagues (Chew et al., 2020; Szkody et al., 2020). The COVID-19 pandemic places emphasis on there being social distance between individuals at all times which made it difficult for individuals to provide support. SA's medical teams have rallied the need to seek psychological support care, but it is due to the COVID-19 pandemic that the necessity has been brought to the fore. Braun et al. (2020) reiterated that now is the time (i.e. during the COVID-19 pandemic) that SA healthcare professionals, the frontline workers, be provided with the emotional support

that they need, as they are affected psychologically by the global pandemic as any other person would be.

However, as Mahmud et al. (2020) stated the mental health of medical professionals has always been negatively affected by their profession to the extent that they experience mental health-related problems, namely stress, anxiety, depression and burnout reportedly prior to the COVID-19 pandemic. This, therefore, resulted in the mental health of medical professionals being perpetuated in a negative light, warranting appropriate interventions to assist with improving the well-being of medical professionals. A systematic review of early interventions for frontline responders addressing the psychological impact of COVID-19 found that the use of resilience programmes and coping techniques was more applicable in the healthcare context (Hooper et al., 2021). The frontline healthcare workers during the present global pandemic of COVID-19 are thought to be affected psychologically by the COVID-19 virus. On 3rd June 2020, The Healthcare Worker Care Network was established amidst the global pandemic to assist healthcare workers in SA by improving their PWB and providing readily available psychological assistance (Dubale et al., 2019). Lange (2021) states that social support can serve to protect individuals from psychological issues. By strengthening peer relations, the resilience amongst individuals is enhanced further. Furthermore, it was discussed that an intervention supported by the team (i.e. in collective agreement with the support intervention) can yield favourable outcomes, namely a positive well-being.

COVID-19 has disrupted the lives of many people globally; however the group of people most affected by COVID-19 is the healthcare workers within the healthcare environment (Badahdah et al., 2020). Medical professionals work in a highly pressurised environment, which can adversely affect their PWB over time (McKinley et al., 2020). The PWB of doctors should be prioritised and considered a matter of urgency, as doctors are the driving force behind the healthcare team. Mahmud et al. (2020) conducted a cross-sectional quantitative research study assessing the immediate psychological effect, namely acute stress, depression and anxiety caused by the COVID-19 pandemic, on doctors at Dhaka Medical College Hospital. The study reported that 50% of the doctors displayed acute stress, depression and anxiety symptoms. In addition, the study found that 51.17% of the doctors had experienced insomnia issues. Doctors required an improvement in their working conditions as well as assistance in strengthening their well-being. Mahmud et al. (2020) make

the recommendation that there be an introduction of an intervention such as a programme "aimed at empowering resilience and psychological well-being" of doctors. Indicative of the suggestion by Mahmud et al. (2020), during the third phase of the study medical interns were introduced to an online Mindfulness course, which will be discussed in the chapters to come. It is perceived that if the resilience of medical professionals is strengthened then avertedly there would be an improvement in their PWB.

A study on the well-being of 509 physicians and nurses healthcare workers in Oman during the COVID-19 pandemic found that a large proportion (74.1%) of healthcare workers had experienced mild forms of anxiety. Furthermore, 16% of the healthcare professionals reported to having experienced depression throughout the COVID-19 pandemic. The PWB of the medical professionals was relatively poor (Badahdah et al., 2020). During the global pandemic of COVID-19, studies reported there being a greater prevalence of stress, anxiety and poorer PWB in young female healthcare professionals as compared to their male colleagues (Badahdah et al., 2020). Healthcare workers have varying levels of resilience. Healthcare workers that present with psychological issues are able to adapt and return to a state of psychological normality on the premise of their resilience (Greenberg et al., 2020).

2.6 "Healthcare professionals are frequently affected by burnout" (Torre et al., 2021)

Healthcare workers have shifted their focus from their mental well-being to that of prioritising the delivery of medical care (Mollica et al., 2021). Providing healthcare to people is seen as a task which a few can diligently provide without being negatively emotionally affected by their professional roles and responsibilities (Bullock et al., 2013). The hospital environment introduces interns to the "emotional burden of the role" of carrying the responsibility of serving the community as well as becoming accustomed to an unfamiliar role of a doctor (Bullock et al., 2013, p.370; Jagiasi et al., 2021). Working in the healthcare fraternity has positive and negative attributes, and as Lai et al. (2020) discuss, individuals working in the position of frontline workers tend to be susceptible to experiencing poorer mental health as their profession places them in harm's way and possibly makes them susceptible to contracting COVID-19. According to Johnson and Lazarus (2008), the PWB of an individual is directly influenced by resilience, and the use of the concept can aid in understanding the PWB of the individual. For the purposes of this study, well-being will be defined as the positive psychological frame of mind of an individual in which they are able to positively manage external stressors (i.e. workplace and surrounding context issues) and

categorises their quality of life as being a healthy space promoting growth and self-actualisation, and not one that attributes negative emotions.

A thematic review found that several factors contributed to the PWB of healthcare workers, namely inadequate social support from peers, highly pressured working environment, unhealthy coping mechanisms and low levels of resilience (Philip & Cherian, 2020). Positive psychology has been used to conceptualise and explain the well-being of an individual. It is the ability that an individual has to recover from a situation of adversity and restore their positive attitudes ensuring emotional equilibrium is maintained (i.e. being able to cope in stressful situations as they utilise coping techniques to minimise negative emotions). According to Seligman and Csikszentmihalyi (2000), when they initially discussed the conceptual understanding of positive psychology, they stated that it is where a person is faced with challenges that they need to overcome and as a result of doing so they have had to strengthen their skills by adapting to the situation. Therefore, this adds valuable imperative life skills to their life. It is that decision of accepting the problem they are faced with, processing and taking the corrective (positive) approach to managing the problem efficiently. A study by Jagiasi et al. (2021) attributes the well-being of healthcare workers to be determined by the level of social and emotional support provided in their workspace. A total of 41.4 % healthcare workers had experienced anxiety, and 31.3% had experienced insomnia issues. Furthermore, the study found that healthcare workers working additional hours than their regular shift and the rapid change in COVID-19 procedures attributed to the poor mental well-being of healthcare workers (Jagiasi et al., 2021).

Shaw (2020) reported that UK doctors in training experience feelings of helplessness and hopelessness as they go through their training year. Sharing these sentiments, Prentice et al. (2021) echo that there is limited research that addresses the conceptual understanding of well-being for medical trainees. They also brought to the fore the need for qualitative research to be conducted with the hope to ascertain further understanding of medical trainees' well-being in the different rotations served in internship. In a scoping review by Seifman et al. (2020) on the impact of COVID-19 on junior doctors' education and training, it was found that junior doctors' training was impacted by COVID-19 as the learning model shifted from in-person clinical activity to online learning sessions. However, notably there was an increase in time spent conducting research on medical cases. Seifman et al. (2020, p.8) affirm that trainees had "experienced significant reductions in their clinical exposure, thus negatively impacting

their quality of their education in their specific area of training". A cross-sectional, online survey study by Torrente et al. (2020) found that 60.8% of female health professionals (p=0.016) had higher levels of burnout compared to male healthcare workers. It was understood that healthcare professionals between the ages of 20 and 30 years were the most burnt out (65.2%, p=0.026).

Burnout is defined as the negative psychological state than an individual experiences and later develops due to the frequency of exposure to adversities and stress for a long duration of time (Mäkikangas & Kinnunen, 2016; Maslach et al., 1996). Generally medical professionals experience stress related to their line of work which gradually culminates in and leads to burnout experienced (Bakker, 2009; Maslach & Leiter, 2008: Nur & Anuar, 2020). During medical training, the likelihood of medical interns experiencing burnout is anticipated however interns make use of their own coping mechanisms and minimise the burnout experienced (Bazmi, 2019; Lemaire & Wallace, 2017; Winkel et al., 2018). Individuals who experience burnout tend to suffer the consequences of burnout which are health-related issues (Leone et al., 2008; Melamed & Shirom, 2006; Schaufeli, 2003) such as fatigue and insomnia (Armon, 2009). The most common symptoms of burnout which have been researched in literature are emotional exhaustion, depersonalisation and lack of personal accomplishment (Gorji, 2011; Maslach & Jackson, 1981; Maslach, 2001; Peterson et al., 2008). These symptoms together encapsulate what is understood when an individual is experiencing and coping with burnout.

Emotional exhaustion is used to describe the feeling of having depleted energy levels to the extent where an individual believes that they can no longer function at their optimum emotionally and physically (Abidi et al., 2014; Nagar, 2012; Peterson et al., 2008). Depersonalisation is defined as an individual feeling a sense of detachment from the work that they do. An individual can develop depersonalisation over time and this could be due to several reasons such as the feeling of being unrecognised for the duties they perform, perceived notion that they are inadequately skilled to perform the duties within their profession, lacking the self-confidence and self-esteem and having a displaced illusion that compared to their colleagues, they are not meeting the standards within their profession (Janssen et al., 1999; Maslach et al., 1996; Maslach, 2001). The lack of personal accomplishment refers to an individual not feeling fulfilment, satisfaction and contentment in

their profession such that any accomplishment that is obtained or reached successfully is not perceived as an accomplishment to the individual (Maslach et al., 1996).

Hyman (2021) advocates that research should focus on identifying specific methods of practice that will either reduce or prevent burnout from being experienced. Burnout experienced by medical interns varies according to the respective departments of medicine specialties in which interns train (Hyman et al., 2011; Low et al., 2019; Martini et al., 2004). A study in the US focused on the relationship between the varying departments of speciality residents and the burnout rates experienced by the residents. Qualitative research methods were adopted for the study, and the Maslach Burnout Inventory (MBI) was emailed to all the residents and interns serving their internship training at Wayne State University School of Medicine. The participants' background of medicine practice varied, namely dermatology, obstetrics, surgery, internal and family medicine, ophthalmology and psychiatry. Despite a relatively low response rate to the questionnaire of 35%, the results of the MBI inventory reported that approximately 50% of the residents had met the criteria of being diagnosed with burnout. The burnout percentage scored for medical interns ranged between 27% and 75%, of which the family medicine department scored 27% and obstetrics department scored 75% respectively. The burnout percentage increased across the specialty departments (Martini et al., 2004). The study found that there was a strong correlation between being a first-year resident serving their internship training and the heightened levels of burnout experienced despite the measures implemented in the training programme (i.e. controlling the hours/duration of work). Approaches to minimising burnout need to be evaluated so that the internship environment is one of comfort, growth, encouragement and harmony (Martini et al., 2004).

The internship year is commonly known to be a stressful period for newly qualified doctors, as they apply their theoretical knowledge to practical realities of life, serving healthcare to the people. In a study conducted on a single-site cohort of medical interns from the University of Pennsylvania School of Medicine in Philadelphia (Rosen et al., 2006) during the years 2002 and 2003, the relationship between sleep deprivation, mood disturbances, empathy and burnout amongst medical interns at the start and conclusion of their internship training was investigated. The study arises from a greater study that focused on investigating the effects of contributing factors on the medical interns' sleep patterns during their internship training. Approximately 47 medical interns participated in the longitudinal

quantitative research study and completed the following questionnaires at the start of internship training: Epworth Sleepiness Scale (ESS), Beck Depression Inventory-Short Form (BDISF), Interpersonal Reactivity Index (IRI) and the Maslach Burnout Inventory-Human Services Survey (MBIHSS). A study by Rosen et al. (2006) demonstrated the significant spike in burnout rates experienced by medical residents, as at the initial start of the study only 4.3% reported to having high levels of burnout. At the end of the residency, 55.3% of residents had reported having higher levels of burnout (Rosen et al., 2006). Serving in the residence programme merely escalated the existing internal rates of burnout present (Rosen et al., 2006). Internship further restricts the hours of sleep that interns have and the development of job stressors that alter the mood of the intern, leading to depression and burnout as they progress through their internship. This finding appears to echo what existing SA research had indicated on burnout rates of medical professionals would be, in that the burnout rate ranged relatively between 8% and 31% (Groenewald et al., 2020; Liebenberg et al., 2018; Stassen et al., 2013; Van der Walt et al., 2015).

A study which focused on assessing the burnout of doctors practicing anaesthesiology at Groote Schuur Hospital complex reported that 4%, three out of 127 sampled medical staff consisting of medical officers, registrars and consultants had experienced burnout (Groenewald et al., 2020). He further noted that approximately 67% (50) of medical staff could be susceptible to developing burnout as they had scored significantly high on two out of the three factors assessing burnout in the MBI-HSS which were emotional exhaustion and/or depersonalisation. This is suggestive of the likelihood of experiencing burnout. Groenewald et al. (2020) found that 68% of the anaesthesiologists had indicated adequate attainment of personal accomplishment which may have been the driving force behind reducing the reported burnout rates. As the medical professional progresses in ranking, in that their medical duties and responsibilities increase, their PWB is negatively affected. This calls for support where medical interns are given strengthening psychological support throughout their internship, as they become accustomed to the working life of being a medical professional.

In a study that focused on medical workers' emotional burnout syndrome and the nuances of its relationship with the gender of healthcare professionals, it was found that female healthcare professionals are more susceptible to mental health issues compared to their male colleagues whom are more inclined to alienate themselves from the team (Prymachenko et

al., 2021). Burnt out doctors are those doctors whose PWB is negatively affected by the pressures within the workplace, psychological stressors and the demanding responsibilities of being a doctor, and are likely to end their medical career a lot earlier than expected (McKinley et al., 2020, Moss et al., 2016; Peterson et al., 2008; Shanafelt et al., 2012; Williams et al., 2001; Winkel et al., 2018). A cross-sectional study conducted on 283 UK National Health Service doctors investigated the relationship between burnout, resilience and coping strategies used by doctors. Doctors completed an 80-item questionnaire assessing professional quality of life, coping and resilience respectively. Despite doctors being resilient there was correlating high levels of burnout experienced (McCain et al., 2017). Of the 283 sampled doctors, 35% of the doctors were found to have marginally high levels of burnout. The study further identified that due to the significantly high levels of burnout experienced there was an equal correlation in the number of times coping mechanisms were used by doctors such as self-blame, behavioural disengagement and substance use. Resilience of doctors was found to have been influenced by non-clinical issues in the workplace which held no relation to their responsibilities (McCain et al., 2017). Jagannath (2020) affirms that healthcare professionals who experience burnout are not able to meaningful cope within the hospital context and therefore perpetuate a disengaging demeanour towards their work responsibilities.

Similarly, a study on healthcare providers in Malaysia focused on the relationship between dimensions of job burnout and job satisfaction of Malaysian doctors, nurses and patient services. The quantitative research study aimed at sampling approximately 200 healthcare workers in both private and public hospitals in Malaysia. Over 86% of questionnaires were returned, finding that there was a significant relationship between the dimension of burnout and the satisfaction experienced in one's occupation. Studies have found that it is important to understand the levels of burnout experienced by medical professionals for support interventions to be established and that a positive working environment be established (Nur & Anuar, 2020; Peterson et al., 2007). Furthermore, the study found that it is imperative to consider investigating other variables in conjunction with burnout such as social support and organisational commitment, to further understand the challenges experienced by healthcare providers within the context they practice.

Chirkowska-Smolak (2012) discusses the relationship between burnout, work engagement and factors within the organisation which contributed to the development of burnout amongst colleagues within the workplace. The quantitative research study was conducted during consecutive years from 2009 to 2011 on approximately 933 Polish workers from varying occupations namely education, healthcare (nurses and physicians), marketing, production and administration professionals. Participants had completed the Polish version of the MBI-GS to measure burnout. The study reported that despite the greater demand in responsibilities of work tasks there was not necessarily a correlation in the expected duties and the burnout experienced by individuals. Furthermore, it was understood that if individuals within an organisation are supported, motivated and encouraged in their line of work, then as a result they would develop a positive PWB (Chirkowska-Smolak, 2012). The PWB of an individual was directly influenced by their work and the context in which they worked.

Jagnnath (2020) advocates that burnout syndrome arises as a result of individual and organisational traits. The individual factors are namely: "younger age, rigid attitudes, physical restrictive health conditions, low self-esteem and unmatched expectations" (Jagnnath, 2020, p.107). There are several factors in the work environment that contribute to burnout, namely long hours of shift work and poor interpersonal relations with colleagues. Furthermore, the lack of recognition given to interns for the strides they make in the healthcare sector, as well as the impartiality towards interns (Jagnnath, 2020, p.107). There was also evidence in a study looking at the health status, socio-demographic factors and burnout in healthcare professionals in Italy (Torre et al., 2021). Findings indicated that amongst the 535 healthcare professionals, greater levels of burnout were experienced by single professionals. Female doctors had higher levels of burnout in comparison to male doctors. Burnout experienced by individuals is dependent on age, in that people in the early stage of their professions experience greater burnout, but as Torre et al. (2021) point out, the gender and age differences exist between the levels of burnout experienced in relation to the study context. Literature highlights that the two main categorical areas influencing burnout include "individual variables (e.g. gender) and work-related organisational variables (e.g. work setting) (Lim et al., 2010, p.87). As Prymachenko et al. (2021) stated, to understand the problem of burnout experienced by healthcare workers one needs to understand the factors that attribute to the burnout. In alignment with the study, data collected from the surveys and the semi-structured interviews provides in-depth context on understanding the attributes relating to burnout amongst interns.

2.6.2 Psychological well-being of healthcare workers during COVID-19

Healthcare workers at the forefront serving healthcare during COVID-19 experience varying psychological issues (Salvador et al., 2021). Gawrych's (2021) review of literature addressing the mental health of healthcare workers yielded that healthcare workers who had greater engagement with COVID-19 patients later experienced incapacitating mental health issues. COVID-19 has affected doctors, and Ziarko et al. (2022) report that during the global pandemic mental health associations have not adequately addressed this. Healthcare professionals require psychological support to manage their mental well-being as they continue to serve in healthcare during a global pandemic (Salvador et al., 2021). Similarly, a study conducted on Polish healthcare professionals assessed the mental health outcomes associated with COVID-19 and identified contributing factors that further deteriorated their mental well-being. Ziarko et al. (2022) reported the factors to be: "1. work-related duties, associated with the uncertainty that accompanied the pandemic, 2. the pace and volume of work, in terms of workload in situations where other team members are in quarantine and 3. work environment and equipment, associated with insufficient availability of personal protective equipment and difficult physical working conditions, and the necessity of using personal protective equipment" (p.30).

A mixed-methods study in London by Salem et al. (2020) focused on understanding the impact that COVID-19 had on the well-being of junior doctors. The study found that 40% of the doctors reported not having been able to master the medical procedures they would have liked to due to the workload presented by the pandemic and the limited surgical procedures. Whelehan et al. (2020) highlight that healthcare workers experience fatigue but more so in the pandemic, through the commentary piece titled "Leadership through crisis: fighting the fatigue pandemic in healthcare during COVID-19". Whelehan et al. (2020) further highlight the adaptive culture in hospitals since the pandemic: "increasing agility and embracing of innovation...culture whereby we recognise and support people in being malleable" (Whelehan et al., 2020, p.1).

A met-analysis by Xia et al. (2021) on the prevalence of sleep disturbances and sleep quality of Chinese healthcare workers found that sleep disturbances were a norm amongst Chinese healthcare workers amidst the global pandemic. The "heavy mental health burden" was carried by them whilst providing care to the people. The review further highlighted that the healthcare workers who were infected with COVID-19 experienced higher rates of sleep disturbances compared to those not infected. A study by Alsairafi et al. (2021) shared insight

into the mental health impact of the COVID-19 pandemic on Kuwait's health professionals. The study suggested that the prevalence of severe depression was found amongst female health professionals as opposed to their male colleagues (Alsairafi et al., 2021). It also brought to the fore the need for psychological support to be provided to health professionals so that they would be able to better manage their psychological challenges amidst the global pandemic. Similarly, a study in Oman that looked at the mental health of physicians and nurses during the COVID-19 pandemic found that female practitioners experienced higher rates of stress, anxiety and poor PWB in comparison to male practitioners.

Alhaffar et al. (2021) also brought to the fore the need for the mental health of the health team to be addressed as that would off-set a ripple effect to the healthcare administered. A study looking at the psychological effects of 660 healthcare workers in Syria during COVID-19 (Alhaffar et al., 2021) based on findings of an online questionnaire indicated that interns suffered from disruptive sleep patterns and experienced mild forms of stress whilst administering medical care. Insomnia issues experienced by doctors have been brought to the fore by several studies (Alnofaiey et al., 2020; Marvaldi et al., 2021; Sukumaran et al., 2021).

Similarly, there was also evidence of high prevalence of burnout amongst Egyptian physicians (Omar et al., 2021) when a cross-sectional online study was conducted on 503 physicians. Findings of the study reported that the majority of physicians, at 72%, were highly burnt out according to the MBI scale and 1.6% had experienced relatively low levels of burnout. The study by Omar et al. (2021) highlighted a number of issues attributing to the high levels of burnout, namely coping with the varying COVID-19 cases presented for care, heavy shift workload assigned and being emotionally exhausted. Colkesen (2021) highlights that as a result of the COVID-19 pandemic, 18.6% of healthcare workers started attending psychological support services with no prior interaction with psychological therapies. He further highlighted that 65.1% of healthcare workers were clinically experiencing depression from having to cope with the influx of COVID-19 patient cases. It is therefore no surprise that just about every study conducted during the pandemic suggests that psychological support be offered to health professionals (Badahdah et al., 2020).

2.7 The 'be present in the moment, you say?' mindfulness

Mindfulness is referred to as the series of steps involved in a process where an individual attentively makes use of focusing their attention on being in their present state of experience (Lomas et al., 2019). A person practicing mindfulness remains in a state of consciousness,

alertness and openness to accepting what is occurring around them (Dobkin & Laliberte, 2014). Practicing mindfulness requires one to use their thinking abilities to problem-solve. An individual's PWB is positively influenced by mindfulness practices, as symptoms of anxiety, burnout and depression become minimised over time (Gilmartin et al., 2017). Mindfulness techniques can be either formal or informal in nature, in that the person practices a technique taught to them be it as simple as self-reflection or walking with a purpose. The activities that require minimalist attention of a person, such as making a cup of coffee or hanging the washing out to dry, are categorised as informal mindfulness techniques (Birtwell et al., 2019).

Literature has primarily focused on highlighting the effectiveness of mindfulness-based stress reduction interventions internationally to improve the PWB of the healthcare workforce (Irving et al., 2009; Lomas et al., 2019; McConville et al., 2019), but appears to be under-researched in SA and in identifying the relationship between mindfulness interventions and the resilience of medical interns (Johnson et al., 2015). The residents of the US experienced no immediate change in their burnout levels despite the use of a pre- and post-test intervention (Goldhagen et al., 2015). However, female residents that identified as being stressed out by their environment appeared to reflect a reduction in their level of burnout and stress over time. Mindfulness techniques have a positive effect on interns resulting in a shift toward a positive well-being and further strengthen their resilience (Harker et al., 2016; Kemper et al., 2015; Robertson et al., 2016). This supports the statement made by Rita Thom, on behalf of the Healthcare Worker Care Network, that due to the anticipated negative ill mental health of medical professionals caused by the global pandemic (COVID-19), the focus should be on strengthening the resilience of frontline workers (Dubale et al., 2020). The Medical Services at Medical Protection Africa conducted a survey amongst 500 SA healthcare professionals and found that 40% of the doctors were experiencing burnout. As Dr Graham Howarth, the head of the Medical Services, reported: "being a doctor is not only physically and intellectually demanding, but also emotionally draining" (The Specialist Forum, 2018). Dr Howarth further briefly suggests that doctors may make use of mindfulness techniques that assist in minimising the effects of burnout experienced such as meditation practice, talking about their feelings and allocating time to spend on self-enhancement (Colgan et al., 2019).

A narrative review focusing on reviewing literature concerning mindfulness amongst healthcare professionals and medical students alike (Chmielewski, Łoś & Łuczyński, 2021) looked at mindfulness interventions which were reported to have been successful in maintaining the well-being of healthcare professionals who served in patient care, delivering healthcare services. Training in mindfulness is explained as a method that uses techniques to improve an individual's emotion, reduces unnecessary stress and anxiety and restores the levels of alertness to immediate surroundings (i.e. context within) (Chmielewski et al., 2021). Furthermore, the review found that mindfulness could be used widely by healthcare professionals, and as a result improve their PWB which then improves their performance within the healthcare context. Conversano et al. (2020) conducted a systematic review to explore the effectiveness techniques involved in mindfulness and compassion fatigue amongst healthcare professionals. Fifty-eight articles had met the inclusion criteria, four of which were randomised controlled trials, 24 had pre-post measurements, 12 were cross-sectional studies, 11 were cohort studies and seven were qualitative studies. It was found that mindfulness and self-compassion improved with mindfulness training practices. Mindfulness played a pivotal role in improving the negative effect of individuals. Findings of systematic reviews indicated that mindfulness techniques were more suitable in improving and sustaining well-being of professionals, with reduced burnout experienced (Fendel et al., 2020; Goodman et al., 2012; Ireland et al., 2017).

Medical professionals entering the working environment after graduating from medical school are more susceptible to physical or psychological harm, as they are tasked with far greater responsibilities as compared to those of a medical student (Tyssen et al., 2000; Magalhães et al., 2018). Newly qualified doctors may begin to feel overwhelmed with the scope of work that their profession entails. The reality of no longer being a student medical professional is soon realised. The mental well-being of medical interns has been over-looked and not adequately studied, yet the mental health of medical practitioners and medical students internationally has been researched (Tyssen et al., 2000; Markwell & Wainer, 2009; Henning et al., 2013; Rosta & Aasland, 2013; Konjengbam et al., 2015; Ahmad et al., 2015; Mason et al., 2016; Ngasa et al., 2017; Ripp et al., 2017; Lundin et al., 2017; Kotur et al., 2018; Forbes et al., 2020). Medical interns are at the forefront of managing healthcare as they are the new graduates from medical school and beginning their career as working medical professionals (Tweed et al., 2010). In a perspective looking at the well-being in the graduate medical education: a call to action (Ripp et al., 2017), it was urged that mindfulness

interventions together with resilience-strengthening techniques (i.e. group discussions) provide protection against burnout and maintain medical interns' PWB. During their internship training they become exposed to the reality of being a healthcare professional, which may increase their susceptibility to having a poorer psychological frame of mind (Kalmbach et al., 2017; Ross et al., 2018).

2.7.1 Online mindfulness interventions practiced by healthcare workers

Kemper (2015) argues that online mindfulness facilitation in smaller groups is successful as it allows for accommodation to healthcare professionals' hours of work. The study found that six of the seven trainees had completed at least 50% of the sessions, as the post-training questionnaires were not completed by all participants. A participant had dropped out from the study and no reason was cited. Furthermore, for the duration of the eight-week intervention it was noted that participants had not attended all sessions. It was explained that three participants had attended four sessions, three participants attended five sessions and thus only 86% (6 of the 7 trainees) had completed at least half of the training sessions. The study had focused on how many of the trainees would at least complete half of the eight sessions. The findings indicated that interns altered their daily lives by incorporating mindfulness with an increase of 75% of interns using mindfulness as a technique to cope within the workplace. A recommendation by Kemper (2015) was that studies should consider reviewing the increase in meditation practices, mindfulness and resilience. In a feasibility study looking at mindfulness intervention for foundation year doctors in the UK (Bu et al., 2019), findings indicated that the 20 doctors' stress levels were lowered after participation in the mindfulness intervention and that the six-week "Mindfulness in the Workplace" course held promising results for the improvement of doctors' well-being. He further highlights that for the intervention to work successfully it requires adaptation at the institutional level due to the poor completion rate, citing the reason as work responsibilities (Bu et al., 2019). A randomised controlled trial of mindfulness to reduce stress and burnout in a major Australian hospital (Ireland et al., 2017) indicated that participants who participated in a 10-week mindfulness intervention reported an improvement in their PWB as their stress and burnout levels diminished. The study included 44 intern doctors who were randomly assigned to the active control group that permitted them to take an extra one hour break per week or to the group that consisted of being enrolled in the 10-week mindfulness intervention. The intern doctors' stress and burnout levels were measured pre-intervention, mid-intervention and post-

intervention. The study found that participants who had received the additional hour break, showed no reduction in their stress and burnout levels as compared to the interns who practiced mindfulness. Ireland et al. (2017) affirm that doctors with mindfulness training are able to understand how to minimise their stressors. A pilot randomised clinical trial of modified MBSR versus an active control study by Lebares et al. (2018) aimed to assess the feasibility of formal mindfulness-based stress-resilience among 21 surgery interns in California. Interns met weekly for their two-hour modified MBSR classes. In addition they practiced their 20-minute daily home practices over the duration of the eight-week period. The study found that the formal stress-resilience training was considered to be feasible by the interns as illustrated by their high attendance for both intervention and control groups at the sessions. Lebares et al. (2018) further added that the mindfulness skills learnt were integrated into the interns' daily life and work context. Vinothkumar et al. (2016) affirms that mindfulness techniques assisted in improving well-being, in that as Lebares et al. (2018) report, interns felt empowered to learn about improving their mindfulness-mediating effect of mindfulness demonstrated. A longitudinal study by Gozalo et al. (2019) was undertaken in Spain, where 32 participants (eight physicians, 13 nurses and 11 nursing assistants) participated in an eight-week mindfulness training programme. Each week participants were provided with a guide for the week's mindfulness practices and with support of a WhatsApp group chat (participants participating in the mindfulness practices). Pre-test and post-test testing was carried out as the intervention progressed over the weeks, using the psychometric measures, namely burnout (MBI), mindfulness (FFMQ), empathy and self-compassion (SCS). The study found that the level of emotional exhaustion of the practitioners decreased over time (-3.78 points; $p = 0.012$) and that there was an increase in self-compassion (3.7 points; $p = 0.001$) amongst the practitioners. Mindfulness practices contributed positively in minimising the burnout experienced and thus improving the PWB of the practitioners. It was further commented that attendance of the mindfulness sessions was high. In order to illustrate a more detailed connection, Scheepers et al. (2020) compiled a systematic review of the impact of mindfulness-based interventions on doctors' well-being and performance. Doctors advocate that mindfulness interventions have a direct positive relationship on their well-being and performing duties in the hospital context (Scheepers et al., 2020). It is with this rationale that phase three of the study explores an online mindfulness course to assess the influence that mindfulness has on the PWB of interns in KZN.

2.8 Coping strategies used by healthcare workers

Insights from a national survey found that junior doctors in Australia are thoroughly supported throughout their internship period would be able to keep their medical professionals' team healthy and sustainable for the foreseeable future (Markwell & Wainer, 2009). A nationwide study in Norway aimed to understand the relationship between job stress and working conditions of the hospital context on the mental health of junior medical doctors. The quantitative research study revealed that 11% of the 522 junior doctors had indicated they were experiencing mental health problems during their internship training. Work-related stressors during internship training contributed significantly to the mental health condition of Norwegian junior doctors serving their internship (Tyseen et al., 2000). It is important to highlight that even though it was reported that work-related stressors contribute to the mental health of junior doctors, it is not known which particular stressor within the workplace is the resultant cause behind them experiencing work stress and ultimately having a poorer mental state of mind.

Rich et al. (2020) piloted a support intervention for 22 doctors participating in group discussions (i.e. face-to-face workshops) which focused on minimising the effects of burnout experienced. The group discussions aimed to address the challenges experienced within their profession and approaches to increasing their well-being practices with the use of self-care in mind. The self-care practices reportedly utilised by doctors were mindfulness practices such as walking around in an open space or taking a deep breath of air and exhaling (Kropp & Sedlmeier, 2019). The study found that post-intervention there was a significant improvement in the burnout scores of the doctors (i.e. level of burnout decreased) and a healthy balance between professional and personal life was established. Doctors' levels of burnout reduce and well-being increases when they are provided with the opportunity to discuss their experience and use digitalised well-being approaches and their own preferred self-care strategy (Kemper et al., 2017; Spinelli et al., 2019).

In Australia, a study consisting of two cohort groups consisting of 24 and 29 medical interns respectively from teaching hospitals in Queensland, aimed to evaluate a well-being programme referred to as "Resilience on the run". Quantitative research methods were used and interns completed a series of questionnaires namely psychological distress, Professional Quality of Life Scale (ProQOL) and K10. Interns completed the questionnaires before, at the

end of the programme and a few months after the programme concluded. This was to assess the relationship between the well-being programme and the well-being of the medical interns over time. Both cohort groups had moderate psychological distress levels prior to participating in the well-being initiative. The findings suggest that well-being initiatives for junior doctors during their internship training would be beneficial for their individual growth and would contribute to the healthcare context where they serve (Forbes et al., 2020; Howe et al., 2012). Interns that participated in the resilience programme were able to learn a set of new skills and to understand how best to cope with stressors in their immediate context, the working environment (Richards, Campenni & Muse-Burke, 2010).

Gunasingram et al. (2015) conducted a study on the effect of debriefing sessions on the levels of burnout experienced by a group of junior doctors at a hospital. The study was conducted in 2011 with a cohort of 31 postgraduate doctors serving their first year of internship training. Of the 31 postgraduate doctors, 13 postgraduate doctors were randomly assigned to receive four debriefing sessions over a two-month period whilst the remaining 18 postgraduate doctors were allocated to the control group (no debriefing sessions). At baseline, commencement of the study, 21 of the 31 doctors (68%) had presented with burnout in at least one of the three domains of the MBI scale (Gunasingram et al., 2015). At baseline, it was reported that "high levels of emotional exhaustion and cynicism were seen in 14/31 (45%) and 17/31 (55%) of participants respectively. Low professional efficacy was reported in 5/31 (16%) of the cohort at baseline" (Gunasingram et al., 2015, p.184). The study found that the prevalence of burnout in female doctors was higher than in male doctors. Furthermore, year 1 doctors reported to have higher prevalence of burnout. Burnout scores of the participants were defined by Gunasingram et al. (2015) as the "personal efficacy less than the combined cynicism and exhaustion scores" (p.184). Of the 18 doctors who participated in the intervention only 61% reported that they would recommend the intervention to other aspiring doctors. At the conclusion of the study, the group cohort burnout level was reported to be "17/31 (45%) feeling 'used up' at the end of the working day and 11/31 (36%) feeling drained between once a week to every day" (p.185). The study had not found evidence in the assessment of the debriefing sessions that suggested the intervention had no effect on the burnout level experienced by doctors, with 89% of the junior doctors reporting that the debriefing sessions assisted them substantially by providing them with emotional and social support which they felt they required. To ascertain whether debriefing sessions are effective

as an intervention to reducing burnout in junior doctors, Gunasingram et al. (2015) advocate a larger sample size of junior doctors be sampled.

A cross-sectional study on the relationship between resilience, burnout and coping strategies was conducted on 283 UK doctors (primary and secondary care doctors) in 2016 (McCain et al., 2017). The study made use of an 80-item online questionnaire over a four-week period in 2016. The scales used in the study were namely, ProQOL, the brief cope inventory and Connor Davidson Resilience Scale. McCain et al. (2017) reported that the higher scores suggest that higher levels of the phenomenon exist. The study found that the mean resilience of the doctors was 68.9 (SD = 12.6), and the mean burnout was 55.2 (SD = 9.6). Doctors had experienced traumatic stress with a mean of 63.3 (SD = 8.9), with compassion satisfaction mean of 49.3 (SD = 8.9). It was further discussed that 37.2% of the doctors had high levels of burnout, 72.1% of doctors had high levels of traumatic stress, with 23.8% of doctors having low levels of compassion satisfaction. There was no significance in burnout, traumatic stress, compassion satisfaction or resilience between doctors of different gender or grade level when compared. Findings indicated a high prevalence of burnout amongst the doctors. It is worth noting that despite the study indicating that doctors' level of resilience was high, it had not entirely shielded them from experiencing burnout as doctors continued to have high levels of burnout related to stress. The study further reported that 7.1% of doctors had moderate burnout levels with high compassion satisfaction, and that 19% of the doctors had experienced high burnout and stress with low compassion satisfaction (McCain et al., 2017). Doctors were reported to have used maladaptive coping strategies such as self-blame, disengagement and abuse of substances. It is however pertinent to note that a perceived rationale for doctors having relatively low resilience was due to matters pertaining to their interpersonal relations with colleagues in the workplace (McCain et al., 2017). Doctors were asked to share qualitative information about a point in their career when they had experienced relatively low levels of resilience. The study found that 138 doctors believed that events within the workplace had lowered their resilience levels. Of these events, 59 doctors had stated their workload, medical errors and poor outcomes in their work responsibilities had attributed to their low levels of resilience (McCain et al., 2017). Furthermore, doctors had provided further insight in elaborating on the professional relationships within the workplace. Doctors explained that the authority between doctors of different levels was exercised, good communication in that respect was not demonstrated at all times to the extent that bullying was experienced. Lastly, doctors reported that they were not adequately supported by their

senior doctors (McCain et al., 2017). Interventions accompanied by encouragement sessions, known as booster sessions, over time yielded promising improvement in the levels of burnout experienced by doctors. The most effective interventions for minimising burnout are considered to be mindfulness-based interventions (Kumar, 2016). Kumar (2016) criticised that research pertaining to support interventions for burnout in doctors is yet to focus on the efficiency of a dual support programme. A suggestion is for the interventions to consist of different intensities of both short- and long-term support. The study achieves this by assessing an online mindfulness intervention in phase three amongst medical interns, which can be adapted to either short- or long-term support.

2.9 Locating this study in recent studies focusing on mindfulness vs resilience: Outweighing the scale?

Existing research addresses the resilience and well-being of doctors and physicians, but limited research focused on medical interns is available. This warrants further exploration to understand the resilience and well-being of medical interns during their internship training. If medical professionals are taught how to cope with negative experiences that affect their PWB then they themselves would be able to not only manage their PWB but improve their resilience over time (McKinley et al., 2019). In SA literature, the relationships between well-being, burnout and resilience appear to be underexplored. Therefore, an exploration of the processes into the change in PWB of medical interns and the resilience or the lack thereof is an urgent research priority that needs to be researched.

Findings from the proposed study aim to fill a pertinent gap in the current literature by permitting an understanding of the PWB of medical interns and their resilience during the backdrop of a global pandemic in KZN. This affords the opportunity to understand the severity of the global pandemic on the mental health of “new” medical professionals. As Govender et al. (2019) discussed, it is important for specialised interventions such as support strategies to be established which focus on enhancing the resilience of an individual. The findings of this study will be used to propose that resilience support intervention be adapted for all medical interns in the provinces of SA, and that over time a resilience support intervention be standardised within the medical fraternity. Medical professionals are required to be resilient in their line of work for them to be able to maintain professionalism between

themselves and their patients, as well as to take a stance in making corrective judgements in the best interest of their patients' health when deemed necessary (Howe et al., 2012).

2.9.1 #Socks4Docs: Crazy Socks for Doctors Campaign

In 2018, an Australian medical doctor, Dr Geoffrey Toogood, arrived at the hospital where he worked, to start his shift wearing mismatched socks. This began a conversation of what many other doctors view as the doctor's craziness and mental health deterioration, yet this was incorrectly assumed. Dr Toogood shared why he opted to wear mismatched socks: "the actual reason I was wearing odd socks was because I had bought a dog and it had eaten all my socks; the bright colours were to cheer me up" (Toogood, as cited in SA Medical Commissioner, 2018). As a result of this, in error it was assumed that Dr Toogood was experiencing psychological instability.

On the premise of this, Dr Toogood began the campaign #CrazySocks4Docs on 1st June, to break down the barriers of stigma attached to the mental health of medical practitioners such as him (CrazySocks4Docs Foundation, 2018). This is what many view as the beginning of the public awareness campaigns about the issue of medical doctors' mental health issues (Hayes, 2017; Newman, 2019; Newman, 2021; Rajasekar & Krishnan, 2021). Hayes (2017) sheds light on the mental health of medical doctors, and that it has been under-highlighted. A newspaper article in the Independent Online highlighted the advocation that the chief executor officer of Cipla, Paul Miller, shared about #Socks4Docs; that South Africans can demonstrate their support for healthcare workers' mental health by wearing mismatched socks on their feet: "South Africans will be (literally) standing in solidarity alongside these extremely important members of our society" (Lifestyle Reporter, 2018).

2.10 Concluding comments

Medical professionals who have received resilience training are able to benefit from the training in that their professional and personal life become positively improved (Tregoning et al., 2014). This suggests that a relationship exists between the resilience of medical professionals and their PWB. Studies recommended that future support interventions for medical professionals should incorporate resilience training as resilience demonstrates qualities of a defensive, shielding nature (Polizzi et al., 2020; Rossouw et al., 2013; Vinkers et al., 2020). Tregoning et al. (2014) stated that it is pertinent to note that in order for a

resilience programme to be most effective for a specific population group, such as for the proposed study on medical interns, the resilience programme should be tailored to the needs of medical interns. Similarly, Vinkers et al. (2020) propose that attention should be focused on strategies that will enhance the resilience of medical professionals (Polizzi et al., 2020). This research will add substantial evidence and knowledge about the relationship between the PWB, burnout and resilience of medical interns. Furthermore, the aim is to understand the possibility of the designed resiliency programme being beneficial in mitigating the effects of burnout and improving the PWB of medical interns in the province of KZN.

Given the limited research relating to the internship period, this study proposed to investigate the PWB of medical interns in the province of KZN. Furthermore, the study aims to understand how the internship training journey is experienced by medical interns, from commencement of year 1 till the conclusion of year 2 internship training, as compared to previous literature which focused on either year 1 or year 2 medical interns only (Hsu & Marshall, 1997; Sharma & Attar, 2012; Henning et al., 2014; Mason et al., 2016; Yiga et al., 2016; Choi et al., 2017; Amaranathan, Dharanipragada & Lakshminarayanan, 2018). This study undertakes research of both year 1 and year 2 medical interns from health sciences disciplines at five state hospitals, namely Addington, King Edward VIII, R.K. Khan, Wentworth and Prince Mshiyeni. At present, globally, medical professionals have to deliver healthcare and manage the COVID-19 pandemic. By understanding the mental health of the healthcare workforce, the healthcare institution (i.e. hospitals) would be able to utilise effective tested interventions (as in mindfulness) to assist healthcare personnel in a timeous and supportive manner (Cardona et al., 2020).

The research aimed at understanding how medical interns conceptualise the effect that contextual factors within the hospital had on their PWB, which has provided valuable insights that could be focused towards the development of the resilience programme. The support intervention was selected to enhance strength within medical interns. Stevenson et al. (2011) discussed that there exists a possibility that not all medical professionals would be psychologically affected by working in the healthcare context, but that some medical professionals would adapt and thrive within the highly-pressured context, and not experience burnout. In alignment with this, phase 2 of the study consisted of semi-structured interviews with medical trainees from different rotational departments to ascertain their individual experiences throughout internship but to also gather data that would contribute “to enhance

interventional efforts" (Prentice et al., 2021). At the dawn of their internship, interns were faced with the global pandemic of COVID-19, warranting an in-depth understanding of the unprecedented psychological challenges forced on interns. Information gathered will have great implications for the PWB of medical interns and the medical fraternity at large. Investing in the mental health of those who are at the forefront of providing medical care assists in strengthening the healthcare team at large. Interns will be able to begin their working career as medical professionals with the surety that their mental health is made a priority.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1 Introduction to theories

This section will cover the Ecological Systems Theory and Ryff's Psychological Well-being Model to explain the proposed research study. The PWB of healthcare workers is entrenched in a system which is affected by the decisions of an individual (Lohmann et al., 2019). There are several factors which contribute to the mental health of an individual such as their individual characteristics, societal context and the interpersonal relationships established with those in their immediate context (Sturgeon, 2007).

3.1.2 The Ecological Systems Theory

The Ecological Systems Theory conceptualises that individuals exist within a complex system. There are external factors within their immediate environment which can either negatively or positively affect their PWB (Bronfenbrenner, 1994). The mental health of an individual is best understood from varying perspectives and "involve processes best understood from biological, psychological and socio-cultural perspectives" (Kendler, 2008, p. 695), therefore creating a holistic view of an individual's mental health. Using the Ecological Systems Theory, over time Bronfenbrenner has contributed extensively to the research of individuals' mental health (Eriksson et al., 2018). There are five pertinent systems within the ecosystems analysis, namely the microsystem, mesosystem, macrosystem, exosystem and lastly, the chronosystem.

The microsystem is the context in which the individual initially develops; in other words, their immediate context. This system is indicative of the close connected ties that individuals have with other beings (Barboza et al., 2009). The closest systems of support for the medical interns include family, colleagues, hospital environment and interpersonal relationships within the healthcare context. At the microsystem stage the characteristic of an individual, personal work factors and experience determine the PWB experienced by the healthcare worker. Lohmann et al. (2019) stated that "at the individual level, it is assumed that in addition to demographic characteristics, diverse tangible individual-level work factors (e.g. cadre, training and knowledge and supervision) and intangible perceptions and experiences at work (e.g. satisfaction and

motivation) directly affect health workers' PWB" (p.3). At this level, the emotional support and coping strategies are identified and discussed.

The mesosystem entails the attention of factors which stipulate the structure of the environment in which an individual exists. Furthermore, it is within this structure that interpersonal relationships tend to develop (Krug et al., 2002). Barboza et al. (2009) stated that the behaviour of individuals in the mesosystem is due to the collaboration of many microsystems together. The many microsystems form the basis of the behaviour displayed at the mesosystem level. In the context of this study, there is interaction between the interns and those in the healthcare context. Interns are supervised and supported by mentors who are able to offer the necessary advice during internship training. The interactive communication between interns and the healthcare personnel ensures that the intern is comfortably settled working within the healthcare context and supported in their duties expected of them as a medical professional. This ensures that interns develop in a holistic manner. Furthermore, interns' development is on par with fellow colleagues within the healthcare context. The interpersonal stage tends to influence the organisational context which in turn influences the PWB of healthcare workers (Trudel-Fitzgerald et al., 2019). The organisational context which contributes to affecting PWB are the "physical work environment (e.g. availability of medication, material, function equipment and adequate infrastructure), human resource availability and workload" (Lohmann et al., 2019, p.3). The collaboration between healthcare personnel, specifically management, and medical interns could yield positive results, whereby effective action could be taken in preventing medical interns' PWB from being negatively affected. Determinant factors resulting in interns experiencing burnout are identified and addressed, and the best possible measures are implemented to minimise the effect thereof.

The exosystem consists of factors which affect an individual's life but do not necessarily have a direct influence on interpersonal relationships with fellow colleagues within the surrounding context (Barboza et al., 2009). With reference to the study, it is the individuals within the healthcare context who can contribute to interns experiencing burnout or assisting in developing interns' resilience to be psychologically stronger within the working environment. However, this system still affects those within the

context. In the context of this study, within this system there could be trained personnel in the healthcare context who are able to effectively mitigate any burnout experienced by healthcare professionals and implement the corrective measures such as support interventions to minimise burnout and improve the PWB of the healthcare fraternity. The environment of the organisation is noted to be affected by broader characteristics of the health system and the cultural, economic and social context and as a result influences the healthcare workers' PWB even further.

The macrosystem is explained as the system consisting of the cultural beliefs shared by an individual and those within their immediate surrounding context. This system entails individuals experiencing effects of burnout, change in the resilience towards stressors within the healthcare context and change in the PWB of interns. Interpersonal working environment influences the PWB of healthcare workers and that being "for example service organisation, team work and managerial factors (e.g. leadership styles and managerial autonomy)" (Lohmann et al., 2019, p.3). This system consists of societal opinions concerning the PWB of healthcare professionals and whether some form of protective mechanism is implemented or needs to be implemented to protect the well-being of medical interns. For example, an individual experiences significant burnout symptoms and makes the decision to seek professional care to alleviate the burnout experienced as well as to develop or enhance their resilience, and to be better equipped with protecting their PWB.

Lastly, the chronosystem elaborates on the particular setting influence on individuals' behaviour as well as the influence time has on individuals' psychological change (Barboza et al., 2009). Interns may possibly be apprehensive to seek psychological support during their internship training as they are new medical graduates and do not want to appear as incompetent to cope within the healthcare context. Interns are likely to adapt the behaviour demonstrated by their fellow colleagues. Psychological assistance is utilised when interns realise they can no longer cope and require psychological support. In addition to this, since this is the first step into the working life of medical professionals, interns would be cautious of their actions to not tarnish their reputation and be seen as weak or embarrassed for suggesting they need

psychological support for the career they have studied towards for many years (Bronfenbrenner, 1994; Eriksson et al., 2018).

Medical professionals are perceived as miracle workers in healthcare, but are assumed to not have feelings; yet they are just like any other human being in that they hold emotional feelings (Palacios-Ceña et al., 2021). The Ecological Systems Theory encapsulates the professional resilience displayed by medical professionals. To understand the PWB of medical professionals, all systems (beginning from microsystem to chronosystem) within direct and indirect relation need to be understood holistically. A research study explained that the PWB of social workers is embedded within the ecological systems given the extent into which the concept extends from the micro- to the mesosystem. "The holistic approach proposed in the ecological systems framework, self-care activities across several domains consisting of biophysiological, interpersonal, organisational, familial, peer-related, spiritual and recreational activities, all contribute to a comprehensive method of practice" (Newell, 2018, p.68).

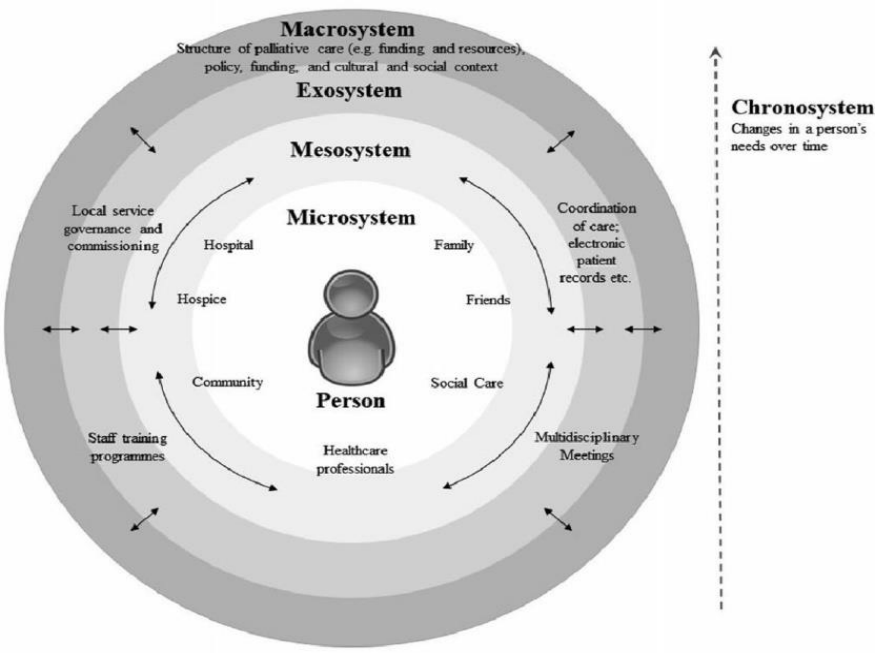


Figure 3 Graphic representation of the Bronfenbrenner Ecological Systems Theory (Adapted from Pask et al., 2018)

In Figure 3.1, the horizontal and vertical arrows represent the continuous pathway in relationship between the different ecologies. They represent the direct and indirect

influence of one ecology on another ecology (e.g. microsystem on the mesosystem) (Pask et al., 2018).

3.1.3 Ryff's Psychological Well-being Theory

Ryff's Psychological Well-being Theory (1995) focuses on the development that individuals make in their life and the extent to which they experience positive PWB. Ryff's theory (1995) is made up of six important dimensions which assess the PWB of an individual and include:

- **Autonomy -** this suggests how an individual can alter or adapt their behaviour amidst pressures.
- **Environmental mastery -** this indicates the capability that an individual has in making use of the opportunities which present themselves within their environment suggesting that they can cope with problems that may arise within their work context.
- **Personal growth** - is an individual's progress in developing over time and their open-mindedness to learning new skills and adapting to change when it arises.
- **Positive relations** with others - suggests that an individual engages with other colleagues within the work context such that they develop interpersonal relationships which result in them sharing their feelings and discussing issues within the work context as they feel comfortable to do so.
- **Purpose in life** - an individual has their mindset focused on achieving a goal or attaining recognition for something they have put effort towards. Furthermore, this factor addresses an individual's belief that their mere existence is for a reason and that everything that happens in life is for a reason. They hold meaning to the occurrences in their life.
- Lastly, **self-acceptance** - this suggests that an individual holds positive appraisal to aspects related to themselves and is content with themselves and their capabilities.

This model suggests the PWB of an individual is influenced by the culmination of the six discussed dimensions, and that to holistically understand PWB, all dimensions need to be assessed.

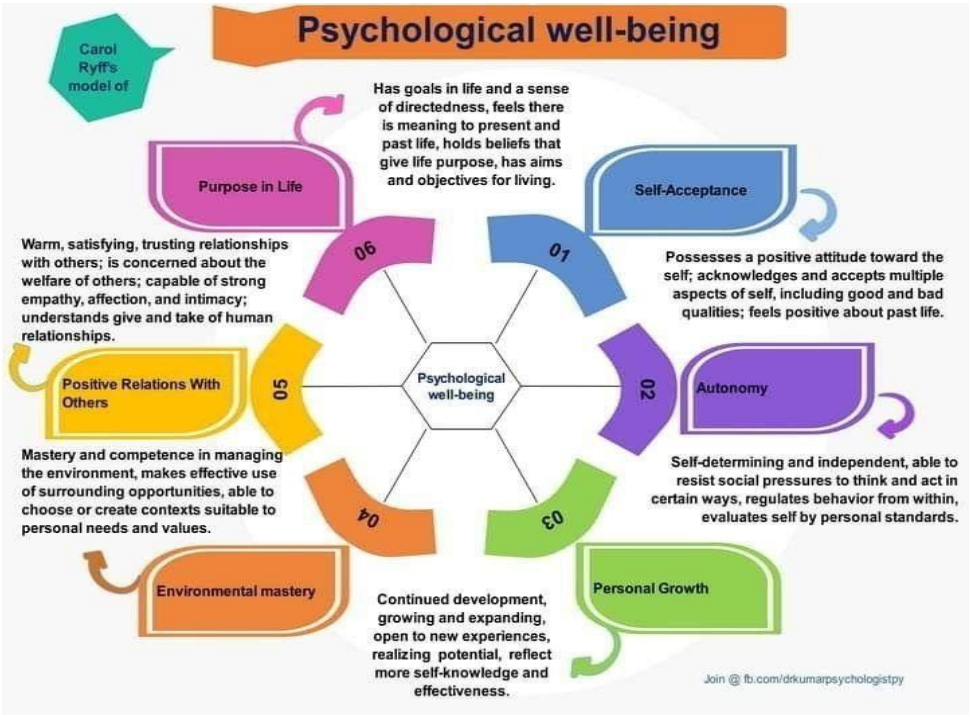


Figure 4 Graphic representation of Ryff's Theory of Psychological Well-being (Adapted from Ryff, 1995)

In Figure 3.2 the arrows circulating in clockwise motion represent the connection amongst factors which influence the PWB of interns either collectively or individually (Ryff, 1995).

For the holistic well-being of an individual, there needs to be a balance established in their professional and personal responsibilities. An individual's self-care ought to be addressed on a continuous basis for a balance to be established. The PWB of an individual is attributed to their ability to perform work duties and their level of resilience (Nowell, 2018). Nowell (2018, p.67) affirms that as a result, it "will hopefully reciprocally contribute to professional resilience and overall well-being".

CHAPTER 4: METHODOLOGY

4. Methods

4.1 Philosophical worldview

This study made use of two philosophical worldviews namely the positivist worldview and social constructivist worldview. Each worldview will be discussed in relation to the study. The positivist worldview represents the traditionalist form of research which holds true for quantitative research (Neuman, 2014; Davies & Fisher, 2018). This viewpoint has been commonly referred to as positivism or empirical research. Quantitative methods propose that research is studied in the existing reality of the world (Subedi, 2016). It has been termed differently over time as this worldview focuses on questioning the discrepancy in the truth of traditionalist research (Phillips & Burbules, 2000). According to Neuman (2014), quantitative studies tend to be dependent on positivist principles and that the importance of quantitative research is to measure the variables and test the hypothesis, which is what this study aimed to do. Yoshikawa et al. (2008) state that quantitative research is studied for a method of means to enquire about the numeric representation of a population grouping. Quantitative research can be studied through the use of surveys or questionnaires, from which numeric data is collected (Creswell, 1994; Risjord et al., 2001). Similarly, Wilson (as cited in Liamputtong, 2019) discusses that "quantitative research focuses on the objective measurement of data that is collected through questionnaires, surveys, clinical measurement, or polls and that are analysed numerically using statistical techniques" (p.29).

According to the Social Constructivism Theory, human beings are understood by the thoughts and interaction shared between other people. Constructivism looks at discussing how individuals make meaning of their realities in that individuals construct their own subjective meaning related to their experiences and that no two individuals' experiences are the same (Liamputtong et al., 2019; Ponterotto, 2005, Neuman, 2014). This philosophy looks to explain the process in which individuals acquire knowledge and how they associate meaning related to their experiences (Gredler, 1997; Hyslop-Margison & Strobel, 2008; Neuman, 2014). This prompted the researcher to investigate further in-depth the experiences of internship training by medical interns.

Therefore, as a constructivist researcher, questions were asked such as: “How would you describe the support provided to you, if any, during the transition phase between graduating medical school and beginning internship training?”, “Now that you are here, do you or did you feel adequately prepared for internship training?”. Probing cues were asked with reference to psychological state of mind, roles and responsibilities as a junior medical doctor, including: “How would you describe the impact of the global pandemic COVID-19 on your internship training and on you as an individual, newly graduated junior medical doctor?”, “During your internship training, have you required support in the form of either emotional, social or psychological support?”. Another probing cue was: “Why did you require the support and had you felt it to be beneficial to you?” (Refer to interview guide attached as Appendix 7). The researcher positioned herself to investigate the PWB and the depth of resilience amongst medical interns during their internship training at state hospital sites in KZN (Crotty, 1998).

4.2 Research design

A research design is conceptualised as the plan of action to be followed for a particular research study. It is the defined steps within the stages of research that are required to be followed, and as a result the research study develops till completion of the study. According to Bloomfield and Fisher (2019), the research design is said to be the blueprint of a research study and a guide for researchers to adhere to as the blueprint is in alignment with the research questions. Studying the development of human behaviour over time, it is not distinctly classified into qualitative and quantitative research (Yoshikawa et al., 2008).

The gap between qualitative and quantitative research methods has narrowed to the extent whereby making the transition between qualitative and quantitative research seems effortless (Creswell, 2009; Trotter, 2012). The study made use of methodological triangulation for data analysis which makes use of both quantitative and qualitative research design methods (Teddie & Tashakkori, 2009; Abdalla et al., 2018). Methodological triangulation combines the qualitative and quantitative theoretical concepts, commonly referred to as triangulation (Neuman, 2013). In 1959 Campbell and Fiske conceptualised the concept of triangulation into which multiple quantitative

methods for data collection were utilised in their multi-methods design. Despite them both utilising multiple quantitative research methods only, it does not diminish the credibility of their established work and the pertinent role it played in influencing the works of multi-methods studies in research.

Researchers utilise methodological triangulation so that there is validity and reliability in the data analysis, authenticity of the research results produced and lastly, the enriched in-depth understanding of the phenomenon researched (Redfern & Norman, 1994; Merriam, 1998; Devers & Frankel, 2000; Casey & Murphy, 2009; Tuli, 2011; Bekhet & Zauszniewski, 2012). There are two types of methodological triangulation methods, namely across-method and within-method (Bekhet & Zauszniewski, 2012). According to Casey and Murphy (2009), the across-method type consists of collecting data using a combination of quantitative and qualitative methods.

Bronfenbrenner and Morris (1998) stated that individuals are continuously interacting within their social setting and that their behaviour displayed cannot be holistically understood by a specific research design - either just quantitative or qualitative (Nieuwenhuis, 2007; Yoshikawa et al., 2008). For the purposes of this study, the methodological triangulation utilised was the across-method. In addition, an explanatory sequential mixed-method design was employed as it was in alignment with the objectives of the study (Creswell, 1994; Subedi, 2016). Following the mixed methodology ideology, it states that both quantitative and qualitative research methods are advocated and the necessary qualitative and quantitative research tool will be utilised to obtain data for the study (Subedi, 2016; Berman, 2017). Onwuegbuzie and Leech (2005) reported that there are distinctive differences between the quantitative and qualitative paradigms, with reference to the ontological, epistemological and methodological process. Wilson (as cited in Liamputtong, 2019) argues that methodological triangulation entails quantitative and qualitative research collectively, and states that it adds to existing research in that it provides a thorough in-depth understanding of the studied phenomenon. The research process of the study will be outlined.

4.2.1 Phase 1: Surveys

Quantitative research is justified for this phase of the study, as the study proposed to understand the PWB, prevalence of burnout and the resilience levels amongst medical interns in the province of KZN. For this quantitative phase of the study, a cross-sectional survey was used. Data for this phase of the study was collected using Google Forms as an online questionnaire was created. The online questionnaire consisted of four questionnaires aimed at gathering the socio-demographic details of the interns, PWB, resilience and burnout experienced by medical interns.

The first questionnaire focused on gathering socio-demographic details of the medical interns, namely gender, age and year of internship training (Refer to Appendix 2). The second questionnaire focused on the PWB of medical interns. The scale called Ryff's Scale of Psychological Well-being consisted of 18 items in total, and is a shortened version of the 84-item original questionnaire. The topics covered in the PWB questionnaire include autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance, all of which consist of three items each (See Appendix 8). Ryff has stated that the PWB of an individual is that of the collective sub-scales as the well-being dimensions are connected. The questions used a five-point Likert scale (1 = Strongly Disagree, 2 = Disagree Somewhat, 3 = Disagree Slightly, 4 = Agree Slightly, 5 = Agree Somewhat and 6 = Strongly Agree), with eight negative questions (reversed score). The Ryff scales do not have published global cut-off scores indicating what ought to be considered as "low" or "high" scores on the scale. Keeping this in mind, it has been suggested that researchers are to consider 25% of the "lower" and "upper" quartiles of the data set scores as the "low" and "high" well-being scores respectively, provided the distribution of the scores are normally distributed.

Ryff's 18-item Scale of Psychological Well-Being has been used in a SA study that focused on the PWB of sports club members. The six sub-scales yielded high levels of internal consistency: positive relations with others 0.88, autonomy 0.83, environmental mastery 0.86, personal growth 0.85, purpose in life 0.88 and self-acceptance 0.91 (Edwards & Edwards, 2011). In a study by Klainin-Yobas et al. (2016) assessing the

relationship between stress, resilience and PWB of young adults attending a Philippines university, PWB was assessed on sub-scales, namely autonomy, environmental mastery, purpose in life, personal growth, positive relations with others and self-acceptance. The study found that the PWB of students was influenced by their level of resilience. The resilience of the students was associated with a higher autonomy and growth (Klainin-Yobas et al., 2016). The autonomy and growth factor scores ranged between 10 and 60, where the higher the score, the greater the autonomy and growth of the students. The 18-item scale has been used internationally (Amin & Shah, 2020; Sampath et al., 2019) but has yet to be tested on medical doctors in SA.

The third questionnaire focused on evaluating an individual's burnout by assessing their disengagement and exhaustion experienced in their profession. The questionnaire called the Oldenburg Burnout Inventory (OLBI) consisted of 16 items (Refer to Appendix 9). The topics covered in the OLBI questionnaire included engagement (eight items) and exhaustion (eight items). The disengagement items are item numbers 1, 3, 6, 7, 9, 11, 13 and 15 and the exhaustion items are item numbers 2, 4, 5, 8, 10, 12, 14 and 16. The items or statements use a four-point Likert scale where a score of items range from 1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree. There is negative scoring for the items with eight negative questions (reversed score).

The OLBI was used as a replacement of the Maslach Burnout Inventory (MBI) assessment tool. The OLBI makes use of a scoring scale which consists of a combination of both positive and negative items which makes it a more reliable scale in assessing burnout (Kalliath, 2000; Lee & Ashforth, 1990). The assessment tool tests for exhaustion and disengagement (Bhugra et al., 2019; Demerouti et al., 2003; Peterson et al., 2007). The exhaustion scores look at understanding the mental breakdown of an individual over time and not at the emotional feelings that are felt by an individual over time (Bhugra et al., 2019; Demerouti et al., 2003; Kristensen et al., 2005). Literature has suggested that the cut off scores value for the total OLBI is between 30 and 44 for it to be categorised as medium burnout. Therefore, the higher the value it indicates a greater risk of burnout (Glowacz et al., 2022).

Figure 5 Excerpt illustration of burnout cut off scores using the OLBI scale

Scales	Subscales (Items)	Cutoff Scores		
		Low	Medium	High
OLBI	*Total*	<30	30–44	>44
	Exhaustion (8)	<16	16–23	>23
	Disengagement (8)	<15	15–22	<30

The OLBI assessment scores obtained for exhaustion and disengagement illustrate a better understanding of relationships linked to outcomes within the working context (Cordes & Dougherty, 1993; Lee & Ashforth, 1996). Halbesleben and Demerouti (2005) reports that the OLBI is a valid psychometric assessment to measure burnout and that it can be utilised as an alternative to the commonly utilised MBI.

The OLBI has been used locally and internationally (Tipa, Tudose & Pucarea, 2019) on personnel from different spheres of work. A study on medical professionals in Nigeria assessed the burnout rate of physicians using the OLBI and results yielded 75.5% level of burnout experienced (Nwosu et al., 2020). Similarly, a cross-sectional study based in SA sampled university students from surrounding universities and found that students faced with having to cope with the demands of university and limited resources resulted in students experiencing burnout (Mokgele & Rothmann, 2014). The OLBI is yet to be used on medical professionals in SA, and more so specifically on the medical interns serving their internship training.

The fourth questionnaire focused on evaluating resilience, the ability to recover from stress and to thrive in the face of adversity. The questionnaire called the Brief Resilience Scale (BRS) consisted of six items (Refer to Appendix 10). The items ranged from “bounce back quickly after hard times”, to “does not take me long to recover from stressful event” and to “I tend to take a long time to get over set-backs in my life”. The items are listed on a five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). The BRS scale focuses on assessing the perceived ability that an individual can recover from a state of trauma. Thus the scale assesses the construct of resilience by the use of both positive and negatively scored items. The scoring of the BRS scale ranges between 4 and 20. The score 4 - 13 represents low resilient coping, 14 - 16 indicates medium resilient coping, and scores of

17 - 20 illustrates high resilient coping. The higher the BRS score, the more resilient an individual is said to be (Smith et al., 2008). An individual with a high BRS score suggests that they are more resilient and able to navigate through the challenges they are faced with. Furthermore, it suggests that the individual would be able to prepare themselves for challenges that may present later.

The BRS has been utilised in SA studies within a business context assessing the effect of personnel resilience on the need to have support amongst personnel within the organisation (Meintjies & Hofmeyer, 2018). Similarly, Mokgele and Rothmann's (2014) SA study aimed to understand students' well-being and satisfaction with life by using the BRS to highlight the negative relationship that burnout has with PWB (i.e. negative PWB is directly influenced by the burnout experienced by students). The BRS scale has not yet been utilised on healthcare professionals in the South African context. A study by Bozgad and Ergun (2020) attempted to understand the factors that affected Turkish medical personnel's psychological resilience. The study found that the 214 doctors, nurses and medical personnel from healthcare in Turkey were affected by the global pandemic (COVID-19) and the internal consistency of the BRS scale for the study was found to be 0.82 (Bozdağ & Ergün, 2020).

4.2.2 Phase 2: Semi-structured interviews

For phase 2 of the study, individual semi-structured interviews were conducted to understand the extent to which psychological support is perceived, required and provided to medical interns within the healthcare context (Refer to Appendix 7). Interns discussed their current coping strategies to mitigate the negative psychological consequences experienced within their profession as well as discussed what type(s) of support they felt they require to improve their PWB. Semi-structured interviews allowed the researcher to develop rapport with the participants so that they felt comfortable enough to share their experiences and knowledge pertaining to the subject material being researched, PWB of interns (Yoshikawa et al., 2008; Neuman, 2014). Ahlin (2019) shares insight on the advantage that semi-structured interviews provide in the research process. Researchers are able to make use of a prepared list of questions when interviewing their participants. Follow-up questions commonly termed as probing

cues are utilised to allow the participant to further elaborate on their provided response to the question asked (Ahlin, 2019). The overall goal of the semi-structured interviews was to understand how medical interns attach meaning to and experience their PWB during internship training. This will be further discussed in the results sections.

4.2.3 Phase 3: Online Mindfulness course

The primary objective of phase 3 was to test the feasibility of Palouse Mindfulness, Online Mindfulness-based Stress Reduction (MBSR), a non-randomised pilot study in alignment with the anonymous data collected (extracted) from Phase 1: Surveys and Phase 2: Semi-structured interviews of the study (Creswell, 1994; Neuman, 2014), and its acceptability by medical interns in eThekwini, KZN. The theme and mindfulness practice for each week of the eight-week course are explained below. The outline of the videos with time estimation and readings for each week's session is provided.

Week 1 - Simple Awareness - Raisin Meditation and Body Scan

The Power of Mindfulness - *Shauna Shapiro [13 min]*
Don't Try to be Mindful - *Daron Larson [12 min]*
Mindfulness and the Body - *Michelle Maldonado [10 min]*
Befriending Our Bodies - *Jon Kabat-Zinn [4 min]*
All Bodies are Beautiful - *Amy Pence-Brown [4 min]*

The readings for Week 1 are as follows:

The Body Scan Meditation - *Jon Kabat-Zinn*
7 Myths of Meditation - *Deepak Choprah*
Why We Find It So Hard to Meditate - *Mindful Staff*
Mouthfuls of Mindfulness - *Jan Chozen Bays*

Week 2 - Attention and the Brain - Introduction to Sitting Meditation

The Monkey Business Illusion - *Daniel Simons [2 min]*
Mindfulness Practice - *Michelle Maldonado [17 min]*
Mindful Meditation and the Brain - *Shauna Shapiro [6 min]*
How Meditation Can Reshape Our Brains - *Sara Lazar [8 min]*
Coming to Our Senses - *Jon Kabat-Zinn [9 min]*
All it takes is 10 Mindful Minutes - *Andy Puddicombe [10 min]*

The readings for Week 2 are as follows:

Sitting Meditation - *Jon Kabat-Zinn [from Full Catastrophe Living]*
Joshua Bell plays a $3,000,000 violin *(and almost nobody notices)*
How the Brain Rewires Itself - *Sharon Begley*
How Meditation Affects the Gray Matter of the Brain - *David R. Hamilton, Ph.D.*

Week 3 - Dealing with Thoughts - Introduction to Yoga - Yoga 1

Non-Striving - *Jon Kabat-Zinn (3 min)*
Attention, Intention, Attitude - *Shauna Shapiro (16 min)*
Your Thoughts are Bubbles - *Jon Kabat-Zinn (5 min)*
Dealing with Thoughts (in life and in meditation) - *Tara Brach (20 min)*
The Samurai and the Fly - *Hanjin Song (3 min)*

The readings for Week 3 are as follows:

Mindful Yoga - *Jon Kabat-Zinn*
Meditation – It's Not What You Think - *Jon Kabat-Zinn*
I Hadn't Thought of That - *Wes Nisker*
Your Mind: Friend or Foe? - *Jack Kornfield*
The Reality Below Thoughts - *Jack Kornfield*

Week 4 - Stress: Responding vs Reacting - STOP: The One-minute Breathing Space and Yoga 2

Stress - Portrait of a Killer - *Excerpt from the Robert Sapolsky National Geographic Special [7 min]*
How Stress Affects Your Brain - *Madhumita Murgia [4 min]*
How To Make Stress Your Friend - *Kelly McGonigal [14 min]*
STOP: A Short Mindfulness Practice - *Susan Bauer-Wu [4 min]*
Using STOP - *Interview of Dave Potter with Yurika Vu [21 min]*

The readings for Week 4 are as follows:

What Is Stress?
The Anatomy of Anxiety *Time Magazine graphic*
Understanding the Stress Response - *Harvard Health Publications*
Harnessing the Upsides of Stress - *Harvard Health Publications*
STOP: One-Minute Breathing Space
The Magic Quarter Second - *Tara Brach*

Week 5 - Dealing with Difficult Emotions or Physical Pain

Turning Toward Difficulty *[and]* One Moment at a Time - *Vidyamala Burch [12 min]*
The Gift and Power of Emotional Courage - *Susan David [16 min]*
Pain x Resistance = Suffering - *Tara Brach (8 min)*
Holding Your Feelings "Like a Baby" - *Thupten Jinpa (2 min)*
The Three Components of Self-compassion - *Kristin Neff [6 min]*

The readings for Week 5 are as follows:

Responding to Emotional or Physical Pain - *Dave Potter*
"Turning Toward" Difficult Emotions - *Option 1 for Informal Practice*
"Turning Toward" Physical Pain - *Option 2 for Informal Practice*
Radical Acceptance - *Tara Brach*
The "Felt Sense" Prayer - *as shared by Tara Brach*

Week 6 - Mindfulness and Communication - Mountain Meditation and Lake Meditation

Deep Listening *video - Frank Ostaseski [3 min]*
The Art of Being Heard - *Susan Piver [8 min]*
The Sacred Art of Listening - *Tara Brach [19 min]*
Awakening Through Conflict - *Tara Brach [9 min]*
Blame - *narrated by Brené Brown [3 min]*
Empathy - *narrated by Brené Brown [3 min]*

The readings for Week 6 are as follows:

The Sacred Art of Listening - *Tara Brach*
The Most Frequently Asked Question - *Sylvia Boorstein*
The Answer to Anger - *Pema Chodron*
Conflict Management Styles - *Summary of communication styles*
The Heart of Nonviolent Communication (NVC) - *Marshall Rosenberg*

Week 7 - Mindfulness and Compassion – Love kindness Meditation and Walking Meditation

We Are Built To Be Kind - *Dacher Keltner [4 min]*
Cultivating Altruism - *Matthieu Ricard [18 min]*
How Mindfulness Cultivates Compassion - *Shauna Shapiro [13 min]*
Overcoming Objections to Self-compassion - *Kristin Neff [12 min]*
Radical Acceptance is a Prerequisite for Change - *Tara Brach [2 min]*

The readings for Week 7 are as follows:

Survival of the Kindest - *Paul Ekman*
Does Mindfulness Make You More Compassionate? - *Shauna Shapiro*
The Five Myths of Self-compassion - *Kristin Neff*
Introduction to Walking Meditation - *Tara Brach*

Week 8 - Conclusion - Developing a Practice of Your Own

Gratitude - *David Steindl-Rast) [5 min]*
Love Letters - *Kaira Jewel Lingo [11 min]*
The 365 Grateful Project - *Hailey Bartholomew [12 min]*
How My Son Ruined My Life - *Selma & James Baraz [7 min]*
Listening as an Act of Love - *Jon Kabat-Zinn [7 min]*
Grand Central Station - *Sharon Salzberg [2 min]*

The readings for Week 8 are as follows:

Deepening a Personal Meditation Practice - *Jon Kabat-Zinn*
Suggestions for Daily Practice - *Jon Kabat-Zinn*
In the Service of Life - *Rachel Naomi Remen*
The Rabbi's Gift - *M. Scott Peck (you can also listen to a beautiful 6 min. audio narration by the author)*

Pre-test and post-test data was collected. Interns completed weekly pre-test and post-test surveys namely Warwick Edinburgh Mental Well-being Scale (WEMWBS) (Refer to Appendix 11) and The Cognitive and Affective Mindfulness Scale - Revised (CAMS - R) (Refer to Appendix 12).

The WEMWBS consisted of 14 items. The items ranged from "I've been feeling optimistic about the future", to "I have been interested in new things" and "I've been feeling cheerful". The items are listed on a five-point Likert scale (1 = None of the time, 2 = Rarely, 3 = Some of the time, 4 = Often, 5 = All of the time) (Refer to Appendix 11). The WEMWBS has been used in the SA context. Smith (2018) focused on validating the WEMWBS for an adult population group in SA, yielding an internal consistency value of 0.80. Stemming from this research study, Smith (2018) concluded that the scale is validated and reliable to use within the SA adult context. Similarly, Roemer (2018) affirmed the WEMWBS to be valid within the SA context. The CAMS - R consisted of 12 items. The items ranged from "It is easy for me to concentrate on what I'm doing", to "I am able to focus on the present moment" and "I am able to pay close attention to one thing for a long period of time". The items were listed on a four-point Likert scale (1 = Rarely/Not at all, 2 = Sometimes, 3 = Often, 4 = Almost Always). Only one item was a negative question (reversed score) (Refer to Appendix 12).

Kemper, Mo and Khayat's (2015) study on 213 medical professionals, of which 12% were trainees, investigated the relationship between mindfulness and self-compassion of medical professionals. In evaluating the level of burnout and quality of rest experienced by trainees, the CAMS - R scale yielded results that poor quality of rest by medical trainees is directly aligned to the inadequacy in their mindfulness and self-compassion. The more mindful the medical professional was in their duties, this led to an equal direct

correlation with minimised stress experienced and as a result a healthier mental well-being for the medical interns.

Given the present circumstance of living in a global pandemic, the online mindfulness course was sampled by a group of 21 medical interns using the WhatsApp platform of communication. An advantage of practicing brief mindfulness practices is that very little time was taken away from the medical professionals in attendance therefore making it suitable to be implemented in the healthcare fraternity (Gilmartin et al., 2017). For the purposes of this study, a brief introduction of the concept of mindfulness was introduced to interns and the types of mindfulness activities (i.e. breathing exercises, journal writing) reported to be effective. In addition, interns were asked to complete pre- and post-test questionnaires assessing the changes in their well-being as the online mindfulness course progressed over time.

4.3 Setting

The study was carried out virtually across five state hospitals in the province of KZN, namely Addington Hospital, King Edward VIII Hospital (KEH), Wentworth Hospital, R.K. Khan Hospital and Prince Mshiyeni Hospital. At the time of planning this study in 2019/2020 these hospitals were offering the highest number of medical interns for year 1 and year 2 intake for internship training, which culminated in a total population of 1060 medical interns. Hospital management was approached for official approval to access the proposed sites and approval was granted to carry out the study (Refer to Appendix 14, 15, 16, 17 and 21).

4.4 Participant selection and sampling

4.4.1 Phase 1: Surveys

Medical interns were selected for this phase using a non-probability sampling method, which is also referred to as convenience sampling (Neuman, 2014). As such, the inclusion criteria for the study included participants who:

1. are medical interns undertaking internship training at state hospitals in eThekwini, KZN.

2. are interns in either first or second year or extension-year of training.

3. are interns from all departments (General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Family Medicine/Primary Care, Anaesthesiology, Orthopaedics/Orthopaedic Trauma and Psychiatry).

4. Have a good understanding of the English language (able to understand and communicate in the English language).

Participants were excluded if they:

1. were not medical interns serving their internship training.

2. had an inability to understand and communicate in the English language.

The sample size of quantitative research studies is pertinent as it can influence the outcome of the research and what is been investigated. Wilson (as cited in Liamputtong, 2019) proposes that "the larger the study, the more statistical power the study has" (p.36). This means the study holds credibility and generalisation can be drawn from the results produced as the sample size is a true representation of the population sample size. The sample size for quantitative research can be challenging to calculate at times and needs to take in consideration several factors such as whether a sample of a particular size can be reached and if quality is provided by the sample size (Lwanga et al., 1991; Lenth, 2001; Sathian, 2010). The nature of the research proposed to deal with a specific population, medical interns from state hospitals in the province of eThekwini, KZN. It was initially proposed that 384 medical interns would be sampled for Phase 1: Surveys and this was on the premise of the intern intake being 1060 in 2019. In light of the global pandemic of COVID-19, there appeared to be a reduction in the intake of interns at the hospitals than what was anticipated. The study initially proposed to sample 384 medical trainees for phase 1, however only 120 trainees participated in phase 1. Thus, 31% of trainees participated in the quantitative research component.

4.4.2 Phase 2: Semi-structured interviews

Recruitment of participants for this phase was done using a non-probability sampling technique due to the qualitative nature of this phase of the study. Non-probability sampling entails subjects who are purposely chosen to represent certain features within the population (Neuman, 2014). Purposive sampling, also referred to as judgmental sampling, entails selecting unique cases that are especially informative and purposely chosen to represent certain features within the population (Miles & Huberman, 1994; Devers & Frankel, 2000; Neuman, 2014). Since the goal and rationale for qualitative research was in alignment with the goals of phase 2 of the study, purposive sampling was employed (Devers & Frankel, 2000).

As such, the inclusion criteria for phase 2 of the study included participants who:

1. are medical interns undertaking internship training at state hospitals in the province of eThekwini, KZN.
2. are interns in either first or second year or extension-year of training[9].
3. are interns from all departments (General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Family Medicine/Primary Care, Anaesthesiology, Orthopaedics/Orthopaedic Trauma and Psychiatry).
4. have a good understanding of the English language.

Participants were excluded if they:

1. were not medical interns serving their internship training.
2. had an inability to understand and communicate in the English language.

[9]The extension-year of training is referred to the additional time duration added onto the training programme of interns due to them "exceeding more than 2 months of leave in their 2 year internship programme" (p.5). https://www.hpcsa-blogs.co.za/wp-content/uploads/2017/04/2017-IN-Handbook-Part-I-and-II.pdf

In qualitative research, the research participants are selected according to their absolute relevance to the research study resulting in data representative of the phenomenon studied (Flick, 1998). It entails beginning with a case of which information from the initial case further directs the researcher to identify potentially relevant cases, and repeating the process until complete sample saturation is reached (Bowen, 2008; Baker et al., 2012; Neuman, 2014). The sample size for interviews to be conducted in qualitative research should not be less than 15. Similarly, Creswell (1998) agrees that the number of interviews to be conducted in qualitative research should be between five and 25 interviews for a single phenomenon study (Guest et al., 2006). However, Guest et al. (2006) and Neuman (2014) added that interviews should be conducted till complete saturation of data is obtained. This indicates that no new information is provided other than what is already known and that the data is complete (Francis et al., 2010; Marshall et al., 2013; Neuman, 2014; Fusch & Ness, 2015).

Hennink et al. (2016) state that complete saturation of information can be achieved within approximately 16 and 24 interviews or complete saturation achieved in fewer interviews than mentioned. Marshall et al. (2013) and Fusch and Ness (2015) shared similar discussions concerning the sample size for qualitative research interviews stating that conceptualised data saturation can be obtained from the interviews and that data saturation is achieved when the data produced by research participants is replicated, repeated and information becomes redundant. Literature has indicated the perceived sample size for interviews to be conducted for qualitative research, however in the same sentiment it has been mentioned that the sample size is influenced by the conceptual understanding of complete saturation (Guest et al., 2006; Mason, 2010; Dworkin, 2012; Neuman, 2014).

With reference to phase 2, it was proposed that between five and 25 participants would effectively represent the population, and be in alignment with the expected norms of sampling at PhD level. Eighteen participants had showed interest in participating in the semi-structured interviews. All 18 participants were contacted and interviews scheduled. A total of 18 participants participated in the semi-structured interviews, keeping within the

parameters of the proposed sample size and that the interviews had reached a state of complete saturation in information gathered by the interviews.

4.4.3 Phase 3: Online Mindfulness course

Twenty-one medical interns were recruited for this phase using a non-probability sampling method, which is also referred to as convenience sampling (Neuman, 2014). As such, the inclusion criteria for phase 3 of the study included participants who:

1. are medical interns undertaking internship training at state hospitals in the province of eThekwini, KZN.
2. are interns in either first or second year or extension-year of training.
3. are interns from all departments (General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Family Medicine/Primary Care, Anaesthesiology, Orthopaedics/Orthopaedic Trauma and Psychiatry).
4. have a good understanding of the English language.
5. have good internet connection (mobile data or Wi-Fi connection).

Participants were excluded if they:

1. were not medical interns serving their internship training.
2. had an inability to understand and communicate in the English language.

Despite initially proposing that 15 participants be recruited for phase 3, an unexpected attendance of 21 participants was recorded. All 21 participants that indicated their participation for phase 3 was contacted.

4.5 Data collection

Upon receiving ethical clearance for this study from the Biomedical Research Ethics Committee (BREC), an application for gatekeepers' access was sought from the district manager for the province of eThekwini, KZN (Refer to Appendix 20). An application for permission to conduct research within the eThekwini, KZN Provincial Department of Health was submitted on the National Health Research database (NHRD). After obtaining ethical approval from the National Health Research Ethics Council (NHREC)

(Refer to Appendix 19) and PHREC approval was granted, the PHREC approval was thereafter submitted to the BREC office and full ethical clearance was obtained (Refer to Appendix 18). Once full ethical clearance was granted to conduct the proposed research study, the manager/s at each of the state hospitals in eThekwini, KZN was/were approached via email and telephone call about a proposed way forward to contacting medical interns. With the permission and support of the medical manager at the respective hospitals (Refer to Appendix 14, 15, 16, 17 and 21), initial contact was made with the intern curators seeking their assistance in collecting data for the study. The curators shared the link to the Google Form for phase 1 of the research study via the WhatsApp group chat as all interns serving at the hospital in either year 1 and/or year 2 were part of the group chat. Curators served a pertinent role as point of contact between the researcher and interns. Medical interns who indicated their interest in participation for phase 2 (Refer to Appendix 3) and phase 3 (Refer to Appendix 5) were contacted initially via emails followed by WhatsApp text message (Archibald et al., 2019).

4.5.1 Phase 1: Surveys

Interns were provided with the information sheet and consent form (Refer to Appendix 1). Interns who consented to their participation in the study were given access to the phase of the study they agreed to participate in (Refer to Appendix 2, 4 and 6). In consenting to their participation, interns gave permission for their email addresses to be recorded. Understandably, not all participants provided their full name but had provided their mobile contact number. Initially a pilot study was used to test whether the Google Form questionnaires worked and whether the researcher was able to gather the data successfully, while identifying possible problematic errors with the questionnaire format used. Seven participants participated in the pilot study. As the participants signed up for the research study, they were approached to be a part of the pilot study (first seven participants). The participants' responses did not form part of the final analysis, as they piloted the study. The survey remained "live" for interns' voluntary participation. The researcher was in communication with the intern curators on a regular basis and provided them with communication correspondence to send out to the interns

on her behalf. The survey was reposted regularly to advertise for participants. Friendly messages of encouragement for participation in phase 1 of the research study were sent out weekly to the interns via their intern WhatsApp group chat. An interesting point worth noting is that interns would complete the questionnaire and thereafter pass on the link to a colleague or a friend, and almost a sense of approval from interns is what initially set the precedence for other interns to participate. This was shared with the researcher during a conversation with a participant. The duration of phase 1 of the research study was from 18th March until 31st April 2022.

4.5.2 Phase 2: Semi-structured interviews

Participants during phase 1 who had shown interest in participating in phase 2 (as the Google Form made provision for enquiry about participation in the other phases of the study) were contacted. The researcher retrieved a list of potential participants interested in phase 2 and provided them with a link to a Google Form. The form contained information about phase 2 and confirmed participants providing consent for participation. In addition, interns were asked to provide days and times they were available to participate in the semi-structured interview. As consent forms were received an indication of availability for an interview timeslot between 30 to 45minutes was confirmed. The researcher thereafter conducted the interview using the Zoom platform. Interviews were audio-recorded with the permission of the participants. During the duration of the Zoom interviews, the meeting was locked, therefore preventing anyone other than the scheduled participant to join the session. Each participant was assigned a pseudonym to protect their identity (Braun & Clarke, 2006). The researcher listened attentively to the shift in tone, for the answers received to the questions asked.

Medical interns were asked questions pertaining to the anonymised data extracted from the first phase, as well as to understand the psychological support provided to medical interns and the psychological support medical interns perceived they required. The interviews were guided by an interview guide with probing questions when necessary (Bernard, 1988, as cited in Hines, 1993; Lewis, 2004; Cohen, 2006). The probing questions asked during the interview were developed in collaboration with the

researcher's supervisor and co-supervisor so that the questions asked were in alignment with the aim of the study. The semi-structured interviews with open-ended questions took shape in alignment with the participants' story narrated (Refer to Appendix 7), as in the flow of questions asked and the prompting of probing questions when necessary (Lewis, 2004; Breakwell et al., 2012). The duration of phase 2 of the research study was from 15th April until 22nd April 2022.

4.5.3 Phase 3: Online Mindfulness course

Participants during phase 1 who had shown interest in participating in phase 3 were contacted. The researcher provided interns with a link to a Google Form which contained information about phase 3, and them providing consent for participation. The third phase of the study built on the information extracted from the questionnaires in Phase1 and the semi-structured interviews in phase 2 of the study. Thus, the intervention focused on providing support, treatment for their burnout by strengthening their resilience with mindfulness practices. This eight-week study took place virtually, online from 16th May until 10th July 2022. Initially phase 3 began using the Zoom platform but it did not work effectively in that interns were not able to attend the group sessions due to being on call and attending to shift work as well as experiencing load shedding. Thus, the suggestion was to shift from using Zoom to using WhatsApp as the platform to conduct phase 3.

A WhatsApp group chat was created and the 21 non-randomised participants who expressed interest in participating in phase 3 were added. Each week's content of the online mindfulness course was shared in the WhatsApp group chat as well as the link to the Google Form to complete the pre-test and post-test surveys namely WEMWBS (Refer to Appendix 11) and CAMS - R (Refer to Appendix 12). Interns were asked to complete the scales weekly after practising the mindfulness technique for the week. Due to interns' extensive hours on shift (36-hour or 24-hour shift calls), WhatsApp allowed for flexibility in that interns were able to watch the mindfulness technique videos provided within the course material in their own time and thereafter shared their thoughts in the group chat or individually messaged the researcher. This provided a

support system amongst the interns but also encouraged the interns to express the struggles that they were going through and was given reassurance that they were not alone in this journey of internship training: *"someone else is experiencing what I am experiencing"*. A support network leverages each person's unique characteristics to create a holistic support buffer for the individuals that comprise of the support group. By interns being in a support network, they are able to comfortably share their feelings and get to further understand how their colleagues are experiencing similar sentiments. Together as a group, they can share methods to cope with their feelings and work stressors, and motivate colleagues by encouraging them during tough periods in their medical careers. As a support network, the group's level of confidence is boosted and their passion for medicine is strengthened as they are not alone in this - they are a team. Given that participants completed the scales weekly, the change in measurement of the scales was monitored closely. It was anticipated that medical interns would make use of mindfulness techniques and that over time their psychological resilience strengthened. Furthermore, it was anticipated that as interns' psychological resilience strengthened there would be an equal correlating improvement in their PWB.

4.6 Data analysis

4.6.1. Phase 1: Surveys

Data from the questionnaires was recorded, downloaded and imported into version 26 of the Statistical Package for the Social Sciences (SPSS). Initially the questionnaires' item variables were imported from Google Excel spreadsheet. Frequency checks were done to screen for possible errors in the data set. Descriptive statistics were used to provide pertinent information pertaining to the demographics, internship year and burnout experienced. The analysis was conducted on the cleaned data. Descriptive statistics was used to summarise the data. In addition, the mean, mode, standard deviation and variance of the variables were reported further. Cronbach's Alpha coefficient was used to assess the level of internal consistency of each group's questions by proportions (medical interns in year 1 and medical interns in year 2) (Hill et al., 1998; Roff et al., 2005). Frequencies and percentages were used for categorical data. Frequency distributions of numeric data were examined for normality and to determine

which summary measure to use, means (SD) or medians (IQR). Due to the distribution of the data not being normally distributed, the median and IQR will be reported on. Inferential statistics was used in testing the hypotheses. Two sub-group comparisons of the scale summary measures were done using Mann-Whitney test for non-parametric data to assess the strength, direction and significance of the relationship between the variables. The independent t-tests for parametric data were used to compare the difference between the variables (Neuman, 2014). There was no statistical significance of Mann-Whitney tests and therefore no post-hoc test with multiple comparisons was conducted. To examine the strength and direction of the linear relationships, Spearman's rank correlation co-efficient was used to assess the relationship and to accommodate the ordinal nature of the independent variable (Neuman, 2014). Similar to the study by Uzar-Özçetin et al. (2019), simple linear regression was used to understand the state of psychological resilience in predicting burnout and PWB among healthcare professionals.

4.6.2. Phase 2: Semi-structured interviews

The semi-structured interviews were analysed using thematic analysis (Refer to Appendix 22). Thematic analysis entails the identifying, analysis and reporting of themes arising from the data obtained. Furthermore, it organises the data in the simplest, enriched and detailed form, in alignment with the research topic (Boyatzis, 1998, Braun & Clarke, 2006). The data was categorised into categories based on the similarities within the data information as well as its exploration of the connection between themes presented (Attride-Stirling, 2001). Braun and Clark (2006) mention that there are six phases of thematic analysis when it comes to performing a data analysis on the data collected. The process consists of familiarisation of data, generating coding, searching for themes, reviewing themes, defining and naming themes and lastly, producing the report. The steps will be discussed as follows:

Familiarise: The concept of familiarisation, the entrance to the data of the study, provides the researcher with "an opportunity to closely read and thoroughly engage with the data, giving room for reflectivity" (Braun et al., 2019, as cited in Liamputtong, 2019, p.852). After the semi-structured interviews were conducted, the researcher then

transcribed the interviews word for word, verbatim. This allowed her to become familiar and completely submerged in the data that was collected. Similarly, Braun et al. (2019) as cited in Liamputtong (2019) discuss that "the process involves becoming 'immersed' in the data and connecting with it in different ways: engaged, but also relaxed; making casual notes, but being thoughtful and curious about what you are reading" (p.852). After the transcriptions were completed, the researcher then read and re-read the transcriptions beginning to notice the features of the data. She then started making brief notes of reference. As Braun et al. (2019) mention, the coding notes made by the researcher are the answers to the research questions of the study.

Generating initial codes: After reading the interview notes of the participants, the researcher then identified key aspects from the data collected. This step entails attaching "clear labels (codes) to chunks of data, to help organise the data around meaning patterns" (Braun et al., 2019, as cited in Liamputtong, 2019, p.853). For this stage of analysis, the researcher and her co-supervisor did the coding with a reflective approach to thematic analysis. The identified information was highlighted and labels were assigned to the right-hand side of the transcripts, thus establishing the formation of an initial coding list. With this in mind, the theoretical lens aided in the meaning assigned to emerging themes. As the researcher, the codes identified within the data were noted, and together the researcher and co-supervisor discussed the structural order of presenting the codes in their clusters (Braun & Clark, 2006).

Searching for themes: Once the generated list of codes was established, the codes were then categorised into prospective themes. At this stage in the analysis, the themes within the data were slowly built up and meaning was assigned to the data gathered (Braun et al., 2019, as cited in Liamputtong, 2019). The themes the researcher chose to retain were those that were in alignment with the research questions and provided an enriched narrative. According to Braun et al. (2019), it is proposed that "good themes are those that tell a coherent, insightful story about the data in relation to the research question" (Braun et al., 2019, as cited in Liamputtong, 2019, p.854).

Reviewing themes: At this stage of the analysis, the researcher and co-supervisor reviewed the constructed theme list. This process was not easy and required a meticulous eye for detail. The researcher had to make the decision as to whether a

theme was to be considered as a stand-alone theme or if it was a sub-theme (Braun & Clark, 2006). The coded interview extracts for each theme were reviewed even further to ensure that coherency existed within the presentation of the data analysis. The researcher decisively identified specific extracts from the data sets, which provided a thoroughly detailed description of the theme or sub-categorical themes. As the researcher reviewed the themes, she was able to merge similar themes together and remove themes that were not sufficient as stand-alone themes. Braun et al. (2019) discuss that the themes should be cross-checked against the data identified so that themes that overlapped are noted and reviewed to understand the connection between the themes. As the themes were finalised, the researcher tabulated the themes with the supporting quotations, which aided in presenting a holistic representation of how the data linked. All coded data sets are gathered for the respective themes and revisited to assess whether the theme is complementary to the data obtained (Braun & Clark, 2006).

Defining and naming themes: The identified themes and sub-themes were further polished and each identified theme was labelled according to the most imperative information of the data being characterised (Braun & Clark, 2006). Reviewing and defining the themes is a necessary step, as the name of the theme directs the reader on the information to follow.

Producing the report: At this stage in the analysis, it is not simply about writing up the data extracted from the semi-structured interviews, but also entails further evaluation of the alignment and appropriateness of the themes in answering the research questions (Braun & Clark, 2006). This stage alludes to the engagement of the relevant literature explored in the literature review section with the findings of the present research study. The theoretical underpinnings of the research study assist in providing direction on how the data is to be presented (Braun et al., 2019).

4.6.3. Phase 3: Online Mindfulness course

The effectiveness of the online mindfulness course sessions over the period of eight weeks using the WhatsApp group chat platform was analysed using quantitative data

obtained from the pre- and post-test surveys completed by interns. The quantitative data from the questionnaires was recorded, downloaded and imported into version 26 of the SPSS. Initially the survey item variables were imported from Google Excel spreadsheet. Frequency checks were done to screen for possible errors in the pre-test and post-test data set. Descriptive statistics was used to provide pertinent information pertaining to the demographics, internship year, changes in mental well-being and the effect of the mindfulness techniques over the weeks. In addition, the median and standard deviation of the variables were reported further. Cronbach's Alpha coefficient was used to assess the level of internal consistency of each group's questions by proportions (medical interns in year 1 and medical interns in year 2) (Hill et al., 1998; Roff et al., 2005). The analysis was conducted on the cleaned data. Descriptive statistics was used to summarise the data. Frequencies and percentages were used for categorical data. Frequency distributions of numeric data were examined for normality and to determine which summary measure to use - SD or IQR. Two sub-group comparisons of the scale summary measures were done using Mann Whitney tests for non-parametric data and t-tests for parametric data. There was no statistical significance of Mann Whitney tests and therefore no post-hoc test with multiple comparisons was conducted.

4.7 Researcher reflexivity and positioning

Research reflexivity enables the researcher to identify and accept their possible influence on the study being researched, with reference to the data collection procedure and prejudices formed by society (Liamputtong, 2013). Reflectivity is an important aspect when conducting qualitative research and that is partially due to the capability that the researcher has over influencing the research, be it either with their knowledge or without their knowledge (DiCicco-Bloom & Crabtree, 2006).

When the researcher introduced the topic to the medical managers, she was met with hesitancy and this had somewhat startled her as she had received the support from the district and provincial Department of Health. Through further engagement with the

respective medical managers, the researcher gained their support and approval to proceed with the research. The next step was when the researcher was placed in communication with the intern curators[10] at the hospital sites. They were enthusiastic in assisting her to become in contact with the interns. The curators asked the researcher to provide them with the link to her study, and said they would convey this to the interns. This at the time was not exactly what the researcher had envisioned, but due to the COVID-19 pandemic, she was left with no alternative but to conduct the research online. She sent through the link, and waited. Self-reflection of the researcher is an ongoing process throughout the research study. The researcher is transparent in discussing their relation to the study (Creswell, 2013; Neuman, 2014). By the researcher entrusting the curators to share the link to the research study, it rendered her helpless in that she no longer had control over the situation. The researcher needed the data from the interns for the study, but could not directly reach out to them due to the Protection of Personal Information Act[11] (POPI Act). Days had passed and the researcher had not received a reply to the survey; thereafter the surveys were being completed in their masses. The researcher felt overwhelmed by the responses coming in and the interns reaching out to further understand the research study. The researcher received replies of participation for the semi-structured interviews and the online mindfulness course. Maton (2003) discusses that reflectivity is an approach whereby the researcher elaborates implicitly on their stance in the research study. The concept 'positioning' refers to an individual's personal opinion and standpoint regarding a matter of interest. The researcher is required to identify their views, opinions and perceived perceptions in relation to the research study (Merrium, 2009).

However, the process of gathering data did not always go smoothly. The researcher met with interns who were not interested in the study and expressed their displeasure

[10] Intern Curators' responsibility during the internship training programme is to be the go-to personnel for the intern, should they have a personal or health issue. In addition, the curator supports the intern in becoming accustomed to the medical fraternity and the medical team.
https://www.hpcsa.co.za/Uploads/MDB/Internship/2022_Internship_Guideline.pdf

[11] Protection of Personal Information Act is an act passed by the South African government to safeguard the personal information of citizens. https://popia.co.za/section-2-purpose-of-act/

towards the study for reasons which later became known to her. Interns thought the researcher had been sent by the HPCSA and that if they reported anything to her that their internship would be terminated. In addition, interns mistakenly perceived the researcher as a spy sent by the Department of Health to investigate what takes place during the internship programme or that their Medical Managers had asked her to have a chat with them. Other reasons were that interns felt embarrassed and ashamed to speak up about their mental health when their colleagues did not; that they were fearful of the stigmatisation that would come from participating in a mental health research study and the hesitance of speaking to a female researcher as opposed to a male researcher. According to Sikes (2004), there are several factors within the research process that may influence the researcher's standpoint which are believed to include "political allegiance, religious faith, gender, sexuality, geographical location, race, culture, ethnicity, social class, age and linguistic traditions", to name but a few. However, the power dynamic can have a positive effect on the study in that the participants are given the power to contribute what they feel is necessary to the study without any restrictions, and by doing so, valuable enriched data is obtained firsthand and continues adding to the already existing literature fraternity (Anyan, 2013, as cited in Liamputtong, 2019). The researcher found it somewhat interesting that amongst the interns, the male Muslim interns did not participate in the research study and would abruptly convey their thoughts about the research. This was a shocking surprise indeed, because as a Muslim female, the researcher had not anticipated that her religion would be a hindrance to her receiving data for the research study. Researchers achieve their positionality within a research study by identifying a connection with themselves and the research being studied. The researcher still continues to feel a deep connection with this research study, as she values the efforts that healthcare workers make in serving healthcare to society at large. The researcher understands that they can impact the outcomes of the research study (Savin-Baden & Major, 2013, as cited in Liamputtong, 2019).

On 17th October 2019, the researcher embarked on this topic as her mother is a living, breathing example of the impeccable work healthcare professionals serve. She recalls when her mother had to go in for an intensive surgery and she had met the doctor, dressed in his blue scrubs. It began to settle in that figuratively her mother's heart was

going to be in his hands, and she had to trust this person. The researcher remembers saying to him, *"She better be fine, or else I'll..."* and she feels she was condoned as she, the daughter, was saying it. But as she said it, the doctor's eyes filled up with tears, and a tear dropped from his eye. The researcher questioned herself: *"Did I just make a doctor cry? Doctors can cry? Doctors are human?"* These were the thoughts that ran through her mind and that formed the heartbeat of this study.

Berger (2015) argues that reflectivity is done within research to highlight that the researcher forms a pivotal part of the study, from the onset of the research conducted to the amalgamating of the data obtained. The researcher kept a notebook, jotting down her gathered thoughts and feelings throughout the research process, as well as information gathered through the journey of the study. This assisted in identifying potential aspects of bias and relevant methods to eliminate bias.

4.8 Ethical considerations

The ethical implications for any study are of utmost importance, and as such full ethical clearance approval was granted from BREC, protocol reference number: BREC/00003552/2021. All ethical guidelines were followed during the study. Participants in both quantitative and qualitative research can benefit from their participation in the study; however they could also have been affected by the research. As both a quantitative and qualitative researcher, it was imperative that the researcher adhered to the research guidelines for the respective research methods so that harm unto the participants is minimal to non-existent (Refer to Appendix 13). Participants' identity was protected by assigning pseudonyms, and informed consent was sought from all participants prior to the participation in the study.

The findings from this study will add value to the existing literature surrounding the mental health of doctors, but specifically the uncanvassed population, medical interns during their internship training at state hospitals in eThekwini, KZN. The findings from the study will provide insight into the initial journey and working life of medical professionals, as internship training is seen as the first step into the working life for medical professionals. It is important to understand the constraints that medical interns

experience within the medical context, but to take it a step further and to understand just how much the global pandemic of COVID-19 has added even further pressures to new medical graduates. Furthermore, there is the hope of evaluating the mindfulness techniques as a support intervention to maintain the PWB of medical interns amidst the pressures within the hospital context. Ultimately, this will positively influence the mental health of medical interns and support medical professionals during a highly pressured and important moment in their career and life at state hospitals in eThekwini, KZN.

In quantitative and qualitative research the participants are selected according to specific criteria, in that the participants are chosen purposefully so that enriched data of the studied phenomenon can be collected. Participants, medical interns situated in the province of eThekwini, KZN, were given an opportunity to participate in the study and be selected based on the inclusion criteria, i.e. medical interns in either their first, second or extension-year of internship training and graduates from all medical universities. All medical interns were encouraged to participate in Phase 1 - Surveys completion and Phase 2 - Semi-structured interviews. Only those participants who provided their consent to participate in the study were then provided with the surveys and thereafter interviewed by the researcher. The researcher ensured that the research participants were fully cognisant about the research study and that at every step of the study they felt comfortable to ask questions pertaining to the study at hand. The research participants were fully informed of their rights by participating in the study and that they were voluntarily participating in the study with no invested interest of obtaining gratuity. Participants were informed about the aspects of the study and how they fitted into the study. In addition, the possible potential risks that may be done to them unintentionally were discussed, such as should a participant experience any anxiety from their participation in the study they would be guided to the mental health resources guide which lists free and fee psychological support service providers (Refer to Appendix 13) with whom the participants could schedule a visit at their convenience. Participants were reminded that they could at any given point withdraw from the research study and that no consequences would be experienced by them in doing so.

Asking questions pertaining to one's livelihood such as their profession can become quite a sensitive issue, especially if their line of work is negatively affecting their well-being. Bearing this in mind, asking medical interns about their experiences during internship training may somewhat unmask the harsh realities that the new graduates face while beginning their working life as a medical professional. Medical interns were slightly apprehensive when the quality of their working life was being enquired about, as they felt that they would be looked down on by their colleagues for speaking out about what they experience on a daily basis and because of possible victimisation. The semi-structured interviews aimed to gather an in-depth understanding about medical interns' PWB, burnout and psychological resilience in the province of eThekwini, KZN, and furthermore, to understand the relationship between the effectiveness of a resilience programme on medical interns' PWB. The aim was to understand whether or not medical interns are psychologically prepared to work within the medical context.

Consolidating the possible risk of harm in relation to the benefits of the participants in the study, it was anticipated that the benefits would outweigh the risks. Nevertheless, all efforts were taken to ensure that the medical interns felt comfortable to participate in the study and were informed throughout the research study journey that they could withdraw from participating in the study without experiencing any consequences for their withdrawal. Upon the completion of the surveys and the semi-structured interviews, the researcher provided space for debriefing sessions should the participant feel the need to debrief, as the PWB of medical interns is important to her. As a Master's Psychology graduate, the researcher handled any concerns regarding PWB after the interview, and thereafter referred the participant/s to seek psychological assistance from the provided mental health resource guide of psychological services. Research is important to conduct so that literature can be verified, validated and new findings be added to the existing literature. However, when carrying out scientific methods, there is always a possibility that ethical issues arise within the study. Noting the issue that arises is important, but more important is how the ethical issues are being addressed and dealt with to ensure that the integrity of the research is held to the highest standard possible.

Participants participating in the semi-structured interviews were informed that the interviews would be audio-recorded, and how the information obtained during the interview would be protected and kept confidential. The interviews were only audio-recorded provided that permission was obtained from participants. All audio recordings are stored on a password encrypted computer. After the audio recordings are transcribed word-for-word and saved, the original audio-recordings are destroyed. The trustworthiness in research encapsulates the findings of the study to be transferable, credible, dependable and confirmable. To ensure the credibility in the qualitative research gathered, the transcriptions of the interviews were shared with the interviewees. This allowed for participants to verify the information reflected in their transcription, and that it reflected the information shared during the interview. Participants were able to affirm that the transcription was indeed accurate. This step was taken to ensure that the research findings were indeed an accurate representation of the phenomena studied and could be relied upon (Nobel & Smith, 2015). With reference to the transferability aspect, detailed methods were outlined earlier in Chapter 4, and detailed descriptions were received from participants. It is the participants' narratives that are presented later on in the write-up, in a detailed manner that eludes for the transferability of the data gathered to different contextual settings (Nowell et al., 2017). To ensure the dependability, as in the consistency and stability of the research findings, an outline of the steps followed in the research process from phase 1 to phase 2 and phase 3 was shared in this write-up. This allows for transparency in the research process, as well as for the researcher's steps to be traced from the commencement of the research process (Nowell et al., 2017).

Participants were informed of individuals such as the researcher's supervisors who would be accessing the transcriptions, as they would assist in the study's data analysis. Keeping the identity of the participants safe and protected, all identifying information was removed when the audio-recordings were being transcribed. Furthermore, participants were informed that their audio-recordings would be reported on in the findings of the research study.

CHAPTER 5: RESULTS: QUANTITATIVE - SURVEYS

This chapter aims to present the findings of the quantitative components of the research study collected in phases 1 and 3 of the research study. It begins by describing the sample that completed the surveys in phase 1 from the planned instruments, namely Ryff's PWB, OLBI, and BRS scales which will be presented in relation to phase 1 research questions of the study. The latter part of this chapter focuses on describing the sample that completed the surveys in phase 3 from the planned instruments, namely WEMWBS and CAMS - R scales which will be presented in relation to phase 3 research questions of the study. Since there appears to be several research questions and hypotheses in the study, the chapter will present the findings of the research questions in componential segments for easy navigation through the findings of the study. Findings related to research questions of phase 1 are presented under the heading Phase 1: Surveys. Findings related to research questions of phase 3 are presented under the heading Phase 3: Online Mindfulness course.

5.1 Sample characteristics of phase 1 participants

The sample size included 120 participants as they were eligible to participate in the study based on the prescribed inclusion criteria: they are medical interns undertaking internship training at state hospitals in eThekwini, KZN, are interns in either first or second year or extension-year of training, are interns from all department rotations, namely General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Family Medicine/Primary Care, Anaesthesiology, Orthopaedics/Orthopaedic Trauma and Psychiatry, and have a good understanding of the English language. No participants were removed from the descriptive analysis as there were no duplicated responses in the data set and all survey items were answered in their entirety (n=120).

5.1.1 Participants' demographic representation

The majority of the sample were female (55.8%), unmarried (90%) and between 25-29 years of age. The majority of the participants identified as being black (47.5%) and were medical intern trainees serving their second year of internship. Majority of trainees were currently training in family medicine rotation (42.5%). The participation of trainees

from year 2 internship (88.3%) exceeded the participation of trainees from year 1 internship (11.7%) for phase 1 of the study. It can be attributed that there exists such a large discrepancy in the participation between year 1 and year 2 trainees namely due to year 2 trainees feeling more comfortable to participate in light of them completing the internship programme relatively soon. Trainees of year 1 were apprehensive to participate as they had just commenced their internship programme. At the time of data collection for phase 1, it was year 2 trainees whom illustrated an interest in participating in the study. Perhaps the year 1 trainees were not able to participate in phase 1 due to time constraints of their work schedules, and it being the matter of year 2 trainees being able to manage their work schedules and set time aside to participate in phase 1. It cannot be insinuated but the likelihood is that year 1 trainees may not have received the informative message inviting participation in phase 1 of the study or that as the informative message came from their intern curator, they felt intimidated to participate. These are just possible reasons for the discrepancy in the participation between year 1 (11.7%) and year 2 (88.3%) trainees for phase 1 of the study. Of the seven medical department rotations, majority of trainees self-identified to be training in anesthesiology and orthopaedics (33.3%), as well as in family medicine/primary care (42.5%). The possible reasons for there being high participation from trainees in these two rotations is namely: the rotations are allocated the most trainees at a given point in time and trainees of these specific rotations were well informed of participation in phase 1 of the study by their intern curators.

At the time of working on the protocol of the study, and as mentioned earlier, the statistical calculation that was calculated to determine the required number of participants for phase 1 - the researcher was provided with a head count allocation of interns allocated to the hospitals in eThekwini, KZN by the Department of Health. The researcher, unfortunately cannot share further insight on the headcount allocation for each respective hospital due to the agreement with the Department of Health. The researcher was told that they are/were sharing an internal document with her from which no information could be shared, and that she was provided with the headcount for statistical purposes. One cannot dismiss that the COVID-19 pandemic contributed to the

headcount of intern trainees at the time in which the study data was collected. Table 1 illustrates further the summary representation of participants' demographics.

Table 1 Socio-demographic and occupational profiles of participants in phase 1

		Total	
Variable	Categories	N	%
Gender:	Male	53	44.2
	Female	67	55.8
Age Categories:	20-24	13	10.8
	25-29	93	77.5
	30+	14	11.7
Marital Status:	Single	108	90
	Married	12	10
Race:	Black	57	47.5
	White	17	14.2
	Colored	10	8.3
	Indian	36	30
Dependents:	None	63	52.5
	One+	57	47.5
Year:	Year 1	14	11.7
	Year 2	106	88.3
Current Rotation:	Anaesthesiology and Orthopaedics	40	33.3
	Family Medicine / Primary Care	51	42.5
	General Medicine	7	5.8
	General Surgery	5	4.2
	Obstetrics and Gynaecology	4	3.3
	Paediatrics	2	1.7
	Psychiatry	11	9.2
Hospital:	District and regional hospital	50	41.6
	Tertiary hospital	29	24.2
	District hospital	14	11.7
	Regional hospital	27	22.5

5.1.2 Participants' characteristics on the control variables

Male interns had higher resiliency scores as compared to their female colleagues. This is suggested by the greater total resilience scores amongst male interns at 20.8 (SD = 4.2, p = 0.09). Female interns had lower resiliency scores but not more burnout. The burnout scores were very similar between women and men. Marital status of interns appears to not have adversely influenced the burnout experienced as both single (46.2) (SD = 8.4) and married (46.4) (SD =7.2) interns experienced the same rate of burnout. Amongst the racial groupings, the interns who identified as black (79.4) (SD = 11.0) and white (77.1) (SD = 10.3) illustrated as per Table 2 that there is statistically a significant difference in the PWB experienced by black and white interns as $p < 0.05$ (M =79.4, SD = 11.0, M = 77.1, SD = 10.3; p = 0.03).

Distribution graphics, namely box and whisker plot, illustrates the distribution of outcomes based on the variables listed in Table 2. The box and whisker plot are presented between pages 83 and 86. In addition, the outliers that are illustrated in the distribution graphics have been reported on.

Table 2 Evaluating the relationship between socio-demographics on the psychological well-being, burnout and resilience experienced by phase 1 participants

		Burnout						Resiliency						Psychological well-being				
		Mean	SD	Median	IQR	p		Mean	SD	Median	IQR	p		Mean	SD	Median	IQR	p
Gender:	Male	45.6	8.8	44	16	0.5		20.8	4.2	21	6	**0.09**		78.0	10.9	76	19	0.35
	Female	46.7	7.8	45	10	0.5		19.3	5.1	19	7	**0.07**		76.2	11.0	76	15	0.55
Age Categories:	20-24	48.4	7.3	48	11	0.55		21.9	4.5	23	7	0.11		76.2	9.5	76	16	0.77
	25-29	45.8	8.2	45	11	0.64		20.0	4.7	20	5	0.12		77.4	11.4	76	18	0.77
	30+	46.9	9.3	44	15			18.1	5.3	18	7			75.2	9.6	76.5	13	
Marital Status:	Single	46.2	8.4	45	11	0.93		20.1	4.8	20	5.5	0.38		76.9	11.0	76	18.5	0.80
	Married	46.4	7.2	45.5	8.5	0.99		18.8	4.2	19	5	0.45		77.8	10.3	81.5	14	0.83
Race:	Black	44.9	8.7	44	10	0.32		20.5	5.1	20	7	0.62		79.4	11.0	78	17	**0.03**
	White	47.6	8.8	50	14	0.38		20.2	4.9	20	7	0.64		77.1	10.3	76	13	**0.03**
	Coloured	45.3	7.9	44.5	8			19.2	2.0	19	3			79.3	11.8	81.5	21	
	Indian	47.9	7.1	48	10.5			19.3	4.7	19	5			72.5	9.9	73.5	12.5	

For parametric data: Difference between two groups by t-test. The rest is based on ANOVA. For non-parametric data: Difference between two groups by Wilcoxon rank-sum. The rest is based on Kruskal-Wallis test. Top observed p-value based on parametric test. Bottom observed p-value based on non-parametric test.

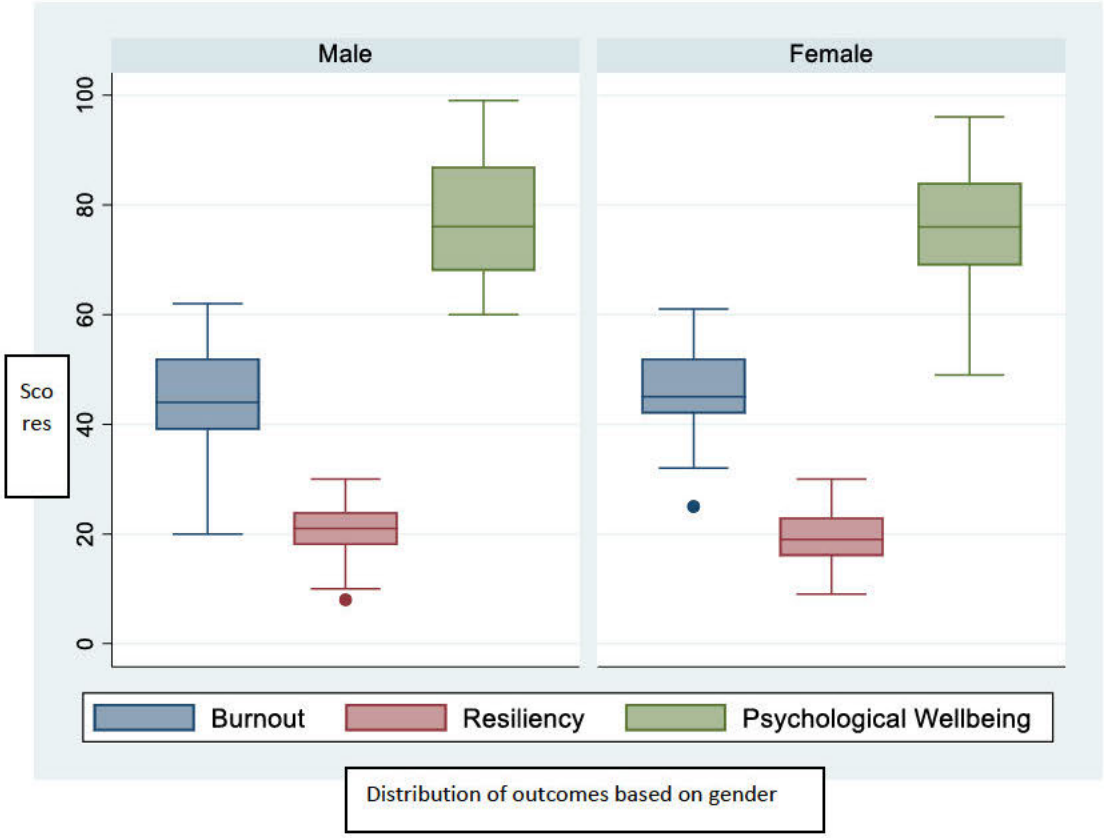


Figure 6 Box and whisker plot illustrating the distribution of outcomes scores of burnout, resiliency and psychological well-being on the gender of medical trainees

With reference to Figure 6, the box and whisker plot illustrates outliers in the data gathered in phase 1. There appears to be an outlier in the lower quartile of male medical trainees (21) (IQR = 6) distribution of resiliency scores. In addition, there appears to be a far outlier in the lower quartile of the female medical trainees (45) (IQR = 10) distribution of burnout scores.

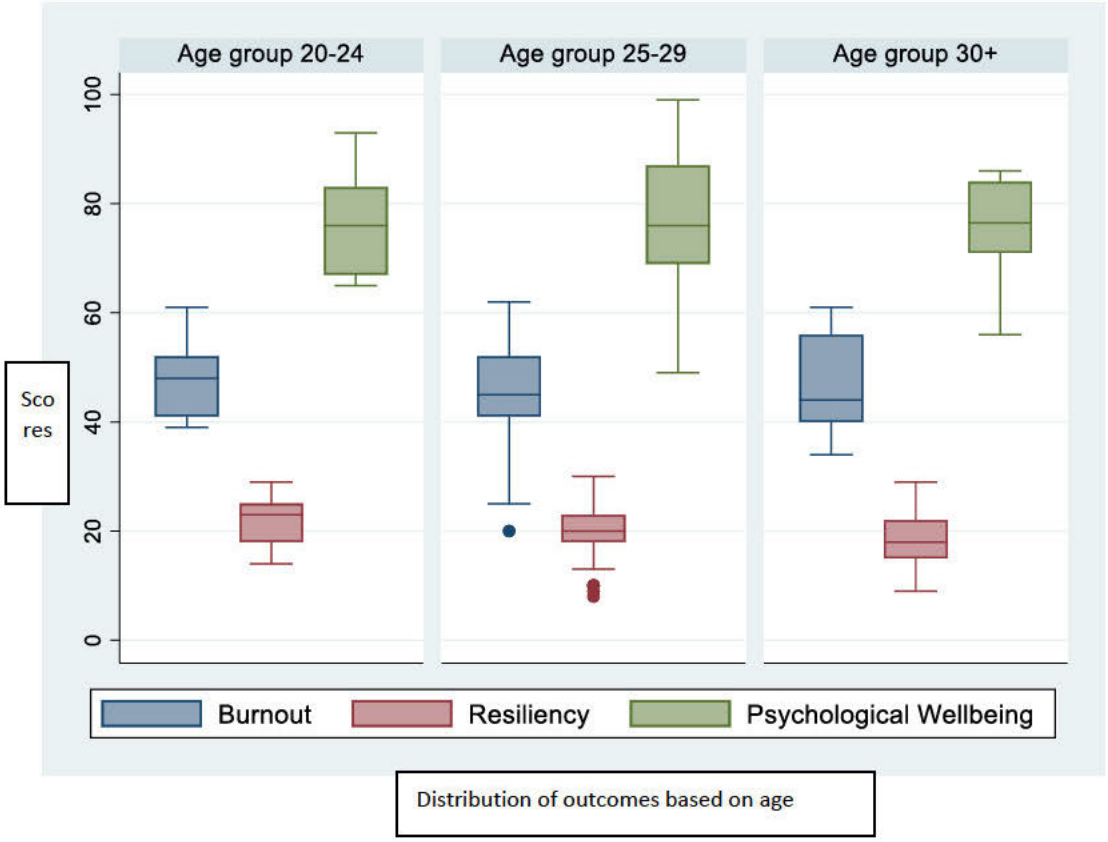


Figure 7 Box and whisker plot illustrating the distribution of outcomes scores of burnout, resiliency and psychological well-being on the age of medical trainees

With reference to Figure 7, the box and whisker plot illustrates outliers in the data gathered in phase 1. There appears to be a far outlier in the distribution of burnout scores of medical trainees aged 25-29 (45) (IQR = 11), and in the lower quartile quadrant. Furthermore, there appears to be several outliers in the distribution scores of resiliency amongst medical trainees in the age group 25-29 (20) (IQR = 5), in lower quartile quadrant.

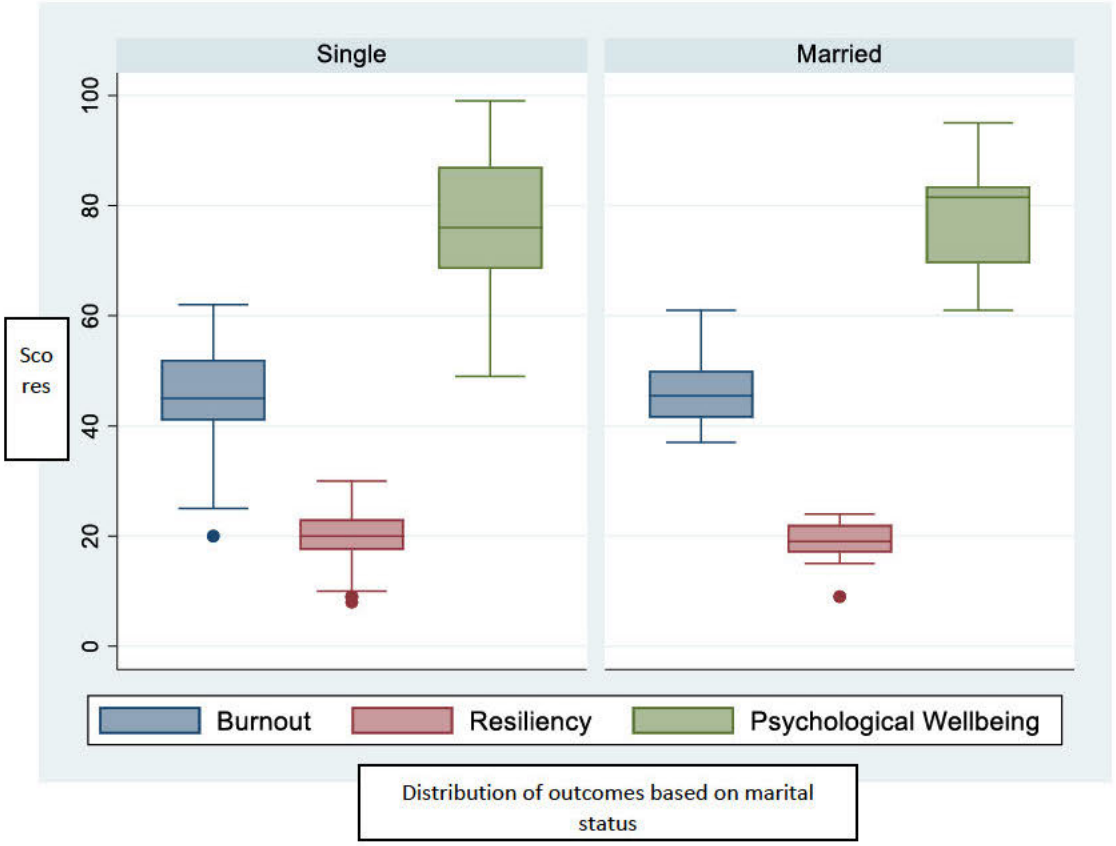


Figure 8 Box and whisker plot illustrating the distribution of outcomes scores of burnout, resiliency and psychological well-being on the marital status of medical trainees

With reference to Figure 8, the box and whisker plot illustrates outliers in the data gathered in phase 1. There appears to be a far outlier in the distribution of burnout scores of single medical trainees (45) (IQR = 11), and in the lower quartile quadrant. Noticeably there are bunched outliers in the distribution of resiliency scores of single medical trainees (20) (IQR = 5.5). Furthermore, there appears to be a far outlier in the distribution scores of resiliency amongst married medical trainees (19) (IQR = 5), in the lower quartile quadrant.

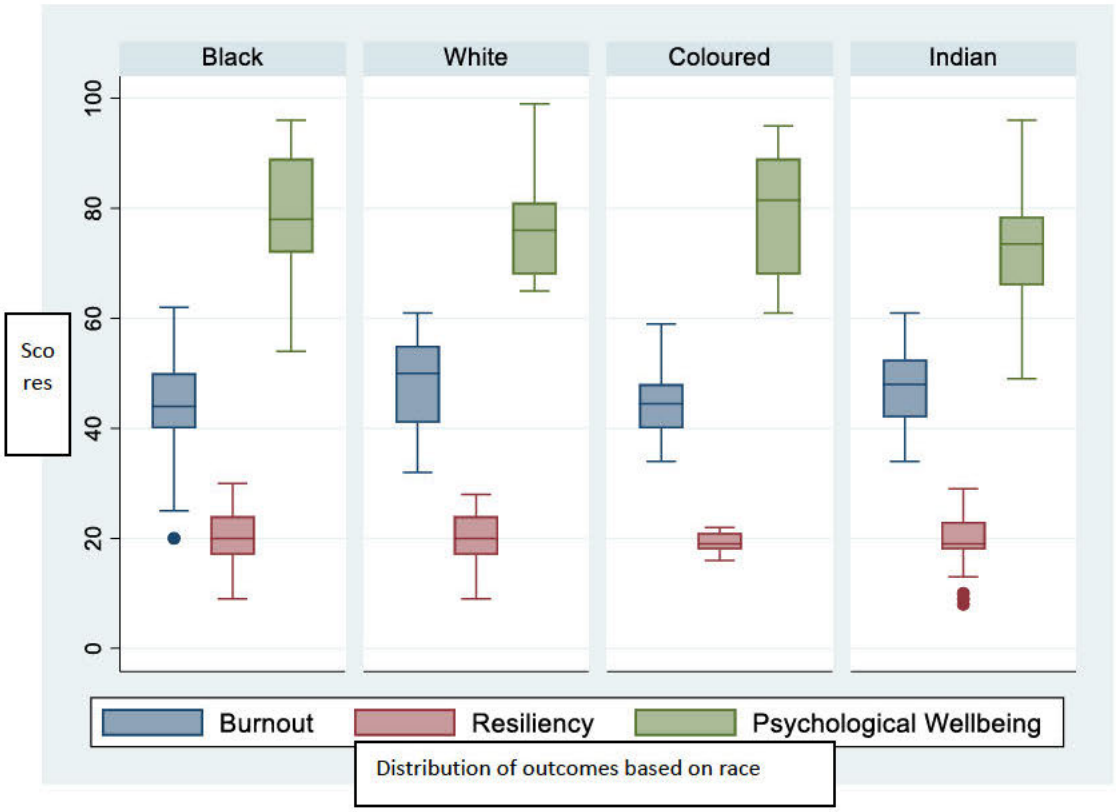


Figure 9 Box and whisker plot illustrating the distribution of outcomes scores of burnout, resiliency and psychological well-being on the race status of medical trainees

With reference to Figure 9, the box and whisker plot illustrates outliers in the data gathered in phase 1. There appears to be a far outlier in the distribution of burnout scores of black medical trainees (44) (IQR = 10), and in the lower quartile quadrant. Noticeably there are bunched outliers in the distribution of resiliency scores of Indian medical trainees (20) (IQR = 5.5). Furthermore, there appears to be a far outlier in the distribution scores of resiliency amongst married medical trainees (19) (IQR = 5), in the lower quartile quadrant.

5.1.3 Evaluating the relationship between year of internship and psychological well-being, burnout and resilience

The normality of the data was assessed using the Shaprio-Francia and Shapiro-Wilk non-parametric tests. Thus, understanding that the data yielded from the Ryff's Psychological Well-being Theory, Resilience and OLBI scales reflected a normal distribution "bell shaped figure" of the data set based on the skewness and kurtosis. Therefore, the Wilcoxon rank-sum (Mann-Whitney) test was used. In testing if a significant difference exists between the year of internship being served and the rate of burnout experienced for medical interns, the Mann-Whitney U-test was run and results returned a statistically non-significant difference between year 1 interns (M = 48.5, SD = 10) and year 2 interns (M = 45.9, SD = 8; t(118) = 1.11, p = 0.27, two-tailed). Looking at the exhaustion rate experienced by interns, it can be deduced that despite being in year 1 (M = 24.7, SD = 4.4) or year 2 (M= 24.3, SD = 4) interns tend to experience similar rates of exhaustion. As illustrated in Table 3, the resilience scores of the interns tended to be fairly similar, in that there is a small margin of difference in the average resilience score (M = 0.5) between year 1 interns (M = 20.4, SD = 0.1) and year 2 interns (M = 19.9, SD = 0.3; t(118) = 0.37, p = 0.71, two tailed), indicating no significant difference. In that year 1 interns are slightly more resilient and able to recover relatively sooner from trauma as compared to their colleagues serving year 2. This is however suggestive that interns display relatively high levels of resilience on average throughout their internship training period. The PWB scores of the interns tended to be fairly similar, in that there is a small margin of difference in the average well-being score (M = 1.8) between year 1 interns (M = 75.4, SD = 0.1) and year 2 interns (M = 77.2; SD = 0.4; t(118) = 0.59, p = 0.55, two tailed). Thus, there was no significant difference between the PWB experienced by year 1 and year 2 interns.

Table 3.1, an extension of Table 3, on page 91 and 92 further illustrates the skewness, kurtosis, Shapiro-Wilk test and Shapiro-Francia test for phase 1.

Table 3 Representation of the relationship between year of internship served on the psychological well-being, burnout and resilience of medical interns

Scale:	Sub-Scale:	Statistics	Overall (N=120)		Year 1 (n=14)		Year 2 (n=106)		Difference	
Burnout		**Mean (SD)**	**46.2**	**8.2**	**48.5**	**10**	**45.9**	**8**	**t=1.11, df=118**	**p=0.27**
		Median (IQR)	45	11	49.5	11	45	12	z = 1.665	p=0.10
	Disengagement	**Mean (SD)**	**21.8**	**4.9**	**23.8**	**6**	**21.6**	**4.7**	**t=1.59, df=118**	**p=0.12**
		Median (IQR)	22	8	25	5	22	7	z=1.88	p=0.06
	Exhaustion	**Mean (SD)**	**24.4**	**4**	**24.7**	**4.4**	**24.3**	**4**	**t=0.33, df=118**	**p=0.74**
		Median (IQR)	25	5.5	25.5	4	25	6	z=0.63	p=0.54
Resilience		**Mean (SD)**	**20**	**4.8**	**20.4**	**5.9**	**19.9**	**4.6**	**t=0.37, df=118**	**p=0.71**
		Median (IQR)	20	5.5	21	4	19	6	z = 1.665	p=0.38
		Mean (SD)	**77**	**10.9**	**75.4**	**10.1**	**77.2**	**11.1**	**t=-0.59, df=118**	**p=0.55**
Psychological well-being		Median (IQR)	76	18	78	19	76	18	z = -0.52	p=0.61
	Autonomy	**Mean (SD)**	**12.9**	**2.8**	**12.2**	**2.5**	**13**	**2.9**	**t=-0.97, df=118**	**p=0.33**
		Median (IQR)	13	4	12	2	13	4	z = -1.26	p=0.21

Table 3.1 Table illustrating the skewness, kurtosis, Shapiro-Wilk test and Shapiro-Francia test for phase 1. An extension of Table 3

		Mastery		**Mean (SD)**		**11.4**	**2.9**		**10.5**	**3.3**		**11.5**	**2.9**		**t=-1.19, df=118**	**p=0.24**
				Median (IQR)		12	3		10.5	4		12	3		z = -1.29	p=0.20
		Growth		**Mean (SD)**		**15.1**	**2.5**		**14.6**	**3.4**		**15.1**	**2.4**		**t=-0.67, df=118**	**p=0.51**
				Median (IQR)		15	4		16	2		15	4		z = -0.10	p=0.92
		Relationship		**Mean (SD)**		**12.4**	**3.6**		**13.2**	**2.7**		**12.3**	**3.7**		**t=0.92, df=118**	**p=0.36**
				Median (IQR)		13	5		13	5		12.5	5		z = 0.89	p=0.38
		Purpose		**Mean (SD)**		**12**	**2.3**		**11.9**	**3.3**		**12.1**	**2.2**		**t=-0.19, df=118**	**p=0.84**
				Median (IQR)		12	2		13	2		12	2		z = 0.23	p=0.82
		Acceptance		**Mean (SD)**		**13.2**	**3.3**		**12.9**	**4.3**		**13.3**	**3.2**		**t=-0.44, df=118**	**p=0.66**
				Median (IQR)		14	5		14	8		13.5	5		z = 0.08	p=0.94

The outcome data is normally distributed based on skewness and kurtosis, Shapiro-Francia, and difference based on t-test. Median difference based on Wilcoxon rank-sum (Mann-Whitney) test.

Scale:	Sub-Scale:	Overall (N=120)		Skewness	Kurtosis	Shapiro–Wilk Test	Shapiro–Francia Test
Burnout		46.2 45	8.2 11	-0.15	2.91	p = 0.16	p = 0.18
	Disengage	21.8 22	4.9 8	-0.11	2.42	p = 0.36	p = 0.45
	Exhaust	24.4 25	4 5.5	-0.44	2.98	p = 0.04	p = 0.41
Resiliency		20 20	4.8 5.5	-0.25	2.93	p = 0.41	p = 0.41
Psychological well-being		77 76	10.9 18	-0.15	2.42	p = 0.30	p = 0.46
	Autonomy	12.9 13	2.8 4	-0.32	2.87	p = 0.29	p = 0.66
	Mastery	11.4 12	2.9 3	-0.31	2.79	p = 0.52	p = 0.69

Growth	15.115	2.54	-1.07	**5.41**	p<0.01	p<0.01
Relationship	12.413	3.65	-0.21	2.40	p = 0.11	p = 0.78
Purpose	12 12	2.32	-0.34	**3.47**	p = 0.13	p = 0.09
Acceptance	13.214	3.35	-0.53	2.56	p = 0.02	p = 0.04

With reference to Table 3.1, the known rule of thumb is applied, which states: if the distribution outcome scores of the Shapiro-Wilks and Shapiro-Francia test reflect skewness to be between -0.5 and 0.5, then the data is fairly symmetrical and illustrates a normal distribution. If the kurtosis is found to be between -3 and 3, the data illustrates an asymmetrical kurtosis and illustrates a normal distribution. If it is greater than 3, this suggests that there would be outliers in the data set.

From Table 3.1, it can be deduced that there were outliers in the data set gathered for phase 1. The skewness of the PWB sub-scale - Growth was found to be -1.39, indicating that the distribution was left-skewed. The kurtosis of the PWB sub-scale - Growth was found to be 5.41, indicating that the distribution was more heavy-tailed to the right compared to the normal distribution. The skewness of the PWB sub-scale - Purpose was found to be -0.34, indicating that the distribution was left-skewed. The kurtosis of the PWB sub-scale - Purpose was found to be 3.47, indicating that the distribution was tailed to the right compared to the normal distribution.

5.1.4 Evaluating the relationship between the psychological well-being, burnout and resilience scores of phase 1 participants

Table 4 results indicated there is statistically significant correlation between total resilience and burnout scores ($r = -0.30$, $n = 120$, $p < 0.05$, low effect) meaning that high levels of resilience are associated with lower levels of burnout experienced by medical interns. A negative correlation exists between the resilience of interns and the burnout experienced. The PWB scores and burnout ($r = -0.39$, $n = 120$, $p > 0.05$, moderate effect) indicated a negative relationship. This means that the higher the burnout scores, the lower the PWB. The results also indicated a statistically significant correlation between total PWB and resilience ($r = 0.32$, $n = 120$, $p > 0.05$, low effect) meaning that high levels of resilience are associated with high levels of PWB, representing a positive relationship. Interns with a lower PWB coincided with a lower resilience ($M = 18.1$, $SD = 5.3$). This means that the lower the resilience level of interns, the more adversely it would influence on their PWB. As the table illustrates, interns aged 20-24 years experienced the most burnout at 48.4 ($SD = 7.3$) as compared to the other age groups of interns. There is a strong relationship between the burnout experienced ($M = 48.4$, $SD = 7.3$) and the level of resilience of interns ($M = 21.9$, $SD = 4.5$). This means that higher resilience is associated with a lower risk of burnout.

Table 4 Correlation matrix between resilience, burnout and psychological well-being

	Burnout	Resilience	Psychological well-being
Burnout	1		
Resilience	-0.30*	1	
Psychological well-being	-0.39*	0.32*	1

*$p<0.05$

5.1.5 Evaluating the relationship between the hospital context on the psychological well-being, burnout and resilience scores

With reference to Table 5, the Tuckey's test for multiple comparisons found that there was statistically non-significant difference between the burnout, PWB and resilience scores of participants across all hospital sites.

Table 5 Resilience, burnout and psychological well-being comparison by hospital

				Tuckey			
		Contrast	SE	t	p	95% CI	
Burnout:	Tertiary hospital vs District & Regional hospital	1.9	2.1	0.9	0.9	-4.0	7.8
	District hospital vs District & Regional hospital	1.0	2.6	0.4	1.0	-6.4	8.3
	District & Regional hospital vs District & Regional hospital	-1.9	2.4	-0.8	0.9	-8.5	4.7
	Regional hospital vs District & Regional hospital	-1.7	2.2	-0.8	0.9	-7.7	4.3
	District hospital vs Tertiary hospital	-1.0	2.7	-0.4	1.0	-8.4	6.5
	District & Regional hospital vs Tertiary hospital	-3.8	2.4	-1.6	0.5	-10.6	2.9
	Regional hospital vs Tertiary hospital	-3.6	2.2	-1.7	0.5	-9.7	2.4
	District & Regional hospital vs District hospital	-2.9	2.9	-1.0	0.9	-10.9	5.2
	Regional hospital vs District hospital	-2.7	2.7	-1.0	0.9	-10.2	4.8
	Regional hospital vs District & Regional hospital	0.2	2.5	0.1	1.0	-6.7	7.0
Resilience:	Tertiary hospital vs District & Regional hospital	-1.52	1.22	-1.24	0.73	-4.91	1.88
	District hospital vs District & Regional hospital	1.43	1.53	0.94	0.88	-2.80	5.66
	District & Regional hospital vs District & Regional hospital	1.00	1.38	0.72	0.95	-2.83	4.83
	Regional hospital vs District & Regional hospital	0.07	1.25	0.06	1.00	-3.38	3.53
	District hospital vs Tertiary hospital	2.95	1.54	1.91	**0.32**	-1.33	7.22
	District & Regional hospital vs Tertiary hospital	2.52	1.40	1.80	**0.38**	-1.36	6.39
	Regional hospital vs Tertiary hospital	1.59	1.27	1.26	0.72	-1.92	5.10

	District & Regional hospital vs District hospital	-0.43	1.67	-0.26	1.00	-5.05	4.20
	Regional hospital vs District hospital	-1.35	1.56	-0.87	0.91	-5.68	2.97
	Regional hospital vs District & Regional hospital	-0.93	1.42	-0.65	0.97	-4.86	3.01
Psychological well-being	Tertiary hospital vs District & Regional hospital	-2.84	2.80	-1.01	0.85	-10.60	4.92
	District hospital vs District & Regional hospital	-4.55	3.49	-1.30	0.69	-14.22	5.12
	District & Regional hospital vs District & Regional hospital	-1.79	3.16	-0.57	0.98	-10.54	6.96
	Regional hospital vs District & Regional hospital	2.90	2.85	1.02	0.85	-5.00	10.81
	District hospital vs Tertiary hospital	-1.71	3.53	-0.49	0.99	-11.49	8.06
	District & Regional hospital vs Tertiary hospital	1.05	3.20	0.33	1.00	-7.81	9.92
	Regional hospital vs Tertiary hospital	5.74	2.90	1.98	**0.28**	-2.29	13.77
	District & Regional hospital vs District hospital	2.77	3.82	0.73	0.95	-7.81	13.34
	Regional hospital vs District hospital	7.46	3.57	2.09	**0.23**	-2.44	17.35
	Regional hospital vs District & Regional hospital	4.69	3.24	1.44	0.60	-4.30	13.68

No difference in the significance of result when Bonferroni pairwise mean comparison method is used. No difference in the significance of result when Dunn's test of multiple comparisons using rank sums for non-parametric data is used.

5.1.6 Evaluating the results on predictors of mental health for phase 1 participants

Table 6 Multivariate OLS Regression illustrates resilience against burnout and psychological well-being based on linear regression

		Burnout			Psychological well-being	
		adj β	*p*		adj β	*p*
Resilience:						
	Continuous	-0.55	<0.01		0.81	<0.01
Gender:						
	[Male]					
	Female	0.25	0.87		-0.50	0.80
Age Categories:						
	[20-24]					
	25-29	-2.90	0.27		1.32	0.70
	30+	-3.44	0.30		0.89	0.84
Marital Status:						
	[Single]					
	Married	-4.74	0.12		7.21	**0.06**
Dependents:						
	[None]					
	Yes	2.67	0.16		-4.09	0.09
Race:						
	[Black]					
	White	3.12	0.25		-2.52	0.47
	Coloured	1.58	0.64		-1.38	0.75
	Indian	2.79	0.19		-6.97	**0.01**
Year:						
	[Year 1]					
	Year 2	-0.87	0.84		-0.65	0.91

Current Rotation:						
	[Anaesthesiology and Orthopaedics]					
	Family Medicine / Primary Care	0.14	0.94		-2.32	0.34
	General Medicine	-0.52	0.90		-2.73	0.61
	General Surgery	6.89	0.19		-7.55	0.26
	Obstetrics and Gynaecology	-6.78	0.20		4.50	0.51
	Paediatrics	3.50	0.64		-5.61	0.56
	Psychiatry	-4.15	0.15		4.73	0.20
Hospital:						
	[Tertiary]					
	District and Regional	-1.47	0.46		-0.08	0.98
	District	0.49	0.87		-2.63	0.50
	Regional	-3.13	0.19		4.63	0.13

Reference category in bracket

The results of the regression analyses are reported in Table 6. Resilience, the ability for interns to recover from a state of trauma as compared to other clinical outcomes, was the only covariate that was significant against clinical outcome in burnout (adjusted β = -0.55, p = 0.01) and PWB (adjusted β = 0.81, p = 0.01). The marital status, being married risk (adjusted β = 7.21, p = 0.06) was associated with a positive PWB. Race (Indian medical interns compared to other racial groups) was the only covariate that was significant against the other racial groups' clinical outcome in PWB (adjusted β = -6.97, p = 0.01) despite the coloured medical interns (adjusted β = -1.38, p = 0.75), and white medical interns (adjusted β = -2.52, p = 0.47) having a positive, healthier PWB.

5.2 Demographic representation of phase 3 participants

Table 7 Socio and occupational profiles of phase 3 study participants

		Overall	
		N	%
Year:	Year 1	5	23.8
	Year 2	16	76.2
Sex:	Male	10	47.6
	Female	11	52.4
Race:	Black	6	28.6
	White	6	28.6
	Coloured	3	14.3
	Indian	6	28.6
Age Category:	20-24	3	14.3
	25-29	14	66.7
	30-34	4	19
Marital Status:	Single	18	85.7
	Married	3	14.3
Dependents:	None	11	52.4
	Present	10	47.6
Current Rotation:	Anaesthesiology and Orthopaedics	4	19
	Family Medicine / Primary Care	12	57.1
	General Medicine	1	4.8
	General Surgery	2	9.5
	Obstetrics and Gynaecology	1	4.8
	Paediatrics	1	4.8
Hospital:	District and Regional hospital	8	38.1

	Tertiary hospital	4	19
	District hospital	5	23.8
	Regional hospital	4	19

The sample size included 21 participants. No participants were removed from the descriptive analysis as participants completed the mindfulness activities over the weeks, in addition to the pre- and post-test surveys which were completed (*n*=21). Table 7 illustrates the representation of participants' demographics. The majority of the participants were females (52.4%), between the ages of 25-29 years (66.7%) and unmarried (85.7%). The least represented racial group was Coloureds [12](14.3%). The sample represented a minority of year 1 medical trainees (23.8%). The majority of the interns' current rotation was family medicine (57.1%). No participants were rotating through Psychiatry at this stage. Table 8 illustrates further information.

[12] Coloured –The term coloured refers to an individual whom self-identifies as originating from a multi-cultural ethnic background.

5.2.1 Evaluating the results of pre- and post-WEMWBS and CAMS - R results of phase 3 online mindfulness intervention

Table 8 Pre- and post-WEMWBS and CAMS - R score based on match-paired non-parametric analyses

Week	N		Statistics		WEMWBS				CAMS - R		
					Pre	Post	p		Pre	Post	p
1	21		Median		44	49	<0.01		26	27	0.07
			IQR		9	9			4	4	
2	21		Median		47	53	**0.02**		27	29	**0.01**
			IQR		6	11			1	2	
3	20		Median		45	52	<0.01		27	27	0.13
			IQR		4.5	2.5			4	2	
4	20		Median		43	52.5	<0.01		25	27	<0.01
			IQR		7.5	1.5			6	1	
5	19		Median		43	52	<0.01		27	27	0.17
			IQR		6	0			3	1	
6	19		Median		47	53	<0.01		27	29	<0.01
			IQR		5	3			3	2	
7	21		Median		43	52	**0.02**		27	27	**0.86**
			IQR		12	5			2	3	
8	21		Median		50	51	**0.24**		29	28	**0.94**
			IQR		11	9			3	3	

A Wilcoxon signed-rank test determined that there was a statistically significant median increase in mental well-being after the intervention in week 1 (49, IQR = 9) when interns had accepted the mindfulness intervention compared to not accepting the intervention before (44, IQR = 9), p = 0.01. In week 1, there was a small difference in median of 1 between the cognitive and affective mindfulness pre-test median (26, IQR = 4) and post-test median of (27, IQR = 4), p = 0.07. This illustrated a statistically insignificant difference.

As the table illustrates, in week 2 the mental well-being pre-test median score for the 21 participants was 47 (IQR = 6) and the post-test median was 53 (IQR = 11) with a difference of six p = 0.02. This is indicative of statistically insignificant difference between the week 2 mindfulness intervention and the mental well-being of the participants. Keeping with the positive increase between the pre-test and post-test medians, there is a difference of two between the cognitive and affective mindfulness scores, p = 0.01 with a positive statistically significant relationship of week 2 mindfulness interventions.

Week 4, the halfway mark of the mindfulness course with 20 participants, depicts the decrease in medians pre-test scores of the mental well-being at 43 (IQR = 7.5) and cognitive and affective mindfulness scores at 25 (IQR = 6), a lower score than the pre-test and post-test assessed at the commencement of the mindfulness course for the respective scales. However, midway through the mindfulness intervention there still remains a positive statistically significant relationship between the mental well-being and cognitive and affective mindfulness scores, p = 0.01 after practicing mindfulness interventions over the duration of four weeks.

Despite week 5 consisting of 19 participants, the table illustrates a difference of nine between the pre-test 43 (IQR = 6) and post-test 52 (IQR = 0) median scores of mental well-being of the participants having utilised the week 5 intervention. It is imperative to highlight that the lowest IQR score amongst the data set is that of the post-test mental well-being score (IQR = 0). This shows that general consensus of participants' mental

well-being following the week 5 mindfulness intervention is strikingly similar. The lower the IQR value the more closely bunched the data set is. However, the cognitive and affective mindfulness medians scores remained the same for the pre-test 27 (IQR = 3) and post-test 27 (IQR = 1) scores reporting a statistically insignificant difference, p = 0.17.

In the second to last week, week 7, there was a noticeable difference of nine between the mental well-being pre-test 43 (IQR =12) and post-test 52 (IQR = 5) scores (p = 0.02). There is a statistically insignificant difference between the medians of the mental well-being scores, also noting that the IQR for the pre-test median scores was the record highest as compared to the alternative weeks in the data set (IQR = 12). This illustrates that the participants had scored vastly differently on the pre-test of the mental well-being scale prior to utilising the week 7 mindfulness intervention. The cognitive and affective median scores for the pre-test and post-test remained the same at 27, with a relatively small change between the IQR values of two and three respectively, p = 0.86. The Wilcoxon signed rank test shows the median difference is insignificantly different.

To conclude the mindfulness intervention, at week 8 all participants (*n* = 21) participated in completing the pre-test and post-test evaluations. As Table 8 reflects, there is an equal difference of one in the medians of the pre-test and post-test mental well-being scores (M = 50, IQR = 11; M = 51, IQR = 9) and the cognitive and affective (M = 29, IQR = 3; M = 28, IQR =3) scores. Notably week 8 results illustrate the positive influence of the mindfulness intervention in that participants' scores were fairly similar given the small IQR value of three, for the cognitive and affective mindfulness scores and a difference of two between the IQR values for the mental well-being pre-test (11) and post-test (9) values. Furthermore, week 8 mental well-being (M = 50, IQR = 11; M = 51, IQR =9, p = 0.24) and cognitive and mindfulness (M = 29, IQR = 3; M =28, IQR=3) scores were illustrated to be statistically insignificant.

Table 9 Baseline and end points in WEMWBS and CAMS-R score based on match-paired non-parametric analyses

Statistics		WEMWBS (N=21)				CAMS-R (N=21)		
		Pre (Week 1)	Post (Week 8)	P		Pre (Week 1)	Post (Week 8)	p
Median		44	51	<0.01		26	28	<0.01
IQR		9	9			4	3	

As illustrated in Table 9, the baseline of the mental well-being and cognitive and affective mindfulness pre-test prior to commencement of the mindfulness intervention was reported at (M = 44, IQR = 9, p = 0.01) and (M = 26, IQR = 4, p = 0.01). In addition, the post-test of week 8 mental well-being (M = 51, IQR = 9, p = 0.01) and the cognitive and affective mindfulness (M = 28, IQR = 3, p = 0.01) scores have been provided. The table shows substantial improvement in the mental well-being of the 21 participants who utilised mindfulness interventions over the period of eight weeks. Initially interns had begun with a mental well-being median score of 44 (week 1) and as the weeks passed, the interns concluded with a median score of 51 (week 8) - a noticeable difference of seven.

To conclude, there was a positive statistically significant relationship between the mindfulness techniques utilised by interns on their mental well-being in that their mental well-being improved over the duration of the mindfulness interventions. The cognitive and affective mindfulness medians had a difference of two between week 1 pre-test (M = 26, IQR = 4) and week 8 post-test (M = 28, IQR = 3) scores. Interns identified that their mindfulness steadily increased over time even though, as illustrated by the table, there was a small but positive increase in the median values. However, the IQR values were four and three for the pre-test and post-test respectively, which further reiterated the positive impact that the mindfulness intervention had on interns, in that interns' mindfulness improved over time as well as conformed to a similar evaluation of their mindfulness strengthening over time. Thus, to conclude, there was a positive statistically significant relationship between cognitive and affective mindfulness on the mindfulness interventions utilised over time. Lastly, to encapsulate the findings as

illustrated in the table, as the mental well-being of interns improves, there exists an equally positive relationship between the cognitive and affective mindfulness of interns, $p<0.01$. The table to follow, Table 9.1 illustrates the skewness, kurtosis and statistical information of the pre- and post-WEMWBS and CAMS - R scores. The table is an extension of Table 9. Furthermore, Table 9.1 indicates the number of participants whom had not participated in a specific week by the column “missing”.

Table 9.1 Table illustrating the skewness, kurtosis and statistical information of the pre- and post-WEMWBS and CAMS - R scores. An extension of Table 9

Week	N	Missing	Statistics	WEMWBS			CAMS - R		
				Pre	Post	p	Pre	Post	p
1	21	0	Median	44.0	49.0	<0.01	26.0	27.0	0.07
			P75	47.0	53.0		28.0	29.0	
			P25	38.0	44.0		24.0	25.0	
			IQR	9.0	9.0		4.0	4.0	
			Min	28.0	40.0		21.0	21.0	
			Max	68.0	68.0		33.0	31.0	
			Skewness	0.9	1.0		0.3	-0.3	
			Kurtosis	**4.1**	**3.7**		2.8	2.3	
2	21	0	Median	47.0	53.0	0.02	27.0	29.0	0.01
			P75	50.0	58.0		27.0	29.0	
			P25	44.0	47.0		26.0	27.0	
			IQR	6.0	11.0		1.0	2.0	
			Min	32.0	43.0		21.0	24.0	
			Max	69.0	69.0		31.0	30.0	
			Skewness	0.9	0.4		-0.3	-0.7	
			Kurtosis	**3.7**	2.5		**3.1**	2.8	
3	20	1	Median	45.0	52.0	<0.01	27.0	27.0	0.13
			P75	46.5	52.0		28.5	29.0	
			P25	42.0	49.5		24.5	27.0	
			IQR	4.5	2.5		4.0	2.0	
			Min	32.0	33.0		21.0	24.0	
			Max	67.0	68.0		30.0	30.0	
			Skewness	1.1	-0.1		-0.6	-0.6	
			Kurtosis	**6.2**	**6.6**		2.5	2.5	
4	20	1	Median	43.0	52.5	<0.01	25.0	27.0	<0.01
			P75	49.5	53.0		27.0	28.0	
			P25	42.0	51.5		21.0	27.0	
			IQR	7.5	1.5		6.0	1.0	

					Min		35.0	46.0			20.0	26.0	
					Max		68.0	61.0			30.0	31.0	
					Skewness		1.7	0.8			0.2	1.3	
					Kurtosis		**6.1**	4.9			1.4	**3.8**	
5		19	2		Median		43.0	52.0	<0.01		27.0	27.0	0.17
					P75		47.0	52.0			27.0	28.0	
					P25		41.0	52.0			24.0	27.0	
					IQR		6.0	0.0			3.0	1.0	
					Min		41.0	41.0			21.0	25.0	
					Max		67.0	68.0			31.0	29.0	
					Skewness		1.5	1.1			-0.5	0.2	
					Kurtosis		**3.9**	**6.8**			3.0	3.0	
6		19	2		Median		47.0	53.0	<0.01		27.0	29.0	<0.01
					P75		48.0	55.0			27.0	29.0	
					P25		43.0	52.0			24.0	27.0	
					IQR		5.0	3.0			3.0	2.0	
					Min		37.0	34.0			21.0	23.0	
					Max		55.0	61.0			29.0	31.0	
					Skewness		0.2	-2.0			-0.9	-1.3	
					Kurtosis		2.6	**7.6**			2.8	**5.5**	
7		21	0		Median		43.0	52.0	0.02		27.0	27.0	0.86
					P75		53.0	52.0			29.0	29.0	
					P25		41.0	47.0			27.0	26.0	
					IQR		12.0	5.0			2.0	3.0	
					Min		17.0	43.0			21.0	24.0	
					Max		69.0	67.0			30.0	31.0	
					Skewness		-0.6	1.6			-1.1	0.5	
					Kurtosis		**5.7**	**7.7**			**3.4**	3.0	
8		21	0		Median		50.0	51.0	0.24		29.0	28.0	0.94
					P75		55.0	56.0			30.0	29.0	
					P25		44.0	47.0			27.0	26.0	
					IQR		11.0	9.0			3.0	3.0	
					Min		25.0	41.0			20.0	21.0	
					Max		69.0	69.0			31.0	35.0	
					Skewness		-0.2	0.8			-1.3	0.0	
					Kurtosis		**3.1**	2.5			**3.7**	**4.6**	

With reference to Table 9.1, the known rule of thumb is applied, which states: if the distribution outcome scores of the Shapiro-Wilks and Shapiro-Francia test reflect skewness to be between -0.5 and 0.5, then the data is fairly symmetrical and illustrates a normal distribution. If the kurtosis is found to be between -3 and 3, the data illustrates an asymmetrical kurtosis and illustrates a normal distribution. If it is greater than 3, this suggests that there would be outliers in the data set. The outliers from phase 3 are further illustrated in Figure 10, the box and whisker plot.

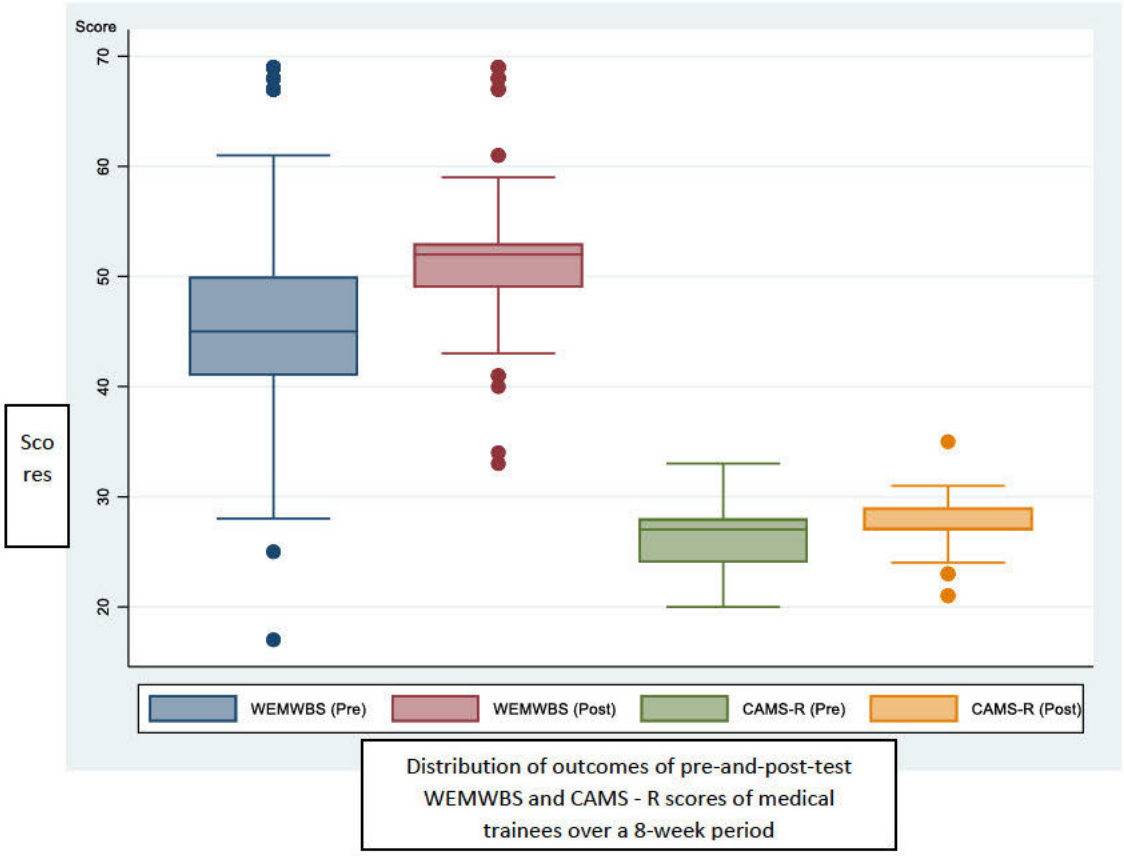


Figure 10 Box and whisker plot illustrating the distribution of outcomes scores of pre- and post-WEMWBS and CAMS - R scores of medical trainees over an 8-week period

With reference to Figure 10, the box and whisker plot illustrates outliers in the data gathered from phase 3. Both, the pre- and post-test distribution outcomes of the WEMWBS assessments yielded outliers in the lower quartile and higher quartile of medical trainees over the 8-week period. The mental well-being scores of the medical trainees' pre-test intervention ranged between 14 and 70. The WEMWBS analysis

categorises the top 15% scores ranging from 60-70 to indicate a high well-being, and the bottom 15% scores ranging from 14-42 to indicate a low well-being. As depicted by Figure 10 there appears to be a bunch of outliers falling into the category of high well-being. The post-test WEMWBS distribution outcome scores illustrate post-test intervention medical trainees reported to have high well-being depicted by the bunched outliers in the upper quartile quadrant. The lower quartile quadrant of post-test WEMWBS scores illustrates a few outliers in the range scores of 34-41, thus having a low mental well-being.

As illustrated in Figure 10, the CAMS - R pre-test scores yielded no outliers. With reference to the CAMS - R post-test scores, there appears to be outliers in both the lower quartile and upper quartile quadrant. The CAMS - R analysis suggests that the higher scores indicate the higher levels of mindfulness qualities of medical trainees. There appears to be a few medical trainees that have a lower level of mindfulness qualities than their peers over the 8-week period, and thus medical trainees' CAMS - R scores range from 20 – 33. The 8-week intervention illustrates that over time, the mental well-being of medical trainees improves as trainees strengthened their mindfulness qualities.

CHAPTER 6: RESULTS: QUALITATIVE - SEMI-STRUCTURED INTERVIEWS

The interview data collected during phase 2 will be presented in this chapter. The data's emerging themes that were presented throughout the process of thematic analysis were defined and grouped under headings and sub-headings which are presented in this chapter. For further detail as to how the themes of the data were grouped and derived, refer to the table in Appendix 22. The purpose of this chapter is to present the data as it appears without ensuing into in-depth explanations as yet. Taking cognisance that research of this nature can easily blur the division between presenting the results or the discussion, the researcher notes that the manner in which the material is organised does present an illustration of her own interpretation of the data collected. The interviews were semi-structured in that they afforded interns the opportunity to narrate their journey travelled during internship training.

The themes speak to the "transition from medical school to medical doctors", "COVID was and is like a war zone", "deteriorating mental health issues during internship", "helplessness and hopelessness related to the internship journey" and "the coping strategies used by medical interns". In order to illustrate pertinent issues presented by participants on psychological support at training institutions for interns and the impact of COVID-19 on interns' lives, as the study was conducted against the backdrop of a global pandemic, the researcher presents aspects of participants' stories so that a longer narrative can be presented. Lastly, participants discuss the power dynamics within the institutional context and the ascribed coping strategies in the hospital context.

6.1 Phase 2: Introduction

The PWB of trainee doctors changes with the transition from student to intern (Teunissen & Westerman, 2011). Participants in this study reflect on their journey through medicine thus far. The PWB of medical interns changed significantly during the transition from being a medical student to a junior doctor serving their internship training, although all participants persevered and demonstrated resilience throughout

their internship training journey. The data highlights factors that interns endorse as having hampered or promoted their PWB. Participants shared similar experiences throughout their internship, but at varying degrees of intensity. From the participants' narratives during phase 2, the primary themes identified were as follows: Transition from medical school to medical doctor: the internship journey, First day on the job, *"observe me do it and then you do it on your own"* and Imposter Phenomenon; *"COVID was and is like a war zone"*: Internship in the landscape of COVID-19, Interpersonal communication network, Impact of COVID-19 on interns' lives; Deteriorating mental health issues during internship, Variable psychological support at training institutions: Intern curator, *"a pillar of strength"*, Psychological support from institution, Helplessness and hopelessness related to the internship journey: Pushed to the extreme limits of no capacity and Dictated coping mechanisms. The researcher highlighted the main themes and their subsequent sub-themes. The themes and sub-themes address the mental well-being of medical interns and help to further understand the internship journey that medical interns embark on. Phase 2 consisted of qualitative data which will be discussed in the paragraphs to follow. Initially, the demographic data of participants will be discussed.

6.1.2 Phase 2: Demographic representation of participants

The sample size included 18 participants. No participants were removed from the descriptive analysis as all semi-structured interviews were completed and transcribed accordingly *n*=18.Table 10 illustrates the representation of participants' demographics. Participants who identified as female represented 77.2% (the majority of the sample) as compared to male representing 27.8% of the sample. The survey indicated that the majority of participants *n*=14 were aged between 25-29 years of age and that a small representation (22.2%) of participants identified as being between the ages of 20-24years *n*=4. The majority of the sample identified their marital status to be single *n*=16. The sample representation in terms of race has been categorised nominally. Participants who identified as Indian represented the majority of the sample (33.3%) followed by 27.7% of participants who identified as being White and the minority racial group comprised of participants who identified as being Coloured *n*=2. The sample

representation consisted of 15 participants serving their year 2 of internship training and a little over 16.7% were serving their year 1. Participants were mainly positioned in family medicine / primary care *n*=9 and the minority of participants served in general surgery, general medicine and paediatrics *n*=1. The sample comprised fairly of participants across the various hospitals listed in the Table 10, with the least participants at 5.6% serving at Prince Mshiyeni Hospital.

Table 10 Socio-demographics and occupational profiles of phase 2 study participants

			Overall	
			n = 1	%
Year n = 1		Year 1	3	16.7
		Year 2	15	83.3
Sex n = 1		Female	13	72.2
		Male	5	27.8
Race n = 1		Black	4	22.2
		Coloured	2	11.1
		Indian	6	33.3
		Other	1	5.56
		White	5	27.8
Age Category n = 1		20-24	4	22.2
		25-29	14	77.8
Marital Status n = 1		Married	2	11.1
		Single	16	88.9
Dependents n = 1		None	13	72.2
		Present	5	27.8
Current Rotation n = 1		Anaesthesiology and Orthopaedics	3	16.7
		Family Medicine /	9	50

		Primary Care		
		General Medicine	1	5.6
		General Surgery	1	5.6
		Paediatrics	1	5.6
		Psychiatry	3	16.7
Hospital $n = 1$		Addington	5	27.8
		King Edward VIII	6	33.3
		Prince Mshiyeni	1	5.6
		R.K. Khan	3	16.7
		Wentworth	3	16.7

For purposes of anonymity, participants were assigned a pseudonym for their participation in the semi-structured interview. Table 11 illustrates the demographic characteristics of the participants using pseudonyms.

Table 11 Demographic characteristics of participants using pseudonyms

Number	Participant	Gender	Internship Year
1	Andani	Male	2nd year
2	Duma	Male	2nd year
3	Fana	Female	2nd year
4	Hlengiwe	Female	2nd year
5	Olga	Female	2nd year
6	Yoseph	Female	2nd year
7	Thandeka	Female	1st year
8	Sam	Male	2nd year
9	Quinton	Female	2nd year
10	Phuthi	Female	2nd year
11	Bathiyane	Female	2nd year
12	Enzo	Female	2nd year
13	Cathy	Female	1st year
14	Nandi	Female	2nd year
15	Lindiwe	Female	2nd year
16	Kutloano	Male	2nd year
17	Gumbi	Male	1st year
18	Mamba	Female	2nd year

6.2 Transition from medical school to medical doctor

6.2.1 The internship journey

In SA, once medical students have graduated with their degree, they move onto doing a two-year internship (Health Professions Council of South Africa (HPCSA), 2022). Participants' responses highlighted that while this is the process, it does not always follow seamlessly. *"Medical school does not prepare you to be a doctor, but internship prepares you to become that doctor"* (Thandeka). The transition of moving away from medical school, being a medical student to graduating as a medical doctor is a step that is taken by many, yet it is unsettling. Many participants expressed that the shift was not what they had anticipated it to be (Costello et al., 2010). Hlengiwe, for example, reported:

> *The internship programme is very rough itself and then the very long hours expected is exhausting. I do not even have the time to do my cooking, cleaning and laundry…it is tough (laughs)…it is a BIG! Jump from med school to internship and no one can prepare you for this part…it is very tough!*

Medical trainees during their internship are required to be a bit more independent (Draper & Louw, 2012) and take the first step as opposed to waiting on step-by-step instruction as in medical school:

> *In hindsight, it was to make me realise that this is life and to take the initiative and do the medical procedures. I do remember questioning myself…did I really want to do this for the next 2 years? (Duma)*

Trainees need to evaluate if the right decision is being made by doing the training assigned (Teunissen & Westerman, 2011). Mamba concludes with the sentiments shared by the majority of participants about internship: "*a new environment where not a lot of structure exists"*. Participants shared that they were no longer provided with the protection and comfort they had experienced when they were medical students but that now they were the doctor - the person everyone would go to for assistance. The shift was from being in a position of learning to being in a professional role, using their medical school knowledge (Demiroren, Atilgan, Tasdelen Teker & Turan, 2020). Fana expressed: *"with the transition,*

we are not students now so its huge…you now have a lot of responsibilities. You are the first to see the patients, and they ask you first".

Shifting from a very controlled environment to working in a highly fast-paced atmosphere is a daunting experience as Yoseph, explains that:

> *As a student we were given clear decisions to follow and now as an intern the decisions do not lie with you but with the seniors…so if you mess up then your senior will need to rectify your mistake…I do not feel comfortable to do aspects but as a student we were sheltered but as a doctor there is no one shielding you.*

Another participant stated: *"Nurses nurse me along the journey"*. All participants reported that the nurses were highly supportive along their internship journey introducing them to the hospital environment and ensuring they felt comfortable. Fana reported that the nurses were of more assistance as opposed to other medical personnel in helping on the first day on the job. Similarly, other participants echoed the support of nurses: *"sisters (the term used to refer to nurses) they are always there to help and are around".*

"Time for me, it is not always about work", stated a participant. Time is a commodity that is priceless and cannot be replaced (Atchley, Kroll & Etcher, 2021). A minute gone by, a second lost, cannot be retrieved. Participants discussed they could now incorporate personal time into their day and that their work no longer consumed their days. There is a distinct division between professional and personal life. Enzo mentioned that: *"I find myself to be able to survive the workplace and go home to focus on relationships and me".* Similarly, Cathy also reported: *"now that I am getting to practice it (medical procedures) and I get to come home and not have to study medicine – I can do my own thing now and do what I want to"*. Participants discussed that they are coming to terms with having time for themselves and learning to navigate their newfound freedom, which is no longer restricted by studying as in prior medical school days.

6.2.2 First day on the job

Participants shared their experience of their first day on the job as newly qualified medical doctors. A variety of experiences were reported, namely not being able to recall an event of their first day, unintentionally making mistakes and chaos in abundance. Excitement was

expressed for finally being permitted to practice medicine (Robinson et al., 2020). New medical graduates entering the hospital context can find the unknown processes to be daunting (Hockey et al., 2020), which all participants echoed. Fana, for example, alluded to understand that with the correct guidance provided on the first day of the job one can easily settle into a rhythm:

> *We kept on messing up, me and my partner kept messing up in the unit. The registrar in our unit picked it up and said "Did you'll not have orientation?", but then he was kind enough to explain to us…like on this day of the week this is what we do…and on that day of the week this is what we do… so you just following the week guide and then we knew what to do.*

Similarly, Hlengiwe expressed not being familiar with the processes and what to do, as she had not started her internship at the same time as her colleagues (Draper & Louw, 2012), leaving her feeling isolated and not a part of the team. Hlengiwe stated:

> *It was extremely stressful. I didn't [did not] start with others, and I had started alone as a new individual in surgery. It was overwhelming, and everyone else had known each other, but I had not known anyone. I felt a bit out of place.*

Bathiyane shared similar feelings to Hlengiwe as they expressed the following: "*beginning internship was pretty scary and I did not know people. And expectations were not high for the month"*. Participants were taken aback by the shift of entering the hospital context as Quinton reported: *"I was… a chaotic time on Day 1… I was all over the place"*. Mamba likened the working environment to running at a high pace - alluding to it being a pressured atmosphere (Hockey et al., 2020). He reported that it: *"was like you hit the road running"*. Mamba referred to showing up on the first day and experiencing the adrenaline of this high-paced environment. Phuthi firmly recalled his first day as: *"arrive there [hospital] and are new… but you are shouted at and criticised for what may or may not go wrong".*

Yoseph summed up how the majority of participants felt: *"oh so what do I do?"* This relates to entering a new space, an unfamiliar context and not having the supported structure that medical school provided (Dean, Barratt, Hendry & Lyon, 2003). Yoseph further mentioned:

> *As a student they would always hand us patient files and put them in order, so you'd know which file to attend to first. The easiest case first and then makes your way to the complicated case. But now as a doctor, you get given the stack of files and you're to do what you need to.*

Managing the varying responsibilities of an internship requires trainees to be adaptive to the circumstances that are present (Levine et al., 2006). However, for some participants, the first day did not contain excitement or chaos but rather sombre elements. Kutloano discussed her first encounter as a medical doctor, her first patient and the realisation that not all patients will recover from their ailment:

> *I remember I saw my first patient, who later passed away in the evening. I was working in the COVID ward, and I remember I went to see him the next day, but I couldn't find him… and then I was informed that he had passed on… he was gone. It was the scariest thing I had witnessed; my patient was no more…and like most COVID patients, demised.*

6.2.3 *"Observe me do it and then do it on your own"* (Hlengiwe)

The internship is referred to as the training programme, as it allows trainees to utilise their learnt knowledge on real practical cases and medical care of people. Millan et al. (2012) inform that the monitored supervision provided to trainees assists in teaching them to perform the required medical procedures. Hlengiwe reports wanting the opportunity to take the lead on performing medical procedures as opposed to stepping back and observing, taking note of the steps to follow:

> *KEH [King Edward Hospital] they tend to baby us a lot. I feel like more like a clerk…take blood…fill out the forms. The big decisions are taken by the seniors and so that helps us to learn. But so, I get everything ready and present to the seniors and admit the patients. We do all the diagnostic tests…I feel like a clerk more than anything else! I wish it were more academics that I could learn with my skills.*

Ratanawongsa, Wright and Carrese (2007) allude that medical trainees experience a dynamic shift in their perceived expectations of the task they are to conduct. Thandeka echoed the view of Hlengiwe, in that she felt like she was an admin clerk as opposed to a doctor - a similar perception held by the interns interviewed. Thandeka, for example, discussed that *"I*

do not have academic stimulation and I feel like an admin clerk. There is not enough time for teaching as I'd like to as I get home". Phuthi described interns having to learn by themselves and that they endured being reprimanded for not knowing the medical procedures expected of them. Phuthi reported: *"It would be…learn as you land on the role and be shouted at for the things you somewhat should have known but didn't".*

6.2.4 Imposter phenomenon

The majority of participants reported feeling underprepared for their internship training and not adequately able to conduct medical procedures. Participants discussed: *"we are thrown in the deep end"* in having to do tasks and procedures. Another participant recalled an experience during their internship: *"the seniors expected you to do procedures even if you didn't know how to do it, you'd have to perform the procedure".* The internship is the period marked by learning and applying one's theoretical knowledge. Participants reported having felt that they were not meant to be a part of the medical fraternity and attributed that to the perceived mismatch in expectations between medical school and the internship context (Malau-Aduli et al., 2020). A participant shared:

> *I loved med school, it did give me a false impression that I am prepared like I'd [I would] do well in tests and friends would be chuffed with you, but once you get here to internship…you do feel like an imposter.*

The participant illustrated that despite excelling academically during their medical school years, it did not adequately prepare her for the experience. Several participants echoed the concerns that there are gaps in their learning due to them being unable to practice procedures in light of the COVID parameters implemented in the hospital context. As a result, their community service year would be affected: *"blanks in my learning and comm serv [community service] is the next step, the pressures of filling in those blanks"*.

6.3 *"COVID was and is like a war zone"*

6.3.1 Internship in the landscape of COVID-19

Most participants reported that COVID had added to their pre-existing workload and responsibilities. As Fana reported: *"COVID added to the number of protocols we had to*

follow". Lindiwe alternatively discussed that COVID had affected her prior to the start of internship training, when she was attending medical school. Lindiwe further discussed that she did not necessarily conduct medical procedures to strengthen existing knowledge as she expressed believing she was accepted into the internship training to complete the ward work (Jin Jun & Costa, 2020). Lindiwe expressed the following:

> *It (COVID) actually affected me from med school, and I feel like… that we were pushed forward just because of COVID. I never went to the theatre, not once in my surgical block, because of COVID, and I feel I was pushed through just to push the ward work.*

Ward work referred to the ward duties that trainees are expected to complete whilst being on duty. Lindiwe's words seem to hold true to the belief shared by participants. Most participants expressed their frustration at not being allowed to conduct medical procedures on their own (Yiga et al., 2016) but that they had to remain an observer observing the procedure steps repeatedly. Hlengiwe, for example, shared that:

> *The seniors just do not trust us to do it (medical procedures). I have only done one c-section from start to finish, and I'm not equipped to do it by myself mainly because KEH baby us. I have noticed that when other interns ask, it's a No! and when I have asked…I was told "observe me do it and then do it" but the truth is that I have been observing them do it so many times and I'd loved to have done it by myself and learn, myself. So, we have this logbook, and the HPCSA indicates to us what we are expected to complete and if we don't then its considered we have not completed our internship. What I have noticed is that seniors just sign off on the logbook.*

Participants reported that they did not feel comfortable serving their internship in the landscape of the global pandemic. Trainees shared that they were unsure of how to manage medical situations (Nkabinde, Ross, Reid & Nkwanyana, 2013). As Yoseph discussed, he was: "*not at all prepared to cope with the aspects of someone's life and to make decisions that will affect a patient".* Participants reported that they did not want to share with others that they were struggling because they wanted to make it seem that they could keep their heads above water and handle the pressures that come with internship training. A participant shared that: *"it [internship] sort of going back to the theoretical side of it, and struggling to keep up the demand of work"*. As Mamba explained: *"the more you reflect, the more you see*

that others (interns) are also experiencing the same as you, and that they are struggling just like you are". Similarly, several participants discussed they were afraid to share their struggles with family as they would then be perceived in a different manner:*" I don't like to talk about my struggles and didn't want to tell my new friends for the fear of isolation and family back home that I have gone from succeeding to now struggling".*

Andani echoed the sentiments in that he reported no one within the work context was available to listen to him:*" I do not have anyone to speak to that will listen to me"*. Furthermore, Andani added that due to the culture shared amongst interns, *"you see everyone else around is pushing, that you end up pushing too"*. Lastly, many participants explained that no one followed up with how they were managing their internship journey regularly, but that at the end of the training block, they were asked:

> *And end of the blocks the seniors would mark out logbooks and they'd ask you then at the end, how are you doing and what did you like or not like? Honestly, I, wanted to say… but I could not really because all I wanted was for my logbook to be signed so I can move on.*

Participants were apprehensive to share how they genuinely felt throughout their internship training as they felt it may influence the senior from signing off on their internship and prevent them from progressing in their training.

6.3.2 Interpersonal communication network

"If I really needed help and not lose my goal of why I chose to be a doctor I'd ask and I'd be helped", said a participant. The majority of participants often reported that they would not have coped with their internship commitments had they not been supported by their family, partners and friends. Mamba, for example, discussed: *"It would not be possible without that significant other you have at home or with your parents. You are expected to see it (psychological services) from your own personal support structures".* Participants reported making use of internal psychological services within the hospital context as well as external psychological support from private psychologists and psychiatrists.

Many participants reported utilising external psychological services, outside of the hospital context, as it was their preferred option. For example, Olga reported: *"I have felt the need (for psychological support) and the triggered Trichotillomania, but I didn't look for support*

within the hospital but I used external resources". Olga opted to use the support of a private psychologist and not the resources of the hospital at which she was serving. Similarly, Hlengiwe discussed that she also sought private support from both a psychologist and psychiatrist: *"going to a psychologist and a psychiatrist has helped me to overcome difficulties now and I do have one on standby, a psychologist to set up an appointment with".* Participants reported being on medication to assist them to cope with the demands of their work duties as they experienced underlying mental health issues. Bathiyane, for example, shared that she had to start taking her anti-depressants whilst serving internship due to the overwhelming experience: *"I had stopped my anti-depressants during internship and it got too much for me…but I needed it [antidepressants]"*.

Similarly, Quinton shared that the friendships formed during internship have helped him get through tough periods in time: *"good friend structure that I have met in internship was the greatest of outlet, supportive colleagues that bring it out…it will be okay".* Mamba and the majority of participants shared that they received steady support from their colleagues, and in essence being in the same situation - as a united front. Mamba's excerpt illustrated: *"What I got from other interns and it's more like…the blind leading the blind".* There was an established support network of communication amongst interns, with Mamba similarly highlighting the joint unity that was formed amongst interns:

> *There is already many interns leaning on one another…and we are strangers when we start on day one and we quickly become bonded thereafter. We relied mostly on friends… I was with my best friend and we leaned on each other and you learn as an intern to support one another…WhatsApp group to ask questions*.

Gumbi and Quinton further echoed that their friends checked-in with them and they saw the good friend structure as the greatest of outlets. The majority of participants discussed that work was what connects them and that in interaction outside of work they continued to support one another. Interns saw each other as a pillar of strength and something to rely on as their internship progressed. Cathy reported:

> *Work mentally takes up too much of peace of which we do not appreciate, and we find when we socialize as doctors we immediately start debriefing. We realize that we do*

> *actually need each other support in this (internship training). We need each other to cope so it can be consuming.*

As participants discussed, interns have to reach out to their seniors when they require assistance as they are not always readily available. Furthermore, participants present conflicting views of support from their seniors, in that some state support is given and other that no support is provided. Fana and Thandeka's excerpts below highlight the support from seniors toward interns: *"the registrar in out unit was prepared to assist us so the following week we then knew what to do"* (Fana) and *"seniors were very much approachable and looked out for us and were involved in our lives"* (Thandeka). According to participants, seniors present a close bond with the interns and were the *"backbone"* support to ensuring interns grow, develop and excel during their internship. However, not all participants noted the unwavering support from seniors, and highlighted the lack of support. For example, Hlengiwe, stated that: *"seniors unapproachable and it caused for anxiety and every time I would go to work".* As understood from the excerpts, assistance from seniors does heavily influence interns' progress during their internship journey.

6.3.3 Impact of COVID-19 on interns' lives

"COVID is our baby, and we just doing the COVID swabs" - Thandeka, a phrase shared by all participants of the study. All participants echoed the same sentiment that they were at the forefront of testing every patient who walked through the health facility to assess their COVID status. It was solely an intern-designated responsibility to attend to everything COVID-related (Mahmud et al., 2020). Participants expressed the impact that COVID had on their internship. For example, Olga mentioned:

> *All internship social events were cancelled because of COVID. As an intern COVID was our baby. I just ended up getting angry, and it did develop a negative, irritated attitude in me and tainted my internship experience. While we swabbed the hundreds in the queue… it doesn't take any qualification or skill to do so – like to stick a stick in someone nose, we couldn't practice procedures or do any surgeries. We just swob people and I didn't get to better my skills and the registrars would do the PVCs and other more complex things.*

Similarly, Sam discussed:

> *I hated it when a lot of our seniors made it that us interns must be the only ones to swab patients… Like to put a nasal stick someone's nose, no one trains you but day one you are doing swabs and you do the same thing.*

As the participants have reported they had not received training to swab people but were expected to do so from the first day on the job, as Olga reported: *"I hate COVID, it felt like it filtrated into every factor".* Thandeka supported this statement as she further implored that there was a constant, interchangeable shift in being a doctor at times and then an admin clerk. The admin aspect speaks to the interns distinguishing the COVID status of the patients and then sorting and readying them for review by the seniors. Sam further alluded that despite his medical school teaching learnt over the years, internship training was not something that could be predicted or planned for (Peters, van Wyk & van Rooyen, 2015) as he discussed:*"let's be honest that at the end of the day there will not be anything that can prepare you for internship".*

Participants also reported that the personal protective equipment (PPE) was not something familiar to them in medical school but understood the importance of wearing PPE, which was not always available to them and attributed discomfort:

> *PPEs we were just sweating inside and you'd be bathing in your own sweat and at time there was no PPE and so we'd wear aprons like how the cleaners would wear. The cleaners had more PPE than us doctors at times.*

"Seeing people dying like flies mentally broke me", said Sam. Participants all reported to having experienced difficulty in coping with the deaths of patients. Understandably, death is inevitable and the duty of a healthcare worker is to save the lives of people. Sam further added:

> *I didn't get used to breaking bad news to families that their loved ones had passed on; everyone was just finishing their oxygen tanks. The hardest part of counseling families, is not something that I'll get used to.*

Quinton voiced similar sentiments as he mentioned: *"I think seeing so many deaths in rapid succession… and dealing with the family and counseling them – it took kind of a big toll on me. How to be the perfect intern?"*. There were a few participants who had reported having struggled with the loss of patients:

> *But like in COVID the seniors were so busy and you didn't like get the time to process the death. You'd like get 5 minutes or not and then you'd need to go break the news to the family. But there's like advice like "Be strong", or others would say different "don't hold in" or "when you by yourself you can cry* (Andani).

Participants reported that the deaths brought interns closer to each other during the global pandemic, as Andani discussed: *"processing the deaths was not easy… It was like COVID brought us together… the profession sets a tendency for their personality".* Participants had voiced that they had heard of the *"mortuary book"* but prior to internship had never seen the book: *"mortuary book to certify the deaths, we have heard of the book but I have never seen it before…well before I had to certify the many deaths in COVID".* Given the nature of the global pandemic and the increase in deaths, participants had become acquainted over time with recording deaths in the once-unknown book.

6.4 Deteriorating mental health issues during internship

Participants attributed their mental health issues to serving their internship training (Romanelli et al., 2020). Participants reported that their mental health was not receiving attention (Jun, Tucker, & Melnyk, 2020). Enzo, for example, discussed that:

> *In all honesty, they do talk about mental health issues… but sense that it is like a joke. Seniors did not really take our mental health seriously and labelled it as "chronic fatigue". If you need help then to let us know and they'd cut you some slack, they are opened to everything else but not mental health.*

Enzo alluded to having concealed issues with his mental health: *"unless mine (my mental health) has been my own secret"*. This frame of reference depicts the contextual cultural belief system of medical interns in that they do not share the psychological issues they are experiencing (Bernstein & Gold, 2020). Three participants had shared that they were absent

from work on capacity leave as they could not fulfil their duties due to a decline in their mental health (Lee, Wilson, Bernstein, Naicker & Yassi, 2022). The duties expected of a medical intern attributed to the deterioration:

> *I am a second year now but…but half way through February, I had started my incapacity leave as I needed psychiatric evaluation because I wasn't doing very well…I was diagnosed with depression and anxiety…well depression with features of anxiety and Post Traumatic Stress Disorder (PTSD). It was my psychologist who said that I should go on incapacity leave, she put the idea in my mind and said that I should get rest* (Andani).

Cathy stated: *"You get a bit of flash backs and certain things and circumstances you do find yourself in take you back to that moment".* Participants reported to having experienced post-traumatic stress disorder at a time during their internship. The event of trauma left them feeling unsettled, perturbed and unable to continue performing their expected duties (Junaid et al., 2020). The hospital context became the trigger for recalling the traumatic event. Andani, for example, discussed:

> *I have a bit of PTSD from KEH and I am wanting to go to a more relaxed environment where it won't give me more anxiety. The problem is that it is difficult to get a transfer out and all I have been met with is "there is no transfers allowed"…something like that. Just no one seems to care or wants to listen, really. What had opened my eyes to my mental health issues, was when I was doing anaesthesiology which was generally an easy load…not a lot of patient load... but I was still battling… I could not grasp what I should have grasped, in terms like concentration and understanding. I constantly felt tired like tired even though we had the least hours to do (said with a firmness and quick toned).*

Participants reported to having been diagnosed with depression en route to internship as well as during internship training. Bathiyane reported: *"at the end of medical school I was on SSR1 [anti-depressants]. I had stopped anti-depressants during internship and it got too much for me… and so internship did cause it in away".* Similarly, Mamba became reliant on anti-depressants after having experienced his first depressive episode:

> *Initially enjoyed internship but half-way through is when I started having severe mental health issues and started my anti-depressants…studying medicine, doing my internship… and like the whole culture of medical schooling has made me depressed.*

Andani reported his work environment to having attributed to him experiencing depression (Burn & Mudholkar, 2020) as he described in detail the struggle that he endures just going to work:

> *It was that the effort that it had taken out of me to do things…like to get out of bed…to move…the mindset…like the drive to the hospital…and dread walking in the doors (entering the hospital)…it was like a dark cloud of gravity, depression followed.*

Andani further added that his colleagues had felt the same, as he went on to report, *"Everyone at the hospital is always complaining…like everyone! They will say we are overworked! We are burnout and we must just push through".* Phuthi shared how his private psychologist helped him:

> *My own psychologist differentiated my depression and anxiety…I think it had peaked in med school years and during internship training… I am someone who suffers from depression and it does interfere with my work commitments.*

Another participant said: *"I just keep persevering and pushed though because it's the job"*. Interns have reported to having used various coping strategies throughout their internship journey to help them cope with work responsibilities and duties. In the paragraphs to follow, the strategies will be discussed, namely in-house departmental culture, interpersonal communication network, "nurses nurse me along the journey" and psychological support. All participants had reported on the issues that arose from them having been absent from work on COVID leave due to them contracting COVID-19. Participants had been reprimanded, shouted at or ridiculed for being absent on COVID leave as others attended to their work responsibilities. This ultimately put a strain on the healthcare force to serve the people. Olga, for example, shared:*" I cheated my way back to work…I sort of lied about when I got the COVID symptoms because I didn't want to miss that much of work because I knew the type of drama it would cause".* Gumbi reported that when he had enquired about leave from work, he was informed that his leave was allocated to a schedule and he was not provided with the opportunity to schedule his leave as he saw fit. He stated: *"we'd be allocated our leave slots*

and without even consulting us, they'd make us feel like we owe it to them". Gumbi highlighted the perceived control of ownership that the medical fraternity has on medical interns. Similarly, several other participants reported that when they enquired about leave, they were told if that was their wish, then they should leave the programme in its entirety. Participants were discouraged to take personal leave and expected to be on duty providing care to the population.

Participants reported to having been diagnosed with Trichotillomania during their internship ranging from mild to moderate and severe Trichotillomania. Olga reported: *"I have serious Trichotillomania and when I got into internship, it was triggered more and further exacerbated…I'm still currently struggling with it [Trichotillomania] now".* Participants reported having suicide ideation, attributing their internship experience to the thought of committing suicide (Banerjee, Varshney & Vajawat, 2020). Phuthi shared how he was treated after mentioning that he was going to commit suicide:

> *I mentioned…suicide ideation and they said we need to admit you…(pause) but I did not demonstrate the full criteria but because I mentioned that (of wanting to commit suicide)…they not justify it to admit me.*

Similarly, Mamba echoed the intensity of internship training taking its toll (Xu et al., 2021) on his mental well-being. He mentioned: *"my lowest and lowest not wanting to actively die but not having any pleasure in my life at all and wanting to sleep…feeling numb and wanting to not feel anything".*

"Show up, you be there!" said a participant. Participants reported that they were instructed and encouraged to be at work despite them having ill health. Enzo discussed how he was informed to attend and be at work despite him having flu-like symptoms: *"they'd say to me, just sneeze in the other direction".* Another participant added that behaviour would be commended if you were sick at work, but at work doing your duties: *"others coming in and doing the work… like oh see so and so came to work and was running with a drip in their arm and sick but doing their duties"*. Many participants had reported they were not honest about when they had been diagnosed with COVID as they knew the ramifications it would

have on work and their impending responsibilities. Olga, for example discussed that she had lied about when she got COVID:

> *I think I took 4 or 5 working days in total…so I kind of cheated my way back to work. Immediately I got an email saying "you have missed so much work…as your annual leave compounded with the COVID leave is too much and you run the risk of not completing your internship" …[giggles] Of which I found very unreasonable, so I found there is no support in that aspect*

Participants had shared that they were not comfortable with the manner in which patients were treated and that, as a result, made them very apprehensive about seeking medical assistance from state healthcare. The below excerpt provided by Andani illustrates this sentiment: *"during our psych rotation we get to see the mistreatment untoward the patient in government and you're not treated well. We wouldn't want to be treated like that".* Participants highlighted that the main concern with the hospital context was whether a patient tested positive for COVID or tested negative and did not have COVID. Participants further mentioned that the preference and attention was given to the health status of a person as opposed to treating them. Fana stated:

> *The hospital itself has been more negative towards patients, you get to learn that they're more concerned about a negative COVID result of a patient even though they be sick and dying. It was always COVID, COVID. Even in surgery they need to be operated but because they had COVID they were not operated.*

Similarly, Sam said: *"the emphasis was on swabbing the patient and knowing their COVID status before treating them".* The depiction was that the health status of the person held more importance than actually treating the patient for the reason they came to the hospital. With the influx of participants at a given time in the hospital, it tended to put a strain on the resource of doctors' time duration with the patient. Olga mentioned that she was unable to adequately consult with the patient due to time being constrained and the number of patients queueing to be assisted:

> *You don't really get time to discuss with the patient…but to send them home and needing to adapt, function independently. I don't think we provide same adequate care for some patients because they are complicated and we [interns] are seeing to*

these patients. Cannot discuss the masses of patients that come in and then we can question and say, "but we can't give them the sufficient care they need?

Sam reiterated this, stating that due to the large volume of patients needing care the disconnection between patients and doctors further continued:

When we see a lot of patients you end up saying next … next … next … and kind of add the personification and empathy I must say that I didn't get use to the high pace and see the whole patient load.

Gumbi spoke to creating awareness that it is not just the illness you are treating, you are treating a person who has the illness.

6.5 Variable psychological support at training institutions

6.5.1 Intern curator, *"a pillar of strength"*

Participants mentioned that the intern curators were *"a pillar of strength"* during their internship training journey. Participants reported the constant engagement from their curators and a sense of steady support in light of a *"roller coaster journey"* - the internship training years. The below excerpt illustrates the compassion and communication that interns demonstrated: *"Intern curator sent a message of concern saying "just checking on you…."*. Andani experienced a slight setback in his internship journey due to his mental health; however his curator kept up the communication and checked in with him. This gave the sense that the medical fraternity cares for their medical professionals' well-being. Hlengiwe shared how an intern curator went the extra effort to ensure that she was comfortable in her new environment: *"I felt a bit out of place and the intern curator was quite sweet and really great in that they supported me on the day… I didn't start with all and started feeling alone"*. The intern curator demonstrated that the well-being of interns was their utmost priority.

Participants had reported experiencing varying degrees of humiliation throughout their internship by seniors which tainted their internship experience. *"Oh, so this is like a part of the rite of passage, everyone struggles and that is life"* (Mamba). Mamba reported that the culture of internship consisted of undue treatment towards interns. Interns were required to

have passed a series of tests to validate their position of rank in the hospital context, being the newly graduated doctors from medical school (Jordan, Connors & Mastalerz, 2022). The majority of the participants reported the working environment to be of a toxic nature, as Enzo reported: *"you're like a punching bag and they using you to vent their anger"*. Participants discussed that they experienced everyone's anger and frustrations but that over time they became accustomed to dealing with the politics and work environment. Sam mentioned that he and his colleagues were referred to as *"online interns"* as they had completed their medical school studies online due to the global pandemic. Sam further added that medical officers and seniors would refer to interns as *"oh the new ones came"* as they were unsettled that interns joined the hospital. Many participants reported to having felt embarrassed for being reprimanded in front of everyone for the mistakes they had made. Enzo reported:

> *If you made a mistake, it was like a name and shame and everyone should about it…embarrass you in front of people for your mistakes and you're like supposed to be okay with this but it gets better over time.*

Bathiyane echoed: *"you are made to feel belittled in the hospital, on ward rounds…students are shouted at like, 'Are you stupid or what?'"*. Phuthi mentions that interns such as himself and colleagues are expected to be equipped with the necessary skills for internship from the start of training: *"you'd learn as you land on the role and be shouted at for the things you somewhat should have known but didn't…because there wasn't an orientation".* As Bathiyane mentioned, interns are shouted at for making the slightest of errors. Sam provides further insight and the consequences to the continuous belittlement: *"personally, I have gotten used to the shouting, belittling…been called lazy and useless but to an extent you are used to it…mentally beat interns down".* Participants further discussed that consultants and medical officers tend to pass the blame onto interns for the mistakes they have made by communicating this on social media platforms. The below excerpt further illustrates the humiliation endured by participants:

> *Consultant will gossip than to see to the patients…like they will say, "hey this intern did this and that intern did that" and like in the WhatsApp group chat we have, they will put up a note and say "which intern did this…" It's always assumed that the interns did this but guess what it is never an intern but an MO or a registrar who gets it wrong. But they are quick to blame an intern like it's the intern fault.*

Participants entered into a crucial phase in their medical journey as they began their internship training, yet they appeared to experience humiliation from seniors and MOs as opposed to support and guidance. *"Are we on first name basis or referred by our titles?"* said a participant. Interns reported a shift in tone, communication between them and their seniors. At times participants were permitted to refer to their seniors on a first name basis as opposed to referring to them by their titles. Thandeka, for example, reported: *"they [seniors] demanded respect and had this authoritative behaviour that would demand respect. However, some seniors can be contradictive like nice one minute and then mean the next day [called by titles and not by name]".*This reiterates the engagement interns have had to experience during their internship training:*"we as interns go through a lot…the abuse at work. We don't just talk about it… we don't voice it".*

Participants echoed that they did not necessarily experience this across all of their training block but that: *"it depends on the block that you are doing, and clearer supervision…direction is provided to you. The work becomes bearable and there is someone around to help you"* (Thandeka). Similarly, Nandi mentioned there were people within the hospital context who actually cared and asked about their well-being: *"but not everyone will ask…it's based on the departments you go through".* Duma assisted in conceptualising it to be the internal politics within the department which later trickles down to the interns. Interns experience residual environmental conflict but do not share their thoughts and feelings for the fear of not being signed off at the end of the block.

6.5.2 Psychological support from institution

Several participants reported that their respective state hospital sites did not provide psychological support to them (Salem et al., 2020):*"psychological support is non-existent at KEH"* and *"*no psychological support in the hospital*"*. Similarly, Cathy expressed, *"I am actually not sure of what psychological services are available at KEH hospital and I wouldn't know how to find it out. I somehow don't think there is anyone there"*. Duma discussed that the hospital environment in which interns work sets the expectation for interns to speak out (Feijt et al., 2020) should they be requiring support. Andani reported: *"everyone*

expects you to be an adult and to speak out if you need help – it's not that someone will come to ask you…how are you doing?" Fana said:

> *There is no support (laughing) for real there isn't anything. There is no support. I am not even going to lie…the psychologist is there for the patients…there is no one there for us interns… no one told us about there being anyone for us interns if we have any problems, that we talk to them".*

Participants from the various sampled state hospitals mentioned briefly that during their orientation session, when interns were becoming orientated to the hospital context for their internship training, the hospital's medical personnel had spoken about psychological services - the mental well-being of interns. The following excerpts pertain to the information discussed at orientation: *"the orientation was spoken about a lot and didn't say it (psychological support) at all"* (Olga). *"During Orientation they [Addington] hospital had mentioned that there is a psych dept and you can make an appointment but not say who you should contact or who to speak to but a brief mention of it"* (Yoseph). However, Thandeka reported that she was not aware of the psychological services available to her within the hospital context but did make reference to it being vaguely mentioned during orientation:

> *I don't even know where I'd go and what health service to use… I don't know if they provide psychological help. .. and I do not think it was well advertised during our orientation, that I would know of. It'd have been useful if it (psychological services) was well known…we would benefit.*

Thandeka further reported: *"there wasn't any advertised poster or vocal or anything…I'm not even sure if there was an option for psychological support… it is sad".* Mamba shared how they were once informed that psychological services would be available at Addington Hospital, but a year into internship and enquiring about the psychological services there appeared to be none:

> *No psychologist for interns as yet. When we arrived, they said "psychologist at Addington sees interns" and when we had enquired, they said oh no the post has not yet been filled…we now a year later and it hasn't [has not] been filled.*

This is however contradictory to what was reported by Nandi. She said she was aware of the psychological resources available at the hospital (Addington) and that assistance could be provided during work hours. She stated:

> *Our orientation at our hospital (Addington) was not so great so I only found out this year (2022) that you can seek help at the hospital. In my second year I found out about the psychological resources that the hospital has to offer me as an intern. There is a designated person you can reach out to and speak to them and they will see you during our working hours for a consultation.*

Similarly, Quinton discussed that at R.K. Khan there was psychological support for interns specifically as he further explained:

> *Designated assistance for us [interns] in hospital and that staff during working hours just need to let the seniors know. There is 1 hour off duty and they are supportive. Don't think a lot of people know about it [psychological support offered by the hospital].*

Phuthi confirmed Quinton's remarks regarding psychological services at R.K. Khan Hospital as Phuthi reported having used their psychological services:*" I can say that I have exhausted R.K. Khan psychological services support services seeing that I am someone who suffers from depression and in fact I can't [cannot] control well…it does interfere with my work commitments at work"*. Phuthi further discussed that the psychological services offered were of the standard, *"one-size-fits-all"* approach and not personalising it to each intern's psychological needs:

> *But the idea when they do want to offer their services and help it's not really meeting you at where you are at… it merely we have a package that we have developed and we will force this package onto you… and if you don't like it then there is nothing else and there is nothing genuine.*

A few participants reported knowing about psychological services available to interns but of not making use of them despite requiring psychological support. Sam reported that:

> *There are mental health helplines and in the interns WhatsApp group chat they share links to psychological support, but I haven't personally accessed it myself. I haven't used psychological support but I do require it and I neglect to use it.*

Three participants briefly mentioned that they were informed at the start of their internship that the team would check in with them, however, no one had followed up and monitored their PWB as the internship continued. Andani reported: *"we were told that every 2-3 months there would be a check-in and see how everyone is doing and but due to COVID that has stopped".* In addition, participants shared that a check-in is haphazardly needing to be completed at a start of a block: *"almost attempt to check-in form, at like this block to know anticipate if you have any problems and how to deal with it*" (Lindiwe).

Not all participants reported having used internal support from within the hospital context due too little to no information available or known in the hospital context. Participants reported that only two of the five hospitals provided psychological support services for interns, namely R.K. Khan and Addington. According to Quinton, at Addington Hospital, interns are provided with psychological assistance during their work day as suggested by the excerpt provided: *"designated assistance for in hospital staff during working hours, and let seniors know. There is one hour off duty and be supportive"*. Similarly, at R.K. Khan Hospital, psychological support was also offered to medical interns within the hospital. Phuthi, serving his internship at R.K. Khan, reported that he had conscientiously utilised psychological services regularly due to not coping psychologically, and as a result hindering performance in his work duties. The below excerpt explains:

> *I can say that I have exhausted R.K. Khan psychological support services seeing that I am someone who suffers from depression and in fact I can't control well and it does interfere with my work commitments at work. When it gets to that point then they'd refer me to their social worker on duties and the employee practitioner assistants there and she can refer to the staff doctor who then refers you to the psychiatry ward/clinics and then you go to a local psychiatry ward.*

However, Phuthi provided criticism in that the psychological services offered by R.K. Khan Hospital were of a generic, template nature and not individualised to supporting an individual:

> *But the idea when they do want to offer their services and help it's not really meeting you at where you are at… it merely we have a package that we have developed and*

we will force this package onto you and if you don't like it then there is nothing else and there is nothing genuine.

However, it is imperative to note that quite a few participants reported: *"if you have the opportunity to say you need it, psychological support, but if they offer you at the same side they treat you poorly in the other aspects"*. The hesitance of interns to utilise support within the hospital context is partially as a result out of fear of experiencing prejudiced treatment.

6.6 Helplessness and hopelessness related to the internship journey

6.6.1 Pushed to extreme limits of no capacity

"It's the volume of patients as it was a bit too much at times" (Andani). Andani reported that the interns' patient load tended to deplete him to the extent of not being able to handle the incoming patients requiring medical assistance (Hall, Johnson, Watt, Tsipa & O'Connor, 2016). Furthermore, Andani added: *"we are overworked, burnout and we must just push through".* Burnout was commonly expressed to have been experienced by the majority of the participants. Bathiyane, for example, mentioned: *"I would say burnout but I'd say you head towards burnout out. You'd sleep and you'd still be tired when you wake up".* Andani discussed that he had self-identified with having experienced burnout but masked it as he had noticed his colleagues did not display symptoms of burnout and so that helped him to persevere: *"I realised that the burnout does get to you…but you don't realise because you see everyone else around is pushing, that you end up pushing too".* Similarly, Lindiwe reported that she had not felt rejuvenated despite having slept for long periods of time and that she had felt burnt out on a regular basis: *"you'd feel so tired yet you have been sleeping for 10 hours, and... I felt like this every single morning and I'd call in and say I'm sick (it was just that type of situation)"*. However, not all participants self-reflected and listened to their feelings and took a break from work commitments.

Similarly, Mamba discussed that the sole purpose of interns in the context of the hospital is to attend to the load of patients coming in: *"you are just filling in the blanks and they say, you need to push the patient queue…you need to push the load".* Sam reported that despite attending medical school and having the theoretical knowledge, nothing could have prepared

him and his colleagues (Tucker et al., 2010) for what they would experience during internship: *"let's be honest that at the end of the day, there will not be anything that can prepare you for internship".* Sam highlighted the sentiments shared by the majority of participants, that they were feeling burnt out due to their work schedules and the amount of time spent being on call [term referred to shift of either 12, 16 or 24 hours in duration]. The excerpt below mentions: *"feelings of fatigue sets in when having to work weekends…without prior knowledge"*. Participants experienced issues with their sleeping patterns and attributed this to the hours spent on call and the additional overtime hours spent to meet their stipulated hours for the month (Jahrami et al., 2020). Participants highlighted that they had experienced a continuum of insomnia issues. The mental health of participants has been perceived in a lighter manner than it ought to be (Secosan, Virga, Crainiceanu & Bratu, 2020), as Enzo mentioned:*"there is an intern we were made aware of, and that he got admitted to the psych ward…but us hearing this from the seniors…and it was made to be seemingly like a joke".*

6.6.2 Dictated coping mechanisms

"Go somewhere and cry by yourself", said a participant. Interns are directed by their work context on how to react to situations of trauma and regulate their emotions throughout internship. In the paragraphs to follow, the dictated coping mechanisms and the prejudice rationale for interns' emotional regulation are highlighted. The culture of the internship is dictated by pre-existing medical professionals in the hospital context. The values, principles and attitudes embodied by medical professionals are those behaviours learnt from joining the team.

Mamba added that he was informed of the *"rite of passage"* by a *"trusted doctor"* which is indicative that not every medical professional follows the ideology of making the interns pass an *"initiation test"* for them to be accepted into the healthcare fraternity. Participants shared that despite interns struggling to perform their duties, they were vaguely supported to review their errors and learn the correct method. The following excerpts illustrate: *"they'd tell us…you'd learn on the job and you'll get the hang of things eventually"* (Lindiwe). Mamba added that he was told: *"we trust that you will adapt".* Duma, however, reported that interns

should not expect that they would be helped in coping with internship unless they had reached out for assistance as Duma rightfully mentioned: *"they expect you to be an adult and to speak out if you need help… No one is going to ask "how are you doing?"*

Several participants had reportedly reached out for assistance but were met with mixed responses that left them feeling doubtful about seeking assistance initially. Mamba's excerpt explained that when he had mentioned to the fraternity that he was experiencing a struggle and feeling overwhelmed he was met with: *"oh its rough and I'm struggling but coping" and the answer to that is almost always 'well aren't we all' and it's not the brushing it off so much but acknowledging the situation I am trapped in"*. Similarly, Yoseph reported his findings of what he was informed by medical professionals in the fraternity when sharing how he had felt:*"shut up about it… so we had dealt with it before and now you should to…"*. Yoseph was not encouraged to share his feelings but by dictation told to disregard his feelings noting that it was a form of *"rite of passage"*.

The reiteration was that it was a test required to be passed as a validation of their place in the internship programme. Participants had questioned and enquired about the temperament medical professionals had towards them within the hospital context, and surprisingly were informed that:*"no that is how she/he (seniors) is always… and you know what it's okay, you'll get used to it… like that is how they talk or scream and shout"* (Enzo). As Enzo reported, interns are to accept their seniors speaking to them in an authoritative, belittling, unruly manner despite them not being comfortable being spoken to in that manner. There was a total disregard of interns' feelings and the reinforcement of seniors' authoritative power in dictating how interns should feel. Acknowledging this, Mamba reported: *"accept the situation as it is"*.

CHAPTER 7: DISCUSSION OF FINDINGS

7.1 Introduction

The data reflected in this chapter is a triangulation of the data gathered from the surveys and semi-structured interviews that took place. A concurrent mixed-methods approach was used to understand the PWB of interns during their internship training and the assessment of a pilot mindfulness course in its feasibility and acceptability by interns. The enlightening interviews had with the interns supported the data gathered from the surveys. Initially, phase 1 surveys were conducted to affirm the PWB of interns serving their internship training in eThekwini, KZN. The open-ended questions allowed for an enriching interview, in that interns felt comfortable to share their current internship training experiences. A possible reason for interns' participation is that they were appreciative that *"someone actually cares about our [medical interns] mental health"*. As the researcher interviewed the participants, rapport was built and trust earned. Participants responded positively when the researcher asked "*How are you doing?*" and *"How is your day going?",* to which the following replies were received: *"Thank you for asking me… not many people ask me this…oh where do I even begin…"*, *"It has been a hectic day and I'm tried…"*, *"I am relatively OK for now…I am taking rest…It is my off day, but everything will start again soon"* and *"I'm well thanks…and how are you?"* In addition to the rapport built, the researcher had earned the trust of the participants, which is indicative by the following quotes: *"…thank you for the reassurance that what I say is safe…because here people are afraid to speak."*, *"…I appreciate that you have shown concern about us [medical interns]"*, *"But what I want to say is…we people [medical interns] have feelings and for you to take time and listen to me means a lot…like a lot…like a lot"* and *"…and you listened to me whilst I rambled and said nonsense…and you care".* Surprisingly, the pilot support intervention was well received by interns as their enthusiasm towards the study remained a constant. The issue is not about focusing on the title "doctor" but on the well-being of the doctor in the white coat, as evidenced by Sam's excerpt, *"let's be honest that at the end of the day there will not be anything that can prepare you for internship".*

This illustrates similarly to "transitional shock" that Sitobata and Mohammadnezhad's (2022) study found among interns beginning their internship training. As the researcher read through

the analysis of the quantitative data and the coded comment - "*In hindsight, it was to make me realise that this is life and to take the initiative...*" - she experienced Duma's heavy-weighted words echoing to her as someone who is passionate about the mental well-being of others. The researcher felt there may have been a slight assumption that she would focus on the mental health issues in the same way that Duma did. As an advocate for positive well-being, the researcher ensured that she maintained neutrality as her participants shared about the participants' mental well-being during the phases of the study. These and other themes will be discussed in this concluding chapter. The researcher begins by briefly discussing the socio-demographic details of the participants for the phases of the study.

7.1.2 Comparison of participants' characteristics for the phases of the study

In this section, the researcher shares insight into the possible rationale behind the distribution of the socio-demographics obtained for the phases of the study.

With reference to phase 1 of the study, the participation of interns from year 2 internship (88.3%) exceeded the participation of interns from year 1 internship (11.7%) for phase 1 of the study. It can be attributed that there exists such a large discrepancy in the participation between year 1 and year 2 interns namely due to year 2 interns feeling more comfortable to participate in light of them completing the internship programme relatively soon. Interns of year 1 were apprehensive to participate as they had just commenced their internship programme. At the time of data collection for phase 1, it was year 2 interns who illustrated an interest in participating in the study. Perhaps the year 1 interns were not able to participate in phase 1 due to time constraints of their work schedules, and it being the matter of year 2 interns being able to manage their work schedules and set time aside to participate in phase 1.

It cannot be insinuated but the likelihood is that year 1 interns may not have received the informative message inviting participation in phase 1 of the study or that given the informative message came from their intern curator, they felt intimidated to participate. These are just possible reasons for the discrepancy in the participation between year 1 (11.7%) and year 2 (88.3%) interns for phase 1 of the study. Similarly, in phase 2, the participation of

interns from year 2 internship (83.3%) exceeded the participation of trainees from year 1 internship (16.7%). Furthermore, phase 3 of the study followed similarly in that more year 2 interns (76.2%) had partaken in the 8-week mindfulness intervention as compared to year 1 interns (23.8%). to the researcher believes that year 2 interns had participated in the intervention so that they could master mindfulness practices that would assist them as they move towards a more independent position as a community service doctor. A noticeable trend that year 2 trainees were more accepting to participate in the study was proposed and a sense of them wanting to support and ensure that support can be implemented for future medical trainees.

The possible reasons for there being high participation in phase 1 from interns in two rotations, anesthesiology and orthopaedics (33.3%) and family medicine/primary care (42.5%) is namely that the rotations are allocated the most interns at a given point in time and interns of these specific rotations were well informed of participation in phase 1 of the study by their intern curators. Similarly, in phase 2, there appeared to be high participation from interns in three rotations, namely family medicine/primary care (50%), psychiatry (16.7%) and anaesthesiology and orthopaedics (16.7%). As mentioned prior, the reason for these rotations having a high participation rate is due to a large number of interns allocated to these rotations at the time of data collection. Furthermore, in phase 3, there appeared to be a high participation from interns in three rotations, namely family medicine/primary care (57.1%), anaesthesiology and orthopaedics (19%) and general surgery (9.5%). The constant rotations which interns were working in when they had participated in the phases of the study were anaesthesiology and orthopaedics as well as family medicine/primary care. This further supports that at the time of data collection most of the interns were allocated to these rotations.

The majority of interns in phase 1 identified as females (55.8%). Similarly, the majority of trainees in phase 2 were females (72.2%). The possible reasoning for there being a higher enrollment rate of female trainees compared to male trainees is due to a higher rate of female medical graduates graduating from medical school. The lower intake of male medical students into medical school thus produces a smaller cohort of male medical graduates

entering the internship programme. For phase 3, female interns (52.4%) had participated in the 8-week intervention, followed closely by 47.6% male interns. Reviewing the participation by the gender groups, it is phase 3 that illustrates a close rate in participation. It appears that both male and female interns were aligned, interested and willing to learn about mindfulness practices and how these can positively improve their well-being.

Medical trainees within the age group 25-29 (77.5%) years of age formed the majority age group of the participants in phase 1. One can suggest that a plausible reason for this is that participants continued to progress in their medical career after having graduated from medical school. There appears to be no time lapse between completing medical school and beginning their internship training programme. Similarly, the majority of trainees were aged 25-29 (77.8%). It is pertinent to note that a medical graduate is not always able to continue their medical training consecutively, after having completed medical school and that could be due to internship placement allocation. There are placement issues in that a qualified medical graduate does not get placed to serve their internship training at a hospital site, and would have to wait until a placement becomes available. Participants during phase 2 of the study had mentioned that they waited a year until they were allocated placement, *"...it's like I have wasted a year of my life… it is what it is"* (participant). Phase 3 of the study found a high participation rate amongst interns aged 25-29 (66.7%). This age group was consistent in obtaining the highest participation rate throughout all phases of the study. This suggests that this age group makes up the highest allocation of interns to the internship programme, and that interns join the internship programme relatively soon after completing medical school.

Of the interns in phase 1, the majority identified as being single (90%) with a little over 10% identifying as being married. This suggests that 10% of the interns had a spouse who supported them throughout their internship journey. Similarly, 88.9% of trainees in phase 2 identified as being single and 11.1% reported being married. Furthermore, in phase 3 of the study, 85.7% of interns were single. Referring to support, it appears that 47.5% of trainees in phase 1 have a network of support as they indicated having more than one dependent. This is concerning in light of 52.5% of interns indicating they have no dependents. Thus, the number of interns (the majority) without a support network outweighs the number of interns with a

support network. At a crucial stepping point in the career of a medical graduate, an intern is beginning their medical career to become a qualified doctor - but without a network of support. This cannot be said for the interns in phase 2, as 72.2% of interns identified as having no dependents, with just 27.8% of interns confirming they have dependents. Similarly, the majority of phase 3 interns confirmed having no dependents (52.4%), with 47.6% of interns indicating that they have more than one dependent. A consistent trend throughout the phases of the study is that the majority of interns do not have a support network such as family, extended family or a spouse to help them navigate through their internship journey. However, a small population of the interns did have a support network and a spouse to rely on. During an interview a participant said the following to the researcher:

> *…now that I am sick at the moment and barely have the energy to do anything… I can call on my parents to come and help me… Shame my parents will cook for me and my partner will get me my medication…* (participant).

The researcher was provided with a head count of interns allocated to the hospitals in eThekwini, KZN by the Department of Health. She, unfortunately cannot share further insight on the headcount allocation for each respective hospital due to the agreement with the Department of Health. The researcher was told that the Department of Health was sharing an internal document with her from which no information could be shared, and that she was provided with the headcount for statistical purposes. One cannot dismiss that the COVID-19 pandemic contributed to the headcount of intern trainees at the various hospital sites, at the time in which the study data was collected.

7.2 Ready set go!

One, two, three - the time is now, doctor. This theme explores the beginning experience of the internship journey that interns embrace as they step away from being a medical student to being a newly medical graduate.

7.2.1 Transitioning to being a doctor (the road travelled)

Taking the big step and shifting from medical school to internship training can be an overwhelming experience (Wesley, Hamer & Karam, 2018). As the data suggests, it is a journey encapsulated with emotions, experiences, teachings and a step closer to becoming an

independent medical practitioner. Participants shared mixed feelings towards their availability of time during internship. This is evidenced by one of the doctors referring to the internship programme as being: *"very rough itself and then the very long hours expected is exhausting … it is a BIG jump from medical school to internship"*. Here, the participant suggests that they are being placed out of their comfort zone and are encouraged to take on the duties of a medical practitioner. It is no surprise that interns are faced with working shift hours (Kalmbach et al., 2018; Wagstaff & Lie, 2011) as they prepare to progress further along in their medical career. For some of the participants, they shared that they are now able to put aside some time for their personal responsibilities, something that they were not able to do whilst being in medical school (Ratanawongsa, Wright & Carrese, 2007). Enzo shared his sentiments, *"I find myself to be able to survive the workplace and go home to focus on relationships and me"* (Sturman, Tan & Turner, 2017). From the data and from the researcher's interaction with the participants, she was often informed that interns found they were not adequately prepared for their internship year and cited the lack of adequate teaching from medical school as the reason. Consider the quote from one of the interns: *"medical school does not prepare you to be a doctor, but internship prepares you to become that doctor"* (Thandeka). The next sub-theme addresses this further.

7.2.2 Preparedness to perform medical duties

The participants in this study shared that they did not become accustomed to the fast-paced environment of internship, which called for medical services to be rendered in a short space of time. As Sam cites, *"I didn't get used to the high pace and see the whole patient load"*. This is indicative of the sentiments shared by Bullock et al. (2013) - that an unfamiliar environment for interns can bring about distress. There appears to be a slight incongruence in the categorisation of internship training in KZN interns in 2018 and in 2022. Ross et al. (2018) reported that 50% of interns felt their internship was fairly positive, whereas interns in this study found it to be a race to the finish line. The study sampled at multiple hospital sites as opposed to Ross et al. (2018). Considering the quote from Mamba: *"was like you hit the road running"*, it implicitly provides the analogy that taking a moment to stop is not an option and that now that the intern has arrived at internship training they are to implement their learning from medical school. For Mamba and for many other participants in this study,

entering internship training was not exactly what they had envisioned. Phuthi shares their experience, *"learn as you land on the role and be shouted at for the things you somewhat should have known but didn't"*. The researcher now briefly comments on this quote by Phuthi. The purpose of internship training according to the HPCSA (2022) is for interns to learn under the close supervision of medical professionals who are experts in their field of medicine. The HPCSA further goes on to declare their purpose of internship training to: "provide opportunities to further develop interns' knowledge, skills, appropriate behaviour patterns and professional thinking, as well as to gain insight, understanding and experience in patient care to equip themselves to function as competent and safe medical practitioners" (p.2). With this in mind, Phuthi's statement appears to be contradictory of what the purpose of internship training is said to be. Interns are being reprimanded for the errors they make, yet it's meant to be a process of learning, as in learning the skill for the duties required.

Stemming from interns being reprimanded for their medical errors (Kang et al., 2013; Lee et al., 2012; White et al., 2008), participants in the study were divided in being "not prepared" and being "prepared" to perform medical procedures but not being given the chance to do so. A participant shared: *"I do not feel comfortable to do aspects but as a student we were sheltered but as a doctor there is no one shielding you".* The participant reverts back in time to when they were a medical student and were not tasked with the responsibilities that they are now assigned as a medical doctor (Brennan et al., 2010; Yardley et al., 2020). Here, the participant affirms findings by Yiga et al. (2016), as 50% of the interns were not comfortable to perform procedures. Yoseph highlighted the notable change from being a medical student to now being a doctor: *"the easiest case first and then make your way to the complicated case. But now as a doctor, you get given the stack of files and you're to do what you need to"*. This reiterates that the internship period is preparing the intern to be that independent practitioner, and that now in their role of a doctor they need to make sound decisions on their patients' medical care. However, as mentioned, some participants felt differently, as Hlengiwe says: *"observe me do it and then do it…but the truth is that I have been observing them do it so many times and I'd loved to have done it by myself and learn myself"*. Here, the participant speaks confidentially in being able to perform medical procedures but not being permitted to do so other than watching the procedure being performed from a distance.

Participants like Hlengiwe affirm the reported finding by Yiga et al. (2016) that repeated procedures, and in this case the repeated viewing of a procedure being performed, built the confidence in Hlengiwe to try it on her own. But, the study by Yiga et al. (2016) was solely a quantitative research study, and this study gathered data by mixed-methods, both quantitative and qualitative methods - semi-structured interviews.

7.3 "Rite of passage" for the junior doctors in the white coat

For this theme, "Rite of passage", participants' quotes are brought to the fore to discuss the dictated culture practices in the internship training period on medical interns. Throughout the data, medical interns reported the "corrected dictated behaviour" they were informed of by the medical team that they were a part of. The research begins firstly by sharing Mamba's quote – something which was relayed to him when he had expressed experiencing difficulty: *"Oh, so this is like a part of the rite of passage, everyone struggles and that is life".* This is a concerning quote in that it illustrates that every intern serving their internship will have to embrace their struggle alone whilst serving their internship because it is the dictated norm. The intern will experience a struggle but will need to manage it such that they are able to prove their worth of acceptance into the internship programme, having "passed the test to internship". This by all means is not a warranted "rite of passage" but rather the intern's feelings are ignored, dismissed and not considered. Similarly, another participant shared: *"it not the brushing off but that acknowledging the situation I am trapped in".* This study finding is in similar alignment to Baigent and Baigent's (2018) findings but that of a different concept - burnout. Other studies refute "rite of passage" amongst healthcare professionals (Barton, 2007; Birks et al., 2018; Bylone, 2010) yet "rite of passage" amongst medical interns has not yet being reviewed or looked into. For the participant, they are faced with a dilemma in that they need to complete their internship to be able to move on to the next step in their medical career but at the same time they do not need to subject themselves to an inhumane internship experience.

With the above in mind, other participants appear to have received a stricter objection to their "emotional breakdown" as Andani shares his quote: *"when you by yourself you can cry"*. Considering this quote was dictated to Andani by a medical professional familiar with the

hospital context, it is cause for concern. It appears that interns' outward behaviour from the beginning of internship is moulded to be kept secretive and not to be shared - and to not seek psychological support. The above quote infers the intern cannot be emotional in the presence of others. Studies have affirmed that the working environment of internship training contributes to the well-being of medical interns (Bullock et al., 2013; Ziarko et al., 2022). The researcher substantiates further the emotional breakdown shared by participants of this study by reviewing Yoseph's excerpt: *"shut up about it…so we had dealt with it before and now you should to".* It is no surprise that the interns' feelings are dismissed, and they are made to feel unworthy to be heard and cared for. If we look closer at this quote *"dealt with it before and now you should to"*, it shows that the medical professional informing Yoseph did not have support when they were struggling in their internship period and that they became resilient and learnt not to be affected by the experiences throughout their internship. This suggestion made to Yoseph is shared in findings from studies by Ho et al. (2021) and Johson and Lazarus (2008) - that resilience can improve the PWB of individuals that make use of resilient methods.

Lastly, a participant acquaints themselves with having experienced the "imposter phenomenon" as they elaborate further: *"I loved med school, it did give me a false impression that I am prepared like I would do well in tests and friends would be chuffed with you, but once you get here to internship …you do feel like an imposter"*. The findings of this study are in alignment with US imposter phenomenon study findings by Clark et al. (2022). From the quote, it suggests that the participant finds themselves not matching up to the expected standard of their internship training year yet they had performed diligently in their medical studies over the years (Freeman & Peisah, 2022). This does highlight a poignant theme, and all respect to each medical school and the circular they are governed by, but it can be assumed that given that the assessments were well prepared for over time - time to consolidate with learning materials and now presented in internship training with an array of medical cases to treat, it can be a daunting experience to apply the theoretical knowledge to the practical patient cases presented. The imposter phenomenon in relation to healthcare professionals has been under-researched. To the researcher's knowledge there exists no

research study that investigates the imposter phenomenon and medical interns locally, and this warrants further research to be employed in this area.

7.4 Fighting on the battlefield: "COVID is a war-zone"

The visual image, "fighting" in the "COVID war-zone" depicts the medical interns providing healthcare to the patient masses. In attendance to the patients during the "war" of multiple COVID wave peaks, the constant has been the medical interns standing at the frontline (Arafa et al., 2021; Doan et al., 2021).

7.4.1 "COVID is our baby": Managing the global pandemic

As mentioned, interns stand at the frontline, the first line of defence in the hospital context against the COVID-19 pandemic. The majority of the participants of the study shared that: *"COVID is our baby, and we just doing the COVID swabs"*. Considering this quote from the participants, it is implied that interns were tasked with attending to COVID-related cases without being able to fully come to terms with understanding COVID, as they had no prior preparation for a global pandemic let alone with understanding internship training. The analogy *"is our baby"* depicts that interns were responsible for testing patients to assess their COVID status and for treating patients who were diagnosed with COVID-19. This was the assigned task that was not given to any other team member other than the interns. There is yet to be literature that supports or refutes the participants' shared sentiments of COVID being the interns' assigned task. However, there are a few scholars that noticeably acknowledge the change that COVID has had on residents and internship training abroad (Dani et al., 2020; Sridevi et al., 2022; Thompson et al., 2022; Zhai & Du, 2020). Considering the quote was said by interns, it further highlighted the learning relationship in internship, as no support was provided to interns as they attended to COVID cases (Bell et al., 2020). In addition, it brought to the fore that interns had little to no chance of adequately learning skills in their internship other than just swabbing the patients (Bugis, 2020; Zhang et al., 2022).

For Lindiwe, she says haphazardly that *"I feel I was pushed through just to push the ward work"*. This comment shockingly but not surprisingly describes the sentiments of a few participants. Lindiwe and participants felt devalued. They cited the reason as them being a

part of internship to complete the tasks others would not attend to, as reference is made to "*push the ward work*", which is in alignment to Lange's (2021) study. Interns who are exposed to COVID cases and the infection will develop an unresponsive reaction to their duties. Through the statement, it can be understood that Lindiwe and participants had not anticipated that they would be assigned only to COVID cases in their internship training but that they would be introduced to the *"interesting cases"* that they could come across in medical sciences. Participants in the study shared that it almost became a competition amongst interns on who landed an *"interesting case"* because that would be a medical case other than COVID and they would be allowed to attend to it. Olga's quote, *"I hate COVID, it felt like it filtrated into every factor"*, brings to the fore that interns' internship with the back drop of the global pandemic was governed and adapted according to COVID and that for any form of activity to take place it would have to be "COVID approved".

7.4.2 "Death is inevitable" - Goodbye!

"Seeing people dying like flies mentally broke me", reported Sam. The researcher briefly comments on this quote, as it depicts the irrevocable feeling of pain experienced by him and participants of this study. Participants felt the death of their patient and patients in the hospital; it was like a death equivalent to the loss of a loved one. A participant said: "*The patient is like family".* Patients' deaths negatively affected interns' PWB, as Kendra et al. (2020) mentioned earlier in Chapter 2. The above quote speaks to interns repeatedly exposed to patients passing away, and as cited *"mentally broke me"*. Interns were affected by the loss of their patients. Interns were tasked with processing their patients' death, and the increasing deaths to be certified due to the severity of the global pandemic on peoples' healthcare (Bolger et al., 2022; Ferreira et al., 2021). Even though death was briefly acknowledged in the study, participants illustrated that *"breaking bad news to families that their loved ones had passed on…"* was not an easy task to fulfil but it was a task that had to be done, for they were assigned to the patient. Implicitly by the quote it can be understood it's not about addressing the intern as *"not being ready"* for internship but that their emotional adaptation has not yet been acquired as they further go on to say: *"the hardest part of counseling families, is not something that I'll get used to"*.

7.5 Helplessness and Hopelessness: What do I do?

Feelings of helplessness and hopelessness was shared by participants of this study as Shaw's (2020) findings indicated UK doctors in training had experienced the same feeling. Participants echoed the sentiments shared by a participant: *"I just keep persevering and pushed through because it's the job"*. The participant shared their plight during internship, and what may have once seemed a hindrance to their progress contributed to their success as they remained determined despite the helplessness felt. This is similar to study findings by Sitobata and Mohammadnezhad (2022) that interns experience a "transitional shock" at the commencement of their internship training. One can postulate that interns of the study felt helplessness as they had not yet established themselves in the unfamiliar territory of internship. As findings by Kendra et al. (2020) reported, interns experienced distress and cited one of the reasons to be achieving one's identity during their training journey.

As interns are in training it is given that they would be tasked with greater responsibilities than when they were medical students. Yoseph shares a quote that shares his feelings of hopelessness: *"not at all prepared to cope with the aspects of someone's life and to make decisions that will affect a patient"*. Considering this quote from Yoseph, it can be assumed that he possibly felt like this as he was not yet confident in his medical knowledge or the anxiety was creeping in due to him thinking of the repercussions that may or may not follow based on his decision when treating his patient. The participant shares the findings of Greenberg et al. (2021) in that interns are tasked to make a call, a tough decision when the time arises. The researcher now moves on to sharing a quote that creates awareness of the double-sided persona of participants in the study, that is due to their helplessness and hopelessness: *"I don't like to talk about my struggles and didn't want to tell my new friends for the fear of isolation and family back home that I have gone from succeeding to struggling"*. Healthcare workers' environment attributes to their mental well-being as findings by Jagiasi et al. (2021) denotes the high prevalence of anxiety experienced by healthcare workers. Here the participant speaks to disguising and masking their struggles experienced in the internship training so that they did not face the perceived rejection (Rao et al., 2009; Schulze, 2007; Wrigley et al., 2005) as they believed they would be going against

the behaviour considered the norm, yet they are struggling. It is no surprise that family stood by and cheered the interns along their academic journey and so for the participant to share that they are apprehensive in letting their family know their struggles is understandable.

Given that the study was conducted in the back drop of a global pandemic, COVID-19, it was affirmed that the health of interns would be at heightened risk. As mentioned in Chapter 2, Lange's (2021) study findings found that interns serving medical care placed themselves at risk of acquiring the COVID-19 infection. The participants in this study shared how they were encouraged to work in the hospital despite them being ill with COVID: *"they'd say to me, just sneeze in the other direction…others coming in and doing the work…like oh see so and so came to work and was running with a drip in their arm and sick but doing their duties"*. By this quote it is understood that interns are discouraged from taking time off from work but rather are encouraged and commended for attending to their work duties whilst being ill with COVID-19. This is alarming but not surprising to be made aware of as interns are required to attend to the influx of COVID-19 patients needing treatment. As mentioned earlier by interns - *"COVID is our baby"* - so it'd be perceived that the medical team would not want interns to be off on sick leave because the team would not have anyone *"pushing the workload"*. A few scholars echoed the sentiments of being ill but attending to work responsibilities. There appears to be under-researched studies that look into medical interns in healthcare attending work whilst ill with COVID-19 during the COVID-19 global pandemic.

7.6 Resilience of interns

From the data and from the researcher's interaction with the participants of this study, only at two out of the five hospitals sampled did participants affirm that within the hospital context, psychological support services were available to them. A participant shared: *"designated assistance for in hospital staff during working hours, and let seniors know. There is one hour off duty and be supportive"*. Here the participant speaks to the psychological services offered to the interns within the hospital they are serving at, and within working hours. This suggests that the mental health of interns is prioritised and this alludes to the fact that the hospital is taking care of its healthcare team - because if their healthcare team is a member down they would ineffectively function and it would have a negative effect on the healthcare service

delivered. It is startling to see by the findings that regional and district hospitals are the only reported hospitals to be providing psychological services to interns. One cannot assume that from this data the other three sampled hospitals do not provide psychological services, it could be that the interns are not familiar with the psychological services available or the psychological services have not been explicitly advertised. It is also imperative to acknowledge that approximately 75% of the participants in this study indicated that they use private psychological services external to their place of work. It may be that participants have a preference to use psychological services outside their working environment due to the stigma associated with seeking mental health services in healthcare as scholars have indicated (Galbraith et al., 2021; Wijeratne et al., 2021). In light of the interns' income level, they are able to afford private healthcare services. According to the laws of this country, healthcare professionals are required to be on a medical aid scheme, thus private psychological services is the preferred choice by interns.

Considering the quote from Cathy: *"work mentally takes up too much of peace of which we do not appreciate …when we socialize as doctors we immediately start debriefing*", what is implicit in this statement is that medical interns are affected by their working environment in that it affects their mental well-being. But given the network of connected communication amongst interns, as a team they rally to assist each other to recover from their emotional breakdown as the quote speaks to *"start debriefing"*. As findings by Mahmud et al. (2020) suggest, empowering resilience will inadvertently improve the well-being of doctors. This study found that males had higher resiliency scores than their female colleagues. The female interns had scored lower for resilience on the BRS attributing to the high rates of burnout (Cleary et al., 2018). These findings are similar to studies conducted internationally, although there is yet to be local data available with which to compare (Khan et al., 2022; Khalid et al., 2021;Rodríguez-Rey et al., 2016; Song et al., 2020).The studies that have been conducted in SA have assessed the resilience of undergraduate healthcare students (van der Merwe et al., 2020) and used a different resilience scale on doctors (Rossouw et al., 2013; Van Wijk & Martin, 2019; Wagner & Pather, 2019). Johnson and Lazarus (2008) affirmed that well-being of an individual is directly influenced by resilience. As illustrated by this study's findings, there was a statistical significance correlation between total PWB and resilience ($r = 0.32$, $n =$

120, $p > 0.05$, low effect) that is indicative of high levels of resilience associated with high levels of PWB.

7.7 “They are open to everything else but not mental health”

The mental health of medical healthcare professionals has been in the spotlight over time, but more so given the global pandemic of COVID-19. The participants attributed to working on the frontline caring for COVID patients as the catalyst that ignited their mental health deterioration faster. For some of the participants, Andani reported *“you see everyone else around is pushing, that you end up pushing too”*. This quote implies that medical interns in this study did not speak out about their mental health as they assumed their colleagues did not mention anything, that all was good. A participant adds insight regarding this as they mentioned: *“my mental health has been my own secret”*. This study has un-masked the PWB of medical interns.

7.7.1 Reached the boiling point? How “supported” are our interns?

“I didn’t look for support within the hospital but I used external resources”, said Olga. The researcher begins by answering the question: “Have our medical interns reached their boiling point?” Referring back to Chapter 2, findings by McKinley et al. (2020) indicated that a highly pressurised environment will adversely affect the medical professional’s PWB. This study has illustrated that medical interns in KZN have reached their boiling point and are burnt out (Bazmi, 2019; Lemaire & Wallace, 2017; Winkel et al., 2018). Participants in phase 1 of the study have shown that female interns experience more burnout than their male colleagues despite there not being a statistical significance as the sample size was relatively small. As mentioned in the previous sub-theme of “Resilience of interns”, female interns have lower resilience scores than their male colleagues with 19.3 ($SD = 5.1$, $p = 0.07$) making them more susceptible to experiencing burnout. These findings of females being most burnt out are similar to the findings of a few scholars (Elbarazi et al., 2017; Elghazally et al., 2021; Prymachenko et al., 2021). A systematic review by Amoafo et al. (2015) found that there was a greater prevalence of burnout amongst female doctors, specifically those serving in the surgery rotation. However, the study by Solar et al. (2008) identified that the prevalence of burnout was found to be amongst male doctors although the sample size of the study was

reportedly small. Shanafelt et al. (2009) reported that as the age of doctors increases, the risk of them experiencing burnout tends to decrease and lessen over time. Similarly, a study by Shanafelt et al. (2012) using the beyond blue survey found that young doctors under the age of 30 years were most likely to report experiencing burnout with high exhaustion and cynicism rates of 48% and 46% respectively. However Amoafo et al. (2015) further state that it is not known whether the age of young doctors predisposes them to experience burnout or that it is due to their job responsibilities (i.e. workload, long shift hours). Similarly, Baigent and Baigent (2018) added that the heavy workload and reduced autonomy for medicine creates an environment where burnout can increase. Older doctors expressed their perceptions of having experienced more psychological distress during the beginning years of their careers. Furthermore, the MBI subscale for older doctors and more experienced doctors (i.e. several years of practice in the medical field) reflected low scores in the depersonalisation and emotional exhaustion domains (Baigent & Baigent, 2018; Petrino et al., 2021). Thus, in comparison, the younger doctors scored significantly higher on the MBI scales. More years of experience practicing in the medical field attributed to the lower distressed levels experienced (Baigent & Baigent, 2018). The age of interns did not have an effect on the level of burnout experienced as compared to other studies which have suggested that the age of a medical healthcare worker influences the level of burnout experienced (Amoafo et al., 2015; Baigent & Baigent, 2018; Peisah et al., 2009; Petrino et al., 2022). The findings of this study showed little to no difference in the burnout rate experienced by interns in year 1 and year 2. This is not similar to the findings of Hyman et al. (2011), Lowe et al. (2019) and Martini et al. (2004) but this could be attributed to the small sample size of the first year interns in the study. A statistically significant relationship existed between the resilience and burnout scored by the interns ($r = -0.30$, $n = 120$, $p < 0.05$, low effect) that suggested a high level of resilience displayed by the interns associated with lower levels of burnout experienced. These findings were similar to a study by McCain et al. (2017) in that the interns of relatively the same age were sampled, and approximately the same proportion of interns were illustrated to have high levels of burnout. The study found that high levels of burnout were associated with low levels of resilience. Participants in the study have mentioned briefly that the: *"Intern curators – a pillar of strength".* This was shared by participants with reference to the intern curator being their one constant person throughout their internship period, and receiving

assistance to their queries required at the time. Intern curators play a pivotally important part in the internship journey of an intern as the HPCSA (2022) has mentioned. However, this appears to be an area of research not yet explored that may possibly unlock how interns can be better supported during internship. Lastly, Sam supports the above finding, in that he states:

> *I think it depends on the individual…in every department you get different seniors to help you…some are there just for your work and some are there that actually put in an effort and check in with you. It depends on the individual person, like some would say, "Have you eaten, go and take lunch". But I'd say a lot of them do care about your mental well-being.*

It is with this in mind, that data collected from the piloted online mindfulness course in the next sub-theme is explored.

7.7.2 To be present - being mindful

"I do not have anyone to speak to that will listen to me", said a participant. With this quote in mind, the first of a pilot online mindfulness programme is explored, namely MBSR evaluated by eThekwini, KZN medical interns. The online mindfulness course was assessed for feasibility and acceptability amongst 21 interns serving their internship in the eThekwini district, KZN. The study was similar to the feasibility studies conducted on medical students and doctors internationally (Boyd et al., 2022; Bu et al., 2019; Moore et al., 2020). Week two of eight illustrated a statistically significant relationship between the mental well-being and mindfulness of medical interns, in that over a period of two weeks small effects of the course were noticed by interns. This is in keeping with a recent online mindfulness study in SA (Osman et al., 2021) that was conducted to assess for the effectiveness of MBI on stress and burnout of healthcare professionals. It found that pre-intervention interns were feeling helplessness but that post-intervention they felt more in control of their emotions. With reference to the study, as the weeks progressed, the findings scores illustrated closely similar results to that of a few scholars (Bu et al., 2019; Carter et al., 2018; Osman et al., 2021). One can assume that perhaps the interns became familiar with the questions in the survey and possibly developed "survey imposter syndrome" as they were exposed to the same survey line of questioning for the pre-test and post-test in the intervention. Based on the findings

from phase 3, the intervention findings demonstrated promising research in the field of mindfulness for medical trainees, almost similar to an international study (Bu et al., 2019). The studies were similar in that there was consistent attendance by the majority of the participants signed up to learn the mindfulness practices and that non-attendance was due to work commitments experienced by trainees and foundation doctors alike. The courses consisted of adapted time-saving practices to keep the momentum of engagement throughout the weeks. The studies found that mindfulness practices have the potential to improve the well-being of trainees, in that the well-being level of trainees had improved by the end of the course in comparison to the baseline.

Access to programmes that are focused on the clinical level of need documented in this vulnerable group can be supported by liaising with the interns' medical managers and the intern curators. They are two important personnel in the internship journey as they jointly work with the intern as they progress through their internship. At the end of the study, the researcher will write to the HPCSA council and inform them about the outcome of the study so that they can consider including the programme for all interns going forward. A suggestion would be that the support programme be incorporated into the interns' monthly schedules, and that "mini milestones" are marked to be achieved by a particular point in time. For example, by the end of the first month interns have completed mastery of meditation practices. Participants in the study were provided with a mental health resource guide at the commencement of their participation. The resource guide contained information on psychological services such as private/state psychiatry and NGOs with contact details (Appendix 13).

The findings of the study were in alignment with the study by Chmielewski et al. (2021) in that interns' well-being improved as the weeks progressed, as well as affirmed Kemper's (2015) study findings in that the same group of interns that embarked on participating in the mindfulness course developed new communication networking with other interns and the sense of "we're in this together" formed amongst them. The phrase "we're in this together" refers to the interns as a team navigating through their internship journey. Earlier a quote shared by Mamba: "*Oh, so this is like a part of the rite of passage, everyone struggles and*

that is life" refers to all interns experiencing a "rite of passage"; this alludes to the phrase "*we're in this together*", the internship journey shared by the interns. Similarly, during an interview Cathy made reference to her peers as being a supportive team that understands each other: "*…when we socialize as doctors we immediately start debriefing*". This suggests that interns have established a network of communication amongst them and feel comfortable to share their experience. In Chapter 4, phase 3, the data collection process reiterates the togetherness amongst interns in that a WhatsApp group chat was created for phase 3 participants. As mentioned, this provided a support system amongst the interns but also encouraged the interns to express the struggles that they were going through and they were given reassurance that they were not alone in this journey of internship training: *"someone else is experiencing what I am experiencing"*. Thus, the phrase "we're in this together" is echoed (Kemper et al., 2015).

In addition, due to the haphazard scheduling interns in different disciplines follow, the online mindfulness course allowed for flexibility and for them to complete the week's video and task at their own leisure. The well-being of the interns was positively affected by the intervention (Cardona et al., 2020; Hanson et al., 2022). Although a suggestion would be for minor changes to be made to the intervention, namely having three or more groups consisting of the same number of participants in each group, assigning a group to receive a placebo and the other groups to receive the treatment of mindfulness online practices in order to establish a check-in routine for interns by having a group meet on different virtual platforms (Zoom and WhatsApp call) in the morning and evenings accommodating the interns' scheduling. Before this intervention programme is trialled among doctors in the other eight provinces of SA, the progress made in the mindfulness course and the mode of delivering the course specifically with the timing aspect in mind, as time is limited for interns to utilise, should be tracked.

CHAPTER 8: CONCLUSIONS

8.1 Limitations and strengths

It is imperative to address the limitations of the study in evaluation of the results yielded by the research study. By addressing the limitations, future research opportunities can be explored. There was a limited number of participants who participated in Phase 1: Surveys of the research study (*n*=120), and in particular, only 14 interns serving year 1 of internship training participated despite five hospital sites in eThekwini, KZN district being sampled. Although enriched data emerged from phase 1, it would have been better to have a more equal amount of year 1 and year 2 interns participating in the study in order to increase the generalisability of the findings. Numerous efforts were made to increase the sample size of the study, namely by scheduling frequent meetings with intern curators, sending out friendly reminder messages with the link to the study and seeking the assistance of participants who participated in this phase of the study. It is through the sense of approval of an intern and them sharing their experience that the precedence for other interns participating in the study was set.

Phase 2 of the study was based on 18 in-depth interviews. Similar to phase 1, only three year 1 interns were included in phase 2 interviews. Furthermore, there was a disproportionate ratio of five male to 13 female interns who were interviewed. This is however in keeping with the general ratio of interns in medicine, as there are a lot more female interns than males. The study relied on interns self-reporting on their internship experience and the support available to them, which may not necessarily reflect as accurate across all sampled hospitals. Insightful data emerged from the interviews, but had there been a fairer ratio of interns from year 1 and year 2 of training, generalisability of the findings could be made with respect to the internship year served. One can speculate that year 1 interns were still finding their grounding in the medical realm as the study was conducted fairly early in the first quarter of the year. One can postulate that given that year 1 interns are new graduates and are not yet familiar to their working environment, a sense of hesitation to have participated developed. Given the complexities of the global pandemic of COVID-19, the interviews were conducted virtually. This required interns to be interviewed during their time of convenience, which was during

breaks in their hospital shift. This however may have indirectly influenced participants' interviews, as they were at their place of work and more cautious of what was communicated by them. Participants who opted for interviews after their shift engaged relatively well as a result of them being in a more suitable environment to be interviewed. If the COVID-19 pandemic had not been at heightened risk, in-person interviews could have been conducted and rapport would have been easier to establish with the participants.

The enrolment rate of participants in Phase 3: Online Mindfulness course was not high, with 21 participants participating in the intervention, five of which were year 1 interns. Only quantitative data was gathered during the pre- and post-test after each week's intervention. It would have been insightful had qualitative information been gathered from the participants, or a focus group gathered bi-weekly. The statistical information affirms how the participants evaluated their well-being and mindfulness following the interventions; yet enriching subjective detailed information was not gathered by qualitative means. The sample sizes of the respective phases of the study were small and limited the power analysis to identify the relationship between the variables of the study. The researcher's role may have indirectly influenced the interviews and interpretation of the data gathered as the researcher solely gathered, interpreted and analysed data.

The study has a number of strengths. The use of both quantitative and qualitative research methods allowed for the comparison and in-depth insight into the PWB, burnout and resilience of medical interns. The pilot intervention illustrated that a support strategy is feasible and that there are practical challenges that need to be overcome. The study fills a pertinent gap in the field of study regarding mental health of medical trainees. The study's three phase design was a strength as it provided confidence in the research findings. Medical trainees were able to participate in the study at a time of convenience to them as their work shift schedules were taken into consideration in the design of the phases. As the study was deployed online, it allowed for participants to have easy access to participation in the study, flexibility and a personalised approach to a sensitive unreported topic - the mental health of medical trainees. Furthermore, the researcher is not aware of studies that have used both cross-sectional and longitudinal methods to examine PWB, burnout, resilience and

mindfulness among medical trainees, for any of these constructs in combination. Therefore, the study sets precedence for future studies to be compared with.

8.2 Recommendations for future research

Even though the study has limitations, it does provide pertinent information which can contribute to other research on medical interns' internship training journey at state hospitals. The journey of medical internship training at state hospitals in SA appears to be under-researched. Thus, this study has been able to understand the PWB and resilience of interns serving their internship at state hospitals in eThekwini, KZN. In addition, the study brought attention to *"The life of a medical intern"* and the experiences that interns go through on a daily basis, from the emotional breakdowns to them questioning *"Why am I a doctor?"* These are key areas of concern that can be investigated in future research.

The study has shown that mindfulness techniques have a positive impact on the PWB of interns however the sample size of interns that participated in the course was relatively small. Furthermore, qualitative information was not gathered to off-set the quantitative data gathered from the pre- and post-test, however this can be looked into during future research. This research can stimulate planning of a support intervention that could be incorporated into the internship training programme, with the support from the HPCSA. Interns from the state hospitals in eThekwini, KZN encapsulated their internship experience to be *"working under limited time"*, and it would be helpful if future research studies could investigate why interns at state hospitals in eThekwini, KZN felt this way. In addition, it would be highly insightful to undertake a study comparing the internship training journey experience across the provinces in SA. This would assist in planning more efficiently for the internship programme at the respective hospital sites. In future research, focus group design could be employed in order to facilitate enriching discussions about pertinent issues, such as *"What support is provided by the hospital?"* as opposed to individual semi-structured interviews. This method would assist in facilitating critical discussions amongst interns, the key personnel at the centre of the programme, to provide detailed information related to the key questions of the study.

8.3 Conclusion

The findings of this study revealed that medical interns serving their internship at state hospitals in eThekwini, KZN experience a high prevalence of burnout during their internship training journey. Despite interns experiencing burnout, the resilience levels of interns aids in minimising the effect of burnout and as a result produces a positive well-being over time. Reflecting on the socioeconomic hardships that SA's health system is faced with - under-resourced and overburdened with patients seeking healthcare - it is but pivotal to focus on the well-being of interns. Today they are an intern, and in years to come they will be specialists and physicians that the country needs. If their well-being is not cared for, it will be society's loss to incur when they make the heartfelt decision to emigrate and provide their knowledgeable skill set to a country that will reap the country's efforts of training. The researcher concludes by sharing a quote that has become embedded in her mind from an interview she had with an intern - *"...I'd not even call myself an intern or a doctor, but I'm a jack of all trades and a master of none"* - and this is how interns view their internship to be.

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Appendix 1: Information Sheet and Consent to Participate in Phase One of Research Study

Date:

Greetings!

My name is Munira Wadiwalla and I am a student at the University of KwaZulu-Natal, Department of Psychiatry.

You are being invited to consider participating in my research study. The title of the study is

Mental health is a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention. The aim and purpose of this research is to understand the relationship between psychological well-being, burnout and resilience of medical interns amidst the global pandemic of COVID-19. I also want to adapt an online Mindfulness course to improve the psychological well-being of medical interns by strengthening resilience.

The study comprises of three phases:

Phase one consists of quantitative research methods and is expected to enrol 384 participants to complete the online web-surveys. The duration of the survey is expected to beapproximately sevenminutes or less to complete. The first 250 participants to complete the questionnaire in its entirety will be given a small gift to the value of R25 in airtime to show appreciation and to compensate them for their mobile data used in completing the questionnaire. Participants will need to provide their contact number (cell phone number) to receive the R25 airtime. The airtime cannot be exchanged for monetary compensation.

Phase two consists of qualitative research methods and is expected to enroleightparticipants to participate in semi-structured individual interviews. The duration of the interview is expected to beapproximately +/- 30 minutes. The duration of your participation if you choose to enrol and remain in the study is indicated in the breakdown of the phases to the study. The interviews will take place virtually by use of WhatsApp Video Call, Skype, Zoom or via a telephonecall. The participants who complete a semi-structured interview of approximately 30minutes will be given a small gift to the value of R60 in airtime to showappreciation and to compensate them for their mobile data used in participating in the semi-structured interview. Participants will need to provide their contact number (cell phone number) to receive the R60 airtime. The airtime cannot be exchanged for monetary compensation.

Phase threeofthe study consists of an online Mindfulness course which will be conducted virtually by use of Google Meet or Zoom. Participants will receive a small gift to

showappreciation to the value of R100 in airtime at the end of the eighth week of the online group session, provided that they have attended from week oneall the way to the eighth week. The airtime value of R100 cannot be exchanged for money and is only payable once to the cellphone number provided and confirmed by the participant.

Due to the sensitive nature of the data gathered, it is anticipated that negative emotions may be brought to the surface evoking distress within you. Having noted this potential risk of harm to you, all efforts will be made to ensure that you are comfortable with participating in the research and you may discontinue your participation at any time without any penalty. In the case where you may experience psychological distress, please refer to *Appendix 13: Mental Health Resource Guide*which lists the details of psychologists based in Durban which you may consult at cost to you.

Your participation in this research is voluntary and you may withdraw at any point. In the event of refusal/withdrawal of participation you will not receive any penalty or loss of treatment or other benefit to which you are normally entitled. There is no cost for you to participate. Participants will receive a small gift in lieu of remuneration for mobile data spent on participation inthe respective phases of the research study.

Your privacy is of utmost importance to me. Your name will not be included in any write up of this research. Each participant will be assigned a pseudonym which will be used throughout the study. As the interviews will be recorded, only I and a transcriber will have access to them. They will be stored in a password protected computer and cabinet and will be destroyed after the research is completed.

This study has been ethically reviewed and approved by the UKZN Biomedical Research Ethics Committee (BREC/00003552/2021).

In the event of any problems or concerns/questions you may contact me at 060 308 5458.

INFORMED CONSENT

I ……. have been informed about the study entitled *Mental health isa journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and the development of a support intervention* by ……. and I understand the purpose and procedures of the study. I have been given an opportunity to ask questions about the study and have receivedanswers to my satisfaction.

I declare that my participation in phase1 of this study is entirely voluntary and that I may withdraw at any time without affecting any treatment or care that I would usually be entitled

to. I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If you would like to participate in phase2 and/or phase3 of the research study, could you please indicate by ticking the respective box/s:

Phase2: Yes ☐ No ☐

Phase3: Yes ☐ No ☐

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

Munira Wadiwalla
Tel: 060 308 5458
Email: Wadimun15@gmail.com

Prof BonginkosiChiliza
University of KwaZulu-Natal
Department of Psychiatry
Email: ChilizaB@ukzn.ac.za

ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: +27 31 2604769, Fax: +27 31 2604609
Email: BREC@ukzn.ac.za

BIOMEDICAL RESEARCH ETHICS

_____ _____
Signature of Participant Date

_____ _____
Signature of Researcher Date

Appendix 2: Phase One Questionnaire(s): Bio-Demographic Information Sheet

INSTRUCTIONS: (Please answer the following questions by circling the applicable box)

Internship year serving:

Year 1	Year 2
1	2

Gender:

Male	1	Female	2

Age Group:

20 - 24	25 - 29	30 - 34	35 - 39	40 +
1	2	3	4	5

Marital Status:

Single	Married	Divorced	Widow
1	2	3	4

Race:

Black	White	Coloured	Indian	Other
1	2	3	4	5

Number of Dependents (This refers to everyone who is dependent on you, including children):

None	1	2	3	4+
1	2	3	4	5

Please indicate your current rotation in the hospital:

General medicine	General Surgery	Obstetrics and Gynaecology	Paediatrics	Family medicine/ Primary Care	Anaesthesiology and Orthopaedics	Psychiatry	Nurse
1	2	3	4	5	6	7	8

Please indicate the hospital you are based at:

Addington Hospital	King Edward VIII Hospital	Wentworth Hospital	R.K. Khan Hospital	Prince Mshiyeni Hospital
1	2	3	4	5

Please indicate by tick if you would like to participate in Phase 2 and/or Phase3 of the research study:

Phase 2	YES	NO

Phase 3	YES	NO

Please could you provide your cell phone number, as your gift of participation (i.e. airtime) will be given to this number provided.

_____

Appendix 3: Information Sheet and Consent to Participate in Phase Two of Research Study

Date:

Greetings!

My name is Munira Wadiwalla and I am a student at the University of KwaZulu-Natal, Department of Psychiatry.

You are being invited to consider participating in Phase Two of my research study as you had indicated. The title of the study is *Mental health is a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention.* The aim and purpose of this research is to understand the relationship between psychological well-being, burnout and resilience of medical interns amidst the global pandemic of COVID-19. I also want to adapt an online Mindfulness course to improve the psychological well-being of medical interns by strengthening resilience.

Phase Two consists of qualitative research methods and is expected to enroleightparticipants to participate in semi-structured individual interviews. The duration of the interview is expected to beapproximately +/- 30 minutes. The duration of your participation if you choose to enrol and remain in the study is indicated in the breakdown of the phases ofthe study. The interviews will take place virtually by use of WhatsApp Video Call, Skype, Zoom or via a telephonecall.

Your participation in this phase of the research study suggests that you would be participating in a semi-structured interview of approximately 30minutes. Upon completion of the interview will you be given a small gift to the value of R60 in airtime to showappreciation and to compensate youfor your mobile data used in participation. Please could you provide your contact number (cell phone number) to receive the R60 airtime. The airtime cannot be exchanged for monetary compensation.

Due to the sensitive nature of the data gathered, it is anticipated that negative emotions may be brought to the surface evoking distress within you. Having noted this potential risk of harm to you, all efforts will be made to ensure that you are comfortable with participating in the research and you may discontinue your participation at any time without any penalty. In the case where you may experience psychological distress, please refer to *Appendix 13: Mental Health Resource Guide*which lists the details of psychologists based in Durban which you may consult at cost to you.

Your participation in this research is voluntary and you may withdraw at any point. In the event of refusal/withdrawal of participation you will not receive any penalty or loss of treatment or other benefit to which you are normally entitled. There is no cost for you to

participate. Participants will receive a small gift in lieuof remuneration for mobile data spent on participation inthe respective phases of the research study.

Your privacy is of utmost importance to me. Your name will not be included in any write up of this research. Each participant will be assigned a pseudonym which will be used throughout the study. As the interviews will be recorded, only I and a transcriber will have access to them. They will be stored in a password protected computer and cabinet and will be destroyed after the research is completed.

This study has been ethically reviewed and approved by the UKZN Biomedical Research Ethics Committee (BREC/00003552/2021).

In the event of any problems or concerns/questions you may contact me at 060 308 5458.

INFORMED CONSENT

I ……. have been informed about the study entitled *Mental health isa journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and the development of a support intervention* by ……. and I understand the purpose and procedures of the study. I have been given an opportunity to ask questions about the study and have receivedanswers to my satisfaction.

I declare that my participation in phase2 of this study is entirely voluntary and that I may withdraw at any time without affecting any treatment or care that I would usually be entitled to. I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If you would like to participate in phase3 of the research study, could you please indicate by ticking the respective box:

Phase3: Yes ☐ No ☐

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

Munira Wadiwalla
Tel: [redacted]
Email: [redacted]

Prof BonginkosiChiliza
University of KwaZulu-Natal
Department of Psychiatry
Email: ChilizaB@ukzn.ac.za

ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: +27 31 2604769, Fax: +27 31 2604609
Email: BREC@ukzn.ac.za

BIOMEDICAL RESEARCH ETHICS

_____ _____
Signature of Participant Date

_____ _____
Signature of Researcher Date

Appendix 4: Phase Two Semi-Structured Interview: Bio-Demographic Information Sheet

INSTRUCTIONS: (Please answer the following questions by circling the applicable box)

Internship year serving:

Year 1	Year 2
1	2

Gender:

Male	1	Female	2

Age Group:

20 - 24	25 - 29	30 - 34	35 - 39	40 +
1	2	3	4	5

Marital Status:

Single	Married	Divorced	Widow
1	2	3	4

Race:

Black	White	Coloured	Indian	Other
1	2	3	4	5

Number of Dependents (This refers to everyone who is dependent on you, including children):

None	1	2	3	4+
1	2	3	4	5

Please indicate your current rotation in the hospital:

General medicine	General Surgery	Obstetrics and Gynaecology	Paediatrics	Family medicine/ Primary Care	Anaesthesiology and Orthopaedics	Psychiatry	Nurse
1	2	3	4	5	6	7	8

Please indicate the hospital you are based at:

Addington Hospital	King Edward VIII Hospital	Wentworth Hospital	R.K. Khan Hospital	Prince Mshiyeni Hospital
1	2	3	4	5

Please indicate by tick if you would like to participate in Phase 3 of the research study

Phase 3	YES	NO

Please could you provide your cell phone number, as your gift of participation (i.e. airtime) will be given to this number provided.

_____

Appendix 5: Information Sheet and Consent to Participate in Phase Three of Research Study

Date:

Greetings!

My name is Munira Wadiwalla and I am a student at the University of KwaZulu-Natal, Department of Psychiatry.

You are being invited to consider participating in Phase Three of my research study as you had indicated. The title of the study is:*Mentalhealth is a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention.* The aim and purpose of this research is to understand the relationship between psychological well-being, burnout and resilience of medical interns amidst the global pandemic of COVID-19. I also want to adapt an online Mindfulness course to improve the psychological well-being of medical interns by strengthening resilience.

Phase Threeofthe study consists of an online Mindfulness course which will be conducted virtually by use of Google Meet or Zoom. Participants will receive a small gift to showappreciation to the value of R100 in airtime at the end of the eighth week of the online group session, provided that you have attended from week oneall the way to the eighth week. The airtime value of R100 cannot be exchanged for monetary value.

Due to the sensitive nature of the data gathered, it is anticipated that negative emotions may be brought to the surface evoking distress within you. Having noted this potential risk of harm to you, all efforts will be made to ensure that you are comfortable with participating in the research and you may discontinue your participation at any time without any penalty. In the case where you may experience psychological distress, please refer to *Appendix 13: Mental Health Resource Guide*which lists the details of psychologists based in Durban which you may consult at cost to you.

Your participation in this research is voluntary and you may withdraw at any point. In the event of refusal/withdrawal of participation you will not receive any penalty or loss of treatment or other benefit to which you are normally entitled. There is no cost for you to participate. Participants will receive a small gift in lieuof remuneration for mobile data spent on participation inthe respective phases of the research study.

Your privacy is of utmost importance to me. Your name will not be included in any write up of this research. Each participant will be assigned a pseudonym which will be used throughout the study. As the interviews will be recorded, only I and a transcriber will have access to them. They will be stored in a password protected computer and cabinet and will be destroyed after the research is completed.

This study has been ethically reviewed and approved by the UKZN Biomedical Research Ethics Committee (BREC/00003552/2021).

In the event of any problems or concerns/questions you may contact me at [redacted].

INFORMED CONSENT

I ……. have been informed about the study entitled *Mental health isa journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and the development of a support intervention* by ……. and I understand the purpose and procedures of the study. I have been given an opportunity to ask questions about the study and have receivedanswers to my satisfaction.

I declare that my participation in phase3 of this study is entirely voluntary and that I may withdraw at any time without affecting any treatment or care that I would usually be entitled to. I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

Munira Wadiwalla
Tel: [redacted]
Email: [redacted]

Prof BonginkosiChiliza
University of KwaZulu-Natal
Department of Psychiatry
Email: ChilizaB@ukzn.ac.za

ADMINISTRATION
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Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: +27 31 2604769, Fax: +27 31 2604609
Email: BREC@ukzn.ac.za

BIOMEDICAL RESEARCH ETHICS

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Appendix 6: Phase Three Online Mindfulness Group Session: Bio-Demographic InformationSheet

INSTRUCTIONS: (Please answer the following questions by circling the applicable box)

Internship year serving:

Year 1	Year 2
1	2

Gender:

Male	1	Female	2

Age Group:

20 - 24	25 - 29	30 - 34	35 - 39	40 +
1	2	3	4	5

Marital Status:

Single	Married	Divorced	Widow
1	2	3	4

Race:

Black	White	Coloured	Indian	Other
1	2	3	4	5

Number of Dependents (This refers to everyone who is dependent on you, including children):

None	1	2	3	4+
1	2	3	4	5

Please indicate your current rotation in the hospital:

General medicine	General Surgery	Obstetrics and Gynaecology	Paediatrics	Family medicine/ Primary Care	Anaesthesiology and Orthopaedics	Psychiatry	Nurse
1	2	3	4	5	6	7	8

Please indicate the hospital you are based at:

Addington Hospital	King Edward VIII Hospital	Wentworth Hospital	R.K. Khan Hospital	Prince Mshiyeni Hospital
1	2	3	4	5

Please could you provide your cell phone number, as your gift of participation (i.e. airtime) will be given to this number provided.

_____

Appendix 7: Interview Schedule

Q: Hello. Thank you for agreeing to take time out of your busy schedule to participate in my research study and to be interviewed.

Q: Can you start by telling me where you studied medicine? Can you tell me a little bit about that journey?

Q: What motivated you to become a doctor? Tell me a little bit about that.

Q: How long have you been serving your internship training and at which hospital are you positioned?

Q: How would you describe the duties expected of you during this year and what are the responsibilities that you have as a junior medical doctor?

Probing cues: Roles and responsibilities expected

Q: How would you describe the support (mentoring) provided to you, if any, during the transition phase between graduating medical school and beginning internship training?

Probing cues: Academic/ practical/ psychological support etc – is it formal or informal

Q: Now that you are here, do you or did you feel adequately prepared for internship training?

Probing cues: To perform medical procedures/ psychological state of mind/ roles and responsibilities as a junior medical doctor

Q: What do you think influenced your level of preparedness?

Probing cues: Hours duration/ duties/ skills/infrastructure/policies/colleagues/hospital atmosphere

Q: Can you briefly discuss your first day on the job as a medical intern?

Probing cues: What happened on the day? Had you imagined it to be what it was? How did you cope on the first working day of a lifelong future career as a medical professional? Did you receive any assistance?

Q: How would you describe the impact of the global pandemic of COVID-19 on your internship training and on you as an individual, newly graduated junior medical doctor?

Q: Do you have a mentor?

Q: Was this mentor assigned to you or did you approach them?

Q: How would you describe the professional working relationship between you and your mentor? (If they have one)

Probing cues: Are you able to readily communicate with them? How often would you communicate?

Q: During your internship training, have you required support in the form of either emotional, social or psychological support?

Probing cues: Why did you require the support and have you felt it to be beneficial to you?

Q: Referring back to the support. What support is provided or offered to medical interns during their internship training and within the hospital context, and had this been provided prior to COVID-19?

Probing cues: What psychological support is offered? Do you have weekly or monthly meetings with your medical manager to keep them abreast of how you are coping during your internship training?

Q: What additional support/assistance, if any, was provided to you during the global pandemic of COVID-19?

Q: If you had a choice and were allowed to decide what support intervention should be provided to medical interns, what support would you prefer and why?

Probing cues: Psychological support

Q: Are you aware of current support interventions within the hospital context? Please may you briefly discuss further.

Probing cues: What is the aim of the support intervention? Who administers it? What is the duration of the support intervention?

Q: Lastly, if there was an opportunity for you to participate in a supportive programme with the hope to strengthen your resilience and improve your psychological well-being, would you participate in the programme, and if so, why?

Q: Thank you so very much for you taking time to participate in the study.

Appendix 8: Ryff's Scale of Psychological Well-being (PWB) Questionnaire

The following set of questions deals with how you feel about yourself and your life. Please remember that there are no right or wrong answers.

Circle the number that best describes your present agreement or disagreement with each statement	Strongly Disagree	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Strongly Agree
1. I tend to be influenced by people with strong opinions.	6	5	4	3	2	1
2. I have confidence in my opinions, even if they are contrary to the general consensus.	1	2	3	4	5	6
3. I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6
4. In general, I feel I am in charge of the situation in which I live.	1	2	3	4	5	6
5. The demands of everyday life often get me down.	6	5	4	3	2	1
6. I am quite good at managing the many responsibilities of my daily life.	1	2	3	4	5	6
7. I think it is important to have new experiences that challenge how you think about yourself and the world.	1	2	3	4	5	6
8. For me, life has been a continuous process of learning, changing and growth.	1	2	3	4	5	6
9. I gave up trying to make big improvements or changes in my life a long time ago.	6	5	4	3	2	1
10. Maintaining close relationships has been difficult and frustrating for me.	6	5	4	3	2	1
11. People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6
12. I have not experienced many warm and trusting relationships with others.	6	5	4	3	2	1

13. I live life one day at a time and don't really think about the future.	6	5	4	3	2	1
14. Some people wander aimlessly through life, but I am not one of them.	1	2	3	4	5	6
15. I sometimes feel as if I've done all there is to do in life.	6	5	4	3	2	1
16. When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6
17. I like most aspects of my personality.	1	2	3	4	5	6
18. In many ways, I feel disappointed about my achievements in life.	6	5	4	3	2	1

Appendix 9: Oldenburg Burnout Inventory Questionnaire

The following set of questions focuses on assessing the professional fulfilment in one's profession and the burnout, disengagement and exhaustion experienced by the individual. Please remember that there are no right or wrong answers.

Circle the number that best describes your present agreement or disagreement with each statement	Strongly agree	Agree	Disagree	Strongly disagree
1. I always find new and interesting aspects in my work.	1	2	3	4
2. There are days when I feel tired before I arrive at work.	1	2	3	4
3. It happens more and more often that I talk about my work in a negative way.	1	2	3	4
4. After work, I tend to need more time than in the past in order to relax and feel better.	1	2	3	4
5. I can tolerate the pressure of my work very well.	1	2	3	4
6. Lately, I tend to think less at work and do my job almost mechanically.	1	2	3	4
7. I find my work to be a positive challenge.	1	2	3	4
8. During my work, I often feel emotionally drained.	1	2	3	4
9. Over time, one can become disconnected from this type of work.	1	2	3	4
10. After working, I have enough energy for my leisure activities.	1	2	3	4
11. Sometimes I feel sickened by my work tasks.	1	2	3	4
12. After my work, I usually feel worn out and weary.	1	2	3	4
13. This is the only type of work that I can imagine myself doing.	1	2	3	4
14. Usually, I can manage the amount of my work well.	1	2	3	4

15. I feel more and more engaged in my work.	1	2	3	4
16. When I work, I usually feel energised.	1	2	3	4

Appendix 10: Brief Resilience Scale (BRS) Questionnaire

Please respond to each item by marking one box per row.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I tend to bounce back quickly after hard times.	1	2	3	4	5
2. I have a hard time making it through stressful events.	5	4	3	2	1
3. It does not take me long to recover from a stressful event.	1	2	3	4	5
4. It is hard for me to snap back when something bad happens.	5	4	3	2	1
5. I usually come through difficult times with little trouble.	1	2	3	4	5
6. I tend to take a long time to get over set-backs in my life.	5	4	3	2	1

Appendix 11: Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

The following set of statements is about feelings and thoughts. Please select the box that best describes your experience of each statement over the last twoweeks. Please remember that there is no right or wrong answers.

Statements	None of the time	Rarely	Some of the time	Often	All of the time
1. I've been feeling optimistic about the future.	1	2	3	4	5
2. I've been feeling useful.	1	2	3	4	5
3. I've been feeling relaxed.	1	2	3	4	5
4. I've been feeling interested in other people.	1	2	3	4	5
5. I've had energy to spare.	1	2	3	4	5
6. I've been dealing with problems well.	5	4	3	2	1
7. I've been thinking clearly.	1	2	3	4	5
8. I've been feeling good about myself.	1	2	3	4	5
9. I've been feeling close to other people.	1	2	3	4	5
10. I've been feeling confident.	1	2	3	4	5
11. I've been able to make up my own mind about things.	1	2	3	4	5
12. I've been feeling loved.	1	2	3	4	5
13. I've been interested in new things.	1	2	3	4	5
14. I've been feeling cheerful.	1	2	3	4	5

Appendix 12: The Cognitive and Affective Mindfulness Scale – Revised (CAMS – R)

Statements	Rarely/Not at All	Sometimes	Often	Almost Always
1. It is easy for me to concentrate on what I am doing.	1	2	3	4
2. I can tolerate emotional pain.	4	3	2	1
3. I can accept things I cannot change.	1	2	3	4
4. I can usually describe how I feel at the moment in considerable detail.	1	2	3	4
5. I am easily distracted.	4	3	2	1
6. It's easy for me to keep track of my thoughts and feelings.	4	3	2	1
7. I try to notice my thoughts without judging them.	4	3	2	1
8. I am able to accept the thoughts and feelings I have.	1	2	3	4
9. I am able to focus on the present moment.	1	2	3	4
10. I am able to pay close attention to one thing for a long period of time.	1	2	3	4

Appendix 13: Mental Health Resource Guide of Psychologist in Durban

Psychological Services – Private/ State Psychiatry/ NGOs with contact details

- Jeethen Ramnanan –Clinical Psychologist – 076 331 8429

https://www.google.com/aclk?sa=l&ai=DChcSEwjGm5PFlqn0AhUEhdUKHdjTBioYABAAGgJ3cw&ae=2&sig=AOD64_3BqDzn-fucsNroxZ_oUmUFnJS4sw&q=&ctype=99&ved=2ahUKEwi29InFlqn0AhUghf0HHbeBDcEQhKwBegQIQBBF&adurl=

- NozibusisoNyawose –Clinical Psychologist – 031 329 1220

https://www.nozinyawosepsych.com/

- Lindelwa Mkhize –Clinical Psychologist – 082 683 9159

https://www.sayellow.com/view/south-africa/lindelwa-mkize-clinical-psychologist-in-durban

- Zanele Khumalo –Psychologist – 073 251 1083

https://www.medpages.info/sf/index.php?page=person&personcode=74387

- Jonelle Du Plessis –Clinical Psychologist – 073 897 4815
- Vanessa Wright –Counselling Psychologist – 061 985 7903

http://www.vanessawright.co.za/

- Jabulile Ndlovu –Psychologist – 031 309 8811

https://www.medpages.info/sf/index.php?page=person&personcode=137775

- TP Moloi– Clinical Psychologist – 031 304 3192
- HameedaBassa-Suleman –Clinical Psychologist – 031 220 2190

http://www.durbanpsychologists.co.za/

- Kevin Suter –Psychologist – 082 494 7212

http://www.kevinsuter.co.za/

- Nolita Mtati –Clinical Psychologist – 031 309 2461
- Jabulisiwe N.E.V, Thabethe –Psychologist – 031 309 1144

https://www.jabulisiwenevthabethedbn.co.za/

- BongiweMaNgcobo Mkhize –Psychologist – 082 586 5769
- Maxine Grimett –Counselling Psychologist – 031 201 7774

http://www.psychotherapy.co.za/GeckoLinks_show.asp?TYP=6&EntryID=1669

- Dr Akashni Maharaj–Psychologist – 076 694 3661

http://www.akashnimaharaj.co.za/

- James Sturdee–Registered Psychological Counsellor – 073 152 4774

http://www.jamessturdeecounselling.co.za/

- Rizwana Ahmed– Clinical Psychologist – 031 303 3874

http://www.psychotherapy.co.za/geckoLinks_show.asp?TYP=6&EntryID=2219

- James Olmesdahl –Counselling Psychologist – 083 898 7486

http://counsellingpsych.yolasite.com/

- Mihlali Consulting –Psychologist – 031 309 1521
- Addington Hospital Psychiatric Unit–031 327 2152
- King Edward VIII Psychiatric Unit–031 360 3128/9
- Life St Joseph's Psychiatric Hospital–031 204 1470
- Community Psychiatric Services – 031 304 7411
- King Dinuzulu Hospital Complex – Dept of Psychiatry – 031 242 6184
- Midlands Umngeni Hospital – Dept of Psychiatry – 033 330 6146
- Prince Mshiyeni Memorial Hospital – Dept of Psychiatry – 031 907 8062
- Chatsworth Psychiatric Clinic –031 402 8043
- R,K. Khan Hospital –Psychiatric Dept –031 459 6406
- Wentworth Hospital –031 460 5000
- The South African Depression And Anxiety Group (SADAG) –011 234 4837

https://www.sadag.org/

- Life Line South Africa NGO–0861 322 322
- Healthcare Worker Care Network HWCN – 0800 212 121 or SMS 43001

https://www.healthcareworkerscarenetwork.org.za/about-us

  - Caroline Lee – covidcareforsouthafrica@gmail.com (SASA)
  - Cassey Chambers –office@anxiety.org.za (SADAG)
  - Rosanna Naidoo – RosannaN@samedical.org (SAMA)
  - Antoinette Miric – careforgauteng@gmail.com (SASOP)
  - Busi Twala – projects@anxiety.org.za (SADAG)
- Adcock Ingram Depression and Anxiety Helpline – 0800 708 090

Appendix 14: Wentworth Gatekeeper Access

1 Boston Road, Jacobs 4025
Private Bag, Jacobs 4025
Tel: 031-460 5000 Fax: 031-4689654 www.kznhealth.gov.za

WENTWORTH HOSPITAL
PRIVATE BAG
JACOBS 4026

Attention: 18 March 2022

Dear Munira Wadiwalla

Re: request for permission to do research at Wentworth hospital

Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention.

Thank you for your letter of 14 March 2022 requesting permission to conduct research at Wentworth hospital. Wentworth hospital is a District hospital and has second year interns based at the hospital for 6 months at a time.

Your request has been approved by the Wentworth hospital ethics committee pending:

a) Confirmation of approval by the Provincial Department of health and
b) Confirmation of full ethical approval by a recognized Ethics committee

Please take note of the following:

1. When you first come on site, please introduce yourselves to the hospital management and to the chairperson of the local ethics committee
2. Please ensure that when working in any clinical area you are clearly identifiable by the wearing of your name badge and ID card.
3. Prof Mergan Naidoo ([redacted]: Naidoom@ukzn.ac.za) is the intern curator at Wentworth hospital. He has read your protocol and is in support of your research. He has however indicated that you research cannot occur during the formal intern teaching times (Tuesday morning from 7.30 – 8.30) nor during the hospital CME (Friday morning 7.30 – 9.00). You will need to arrange with the Clinical managers at the hospital if you want interns to participate in your interviews during working hours, otherwise you will need to conduct your interview afterhours.
4. Please arrange to do a short presentation about you research (rationale, methods, selection of participants, expected outcome) at our Friday CME (contact person: Prof Mergan Naidoo ([redacted]). This CME is attended by the interns and may provide an opportunity to recruit intern for your research
5. Please ensure that you do a short presentation at the CME at the conclusion of the study to share relevant findings.

We wish you well in this research endeavor.

Yours sincerely

Attention: 18 March 2022

Dear Munira Wadiwalla

Re: Request for permission to do research at Wentworth Hospital

Mental health isa journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention.

Thank you for your letter of 14 March 2022 requesting permission to conduct research at Wentworth Hospital. Wentworth Hospital is a District hospital and has second year interns based at the hospital for 6 months at a time.

Your request has been approved by the Wentworth Hospital ethics committee pending:

a) Confirmation of approval by the Provincial Department of Health and
b) Confirmation of full ethical approval by a recognised ethics committee

Please take note of the following:

1. When you first come on site, please introduce yourselves to the hospital management and to the chairperson of the local ethics committee.
2. Please ensure that when working in any clinical area you are clearly identifiable by the wearing of your name badge and ID card.
3. Prof Mergan Naidoo ([redacted]; Naidoom@ukzn.ac.za) is the intern curator at Wentworth Hospital. He has read your protocol and is in support of your research. He has however indicated that your research cannot occur during the formal intern teaching times (Tuesday morning from 7.30 – 8.30) nor during the hospital CME (Friday morning 7.30 – 9.00). You will need to arrange with the Clinical managers at the hospital if you want interns to participate in your interviews during working hours, otherwise you will need to conduct your interview afterhours.
4. Please arrange to do a short presentation about your research (rationale, methods, selection of participants, expected outcome) at our Friday CME (contact person: Prof Mergan Naidoo [redacted]). This CME is attended by the interns and may provide an opportunity to recruit interns for your research.
5. Please ensure that you do a short presentation at the CME at the conclusion of the study to share relevant findings.

We wish you well in this research endeavour.

Yours sincerely

Prof.Andrew Ross
MBChB, DCh, MMed (Family Medicine), FCFP, PhD, GCOB
Principal Specialist
Department Family Medicine, Private Bag 7 Congella 4013, South Africa
Telephone +27(0)31 2604485 [redacted]
Email: rossa@ukzn.ac.za
On Behalf of the Ethics committee at Wentworth Hospital.

Appendix15: R.K. Khan Hospital Gatekeeper Access

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Physical Address: R.K. Khan Circle
Physical Address: CHATSWORTH
Tel: [illegible] Fax: [illegible] Email: [illegible]
[illegible]

R.K. KHAN HOSPITAL
OFFICE OF THE CEO

ENQUIRIES: DR B.S. MADLALA

28 MARCH 2022

Ms M. Wadiwalla
University of KwaZulu-Natal

Dear Ms Wadiwalla

RE: PERMISSION TO CONDUCT RESEARCH STUDY: 'MENTAL HEALTH IN A JOURNEY: EXPLORING THE PSYCHOLOGICAL WELL-BEING OF MEDICAL INTERNS IN THE PROVINCE OF KWAZULU-NATAL , SOUTH AFRICA AND A PILOT SUPPORT INTERVENTION'

Permission is granted to conduct the above study at this institution.

Please note the following:

1. Please ensure that you adhere to all the policies, procedures protocols and guidelines of the institution with regards to this research.

2. Please ensure this office is informed before you commence your research and your University's Ethics approval must be attached.

3. You will be expected to provide feedback on your findings to this institution.

4. You will be liaising with: Dr K. Pillay
Acting HCU – Psychiatry Department
Tel: 031-4596144 / 6406

Yours faithfully

[redacted]

DR D. BEHADAR
ACTING SENIOR MANAGER: MEDICAL SERVICES

Fighting Disease, Fighting Poverty, Giving Hope

Appendix 16: Addington Gatekeeper Access

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

ADDINGTON HOSPITAL

Erskine Terrace, South Beach, DURBAN 4001
Postal Address: P.O. Box 997, DURBAN 4000
Tel: 031 3272970 Fax: 031 3683300
Email:

OFFICE OF THE CHIEF EXECUTIVE OFFICER

Reference: *9/2/3/R*

Date: 31/03/2022

Principal Investigator:
- **Miss Wadiwalla**

PERMISSION TO CONDUCT RESEARCH AT ADDINGTON HOSPITAL: "MENTAL HEALTH JOURNEY: EXPLORING THE PSYCHOLOGICAL WELL-BEING OF MEDICAL INTERNS IN THE PROVINCE OF KWAZULU-NATAL, SOUTH AFRICA AND THE DEVELOPMENT OF A SUPPORT INTERVENTION "

I have pleasure in informing you that permission has been granted to you by Addington Hospital Management to conduct the above research.

Please note the following:

1. Please ensure that you adhere to all the policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research will only commence once this office has received confirmation from the Provincial Health Research Committee in the KZN Department of Health.
3. Please ensure this office is informed before you commence your research.
4. Addington Hospital will not provide any resources for this research.
5. You will be expected to provide feedback on your findings to Addington Hospital.

[redacted]

DR M NDLANGISA
CHIEF EXECUTIVE OFFICER
ADDINGTON HOSPITAL

Appendix 17: King Edward VIII Gatekeeper Access

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

KING EDWARD VIII HOSPITAL
CLINICAL MANAGER

Corner of Sydney and Rick Turner Roads, Umbilo, Durban
Private Bag x02, Congella 4013
Tel: 031 360 3854 Fax: 031 206 1457 Email: E-mail: KE8.MedicalManagerSecretary@kznhealth.gov.za
www.kznhealth.gov.za

Ref: KE 2/7/24/ (03/2022
Enq: Mr. W.P. Kubheka
Research Programming

24 March 2022

School of Clinical Medicine
Medical School

Dear Miss Wadiwalla

Protocol Reference Number: BREC/00003552/2021
Protocol: "Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and the development of a support intervention."

Your request to conduct research at King Edward VIII Hospital has been approved.

Please ensure the following:

- That King Edward VIII Hospital receives full acknowledgment in the study on all publications and reports and also kindly present a copy of the publication or report on completion.

Before commencement:

* Discuss your research project with our relevant Clinical Head/Assistant Nursing Manager
* Sign an indemnity form at Room8, CEO's Complex, Admin. Block.

The Management of King Edward VIII Hospital reserves the right to terminate the permission for the study should circumstances so dictate.

Yours faithfully

SUPPORTED/NOT SUPPORTED

[redacted]

DR. V. KALALA
CLINICAL MANAGER

24/03/2022
DATE

GROWING KWAZULU-NATAL TOGETHER

Appendix 18: BREC Ethical Clearance Letter

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

24 February 2022

Miss Munira Wadiwalla (213502529)
School of Clinical Medicine
Medical School

Dear Miss Wadiwalla,

Protocol reference number: BREC/00003552/2021
Project title: Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and the development of a support intervention.
Degree: PhD
NEW TITLE: "Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention".

EXPEDITED APPLICATION: APPROVAL LETTER

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application.

The conditions have been met and the study is given full ethics approval and may begin as from 24 February 2022. Please ensure that any outstanding site permissions are obtained and forwarded to BREC for approval before commencing research at a site.

This approval is subject to national and UKZN lockdown regulations, see (http://research.ukzn.ac.za/Libraries/BREC/BREC_Amended_Lockdown_Level_1_Guidelines.sflb.ashx). Based on feedback from some sites, we urge PIs to show sensitivity and exercise appropriate consideration at sites where personnel and service users appear stressed or overloaded.

This approval is valid for one year from 24 February 2022. To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2020) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be noted by a full Committee at its next meeting taking place on 08 March 2022.

Yours sincerely,

[redacted]
Prof D Wassenaar
Chair: Biomedical Research Ethics Committee

Biomedical Research Ethics Committee
Chair: Professor D R Wassenaar
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Email: BREC@ukzn.ac.za
Website: http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx

Appendix 19: Provincial Department of Health Letter

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
Health Research & Knowledge Management

Physical Address: 330 Langalibalele Street, Pietermaritzburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

NHRD Ref: KZ_202111_029

Dear Ms M. Wadiwalla
(UKZN)

Approval of research

1. The research proposal titled **'Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention'** was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

   The proposal is hereby **approved** for research to be undertaken at Addington, King Edward VIII, Prince Mshiyeni Memorial, RK Khan and Wentworth Hospitals.

2. You are requested to take note of the following:
   a. *All research conducted in KwaZulu-Natal must comply with government regulations relating to Covid-19. These include but are not limited to: regulations concerning social distancing, the wearing of personal protective equipment, and limitations on meetings and social gatherings.*
   b. *Kindly liaise with the facility manager BEFORE your research begins in order to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.*
   c. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
   d. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete to* ***HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200*** *and e-mail an electronic copy to hrkm@kznhealth.gov.za*
   e. *Please note that the Department of Health shall not be held liable for any injury that occurs as a result of this study.*

For any additional information please contact Mr X. Xaba on 033-395 2805.

Yours Sincerely

[redacted]

pp. **Dr E Lutge**
Chairperson, Health Research Committee
Date: *06/12/2021*

Appendix 20: District Health Department Letter

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE: Monitoring and Evaluation
Physical address: 83 King Cetshwayo Highway; Highway House; Mayville 4091
Postal Address: private Bag X 54318, Durban 4000 eThekwini District Office
Tel: 031 240 5308 Fax: 031 240 5555 Email: Ntombenhle.Ngcobo@kznhealth.gov.za
www.kznhealth.gov.za

Enquiries: Mrs. N.P Ngcobo
Date: 25/11/2021

Ms Munira Wadiwalla
University of Kwa Zulu - Natal

RE: SUPPORT FOR RESEARCH STUDY ON "MENTAL HEALTH IN A JOURNEY: EXPLORING THE PSYCHOLOGICAL WELL-BEING OF MEDICAL INTERNS IN THE PROVINCE OF KWAZULU- NATAL, SOUTH AFRICA AND A PILOT SUPPORT INTERVENTION ."

I have pleasure in informing you that the District is granting you support to conduct the research study titled **"Mental health in a journey: Exploring the psychological well-being of Medical Interns in the Province of Kwa Zulu – Natal, South Africa and a pilot support intervention"** at eThekwini Health District facilities.

Please note the following:

1. Please ensure you adhere to all the policies, procedures, protocols and guidelines of the department of health with regards to this research.
2. This research will only commence once this office has received confirmation from the provincial health research committee in the KZN department of health.
3. Please ensure this office is informed before you commence your research.
4. The District office/facility will not provide any resources for this research.
5. You will be expected to provide feedback on your findings to the district office/facility.

Thank you.

Sincerely,

[redacted]

Mrs. N.P. Ngcobo
(P, Monitoring and Evaluation Manager)
EThekwini Health District

GROWING KWAZULU-NATAL TOGETHER

Appendix 21: Prince Mshiyeni

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE: Senior Manager: Medical

Postal Address : Mangosuthu Highway, Private Bag X 07, Mobeni
Name of Directorate: Prince Mshiyeni Memorial
Physical Address
Tel: 0319078317 Fax: 0319061044 Email address: myint.aung@kznhealth.gov.za
www.kznhealth.gov.za

Enquiry: Dr M AUNG
Ref No: 30/RESH/2022
Date: 30/03/2022

TO: Ms Munira Wadiwalla

RE: LETTER OF SUPPORT TO CONDUCT RESEARCH AT PMMH

Dear researcher;

I have pleasure in informing you that support has been granted to you by Prince Mshiyeni Memorial Hospital (PMMH) to conduct research on "**Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention**".

Please note the following:

1. Please ensure that you adhere to all the policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research will only commence once this office has received approval of your study from the Provincial Health Research and Ethics Committee (PHREC) in the KZN Department of Health.
3. Please ensure this office is informed before you commence your research.
4. The PMMH will not provide any resources for this research.
5. You will be expected to provide feedback on your findings to PMMH.
6. You are required to contact this office regarding dates for providing feedback when the research has been completed.

Should the following requirements be fulfilled, a Permission/ Approval letter will follow.

- Full research protocol, including questionnaires and consent forms if applicable.
- Ethical approval from a recognized Ethic committee in South Africa

Thank you.

[redacted]

MYINT AUNG
Senior Medical Manager & specialist in Family Medicine
MBBS, DO(SA), PGDip in HIV (Natal), M.Med.Fam.Med (natal), PhD
Tel: 031 9078317
Fax: 031 906 1044
myint.aung@kznhealth.gov.za

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE: Senior Manager: Medical

Postal Address : Mangosuthu Highway, Private Bag X 07, Mobeni
Name of Directorate: Prince Mshiyeni Memorial
Physical Address
Tel: 0319078317 Fax: 0319061044 Email address: myint.aung@kznhealth.gov.za
www.kznhealth.gov.za

Enquiry: Dr M AUNG
Ref No: 30/RESH/2022
Date: 30/03/2022

TO: Ms Munira Wadiwalla

RE: LETTER OF APPROVAL TO CONDUCT RESEARCH AT PMMH

Dear Researcher;

I have pleasure to inform you that approval has been granted to you by PMMH to conduct research on "**Mental health in a journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention**".

Please note the following:

1. Please ensure this office is informed before you commence your research.
2. The institution will not provide any resources for this research.
3. You will be expected to provide feedback on you finding to the institution.

The management of Prince Mshiyeni Memorial Hospital reserves the right to terminate the permission for the study should circumstance so dictate.

With kind regard

[redacted]

MYINT AUNG
Senior Medical Manager & specialist in Family Medicine
MBBS, DO(SA), PGDip in HIV (Natal), M.Med.Fam.Med (natal), PhD
Tel: 031 9078317; Fax: 031 906 1044
myint.aung@kznhealth.gov.za

Appendix 22: Thematic Analysis

Mental health isa journey: Exploring the psychological well-being of medical interns in the province of KwaZulu-Natal, South Africa and a pilot support intervention.		
Theme	**Sub-theme/s**	**Description/relevant clusters**
1.The journey to becoming a doctor	Transition from medical student to medical doctor Balancing the equation of work life commitments vs person life (family life) First day on the job	I do remember questioning myself "Did I really want to do this for the next 2years?"
		With the transition, we are not students now so it's huge, you now have a lot of responsibilities. You are the first to see the patient, and they ask you first.
		You are doing procedures, and then you struggle for some time and when you do call them for help and say "please can you assist me" they will just end up saying "you woke me up for this".
		"I mentally am not that prepared as I'd like to have been". As a student we were given clear decisions to follow.
		I do not have academic stimulation and I feel like an admin clerk.
		First year was a lot more intensive than second year which is less supervised. It leans more to an independent practitioner and preparing us for comm service.
		Imposter Syndrome - In second year, "this year I got to focus on myself than it just be the work".I find myself to be able to survive the workplace and go home to focus on relationships and me.
		"The internship programme is very rough itself and then the very long hours expected is exhausting".
		"But what bothers me the most is having to deal with the other life things of that you fall behind in".
		"I was not prepared for the instability and flexibility of this profession and the need to just how much on the ground you are".
		"You hit the road running maybe more comfortable because I'm in 2nd year now as opposed to 1st year".
		Vaguely remember first day - We just went to the Department, we didn't know who to go to and didn't even know what to do.
		The intern curator was quite sweet and really great in that they supported me on the day.
		The hospital had to function that day, and I felt out of depth. I hated it!
		I was doing PVCs and not knowing what I was

		feeling or doing…it was horrible.
		"My first day, I was on call. Informed me that I will be on call and need to do a 24hour call. But as a student I had only done a 12hour and 8hour call and now to take a big jump to doing a 24 hour call and post call".
	Balancing the equation of work life commitments vs person life (family life)	"I remember I saw my first patient who later passed away in the evening. I was working in the COVID ward and I remember I went to see him the next day and he was gone. It was the most scary thing I had witnessed and like most COVID patients demised".
	First day on the job Internship in the landscape of COVID	"I do remember a senior coming up to me and shouting at me, but I was so confused why I was getting shouted at in front of everyone in the hospital. She was shouting at me just after I did a 24hr call and had not slept all because I had written the information on the back of a clerking sheet".
		It (COVID) actually affected me from my med school and I feel like that we were pushed forward just because of COVID.
		COVID lessens our exposure to treating patients during our rotation times, learning was obstructive. "You'd learn that basic given treatment for COVID would be oxygen tank, medication and repeat that over and over to the point that the treatment for COVID patients were similar".
		I feel like a clerk more than anything else…I wish it were more academics that I could learn with my skills".
		"The seniors just do not trust us to do it". I was told "observe me do it and then do it" but the truth is that I have been observing them do it so many times".
		Registrars had more patients to see while we interns were swobbing the 100s in the queue. "It doesn't take any qualification or skill to do so – like to stick a stick in someone nose".
		Notprepared to cope with the aspects of someone life and to make decisions that will affect a patient.
		They would cancel the op if didn't know of COVID status of patient.
		"I'd see more people now but you don't really get time to discuss with the patient, but to send them home and needing to adapt, function independently".
2."COVID was and is like a war zone"	Health care received by patients provided by interns	Provide same adequate care to some patients because they are complicated and interns are seeing to these patients.
	Impact of COVID on interns' lives	Have to balance with practicality, that there's 500 patients a day and you cannot literally examine all 500 and at least show some care.

		I know that I am adequately prepared for and I will not harm, hurt or kill anybody because of lack of information but a lot more could be done for the patient care.
		I hate COVID, it felt like it filtrated into every factor!
		Swob patients and excluded COVID first, and the extra work and administration for a patient, but the little extra admin took more time.
		"As an intern COVID was our baby". I just ended up getting angry, and it did develop a negative, irritated attitude in me and tainted my internship experience.
	Health care received by patients provided by interns	PPEs we were just sweating inside and you'd bathing in your own sweat and at time there was no PPE and so we'd wear aprons like how the cleaners would wear.
		Lost loved ones due to COVID.
		There is difficult adjustment to move (due to placement of internship) and you feel isolated in the beginning, as internship social events all cancelled because of COVID.
		Death is something like 100 I saw in a span of three months, and COVID spent most time transferring to the mortuary.
		Doing a call I have seen more deaths due to COVID than patients in the day from internal medicine – Only COVID cases.
	Impact of COVID on interns' lives Processing the deaths	"Like seeing people dying like flies was mentally broke me".
		I think seeing so many deaths in rapid succession and deal with the family and counselling them – it took kind of a big toll on them.
		"You know that they are not going to make it – just emotionally you get to draw some of line. How do you bounce back from that? How do you cope with that ? How to be the perfect intern?"
		Mortuary book to certify the death, we have heard of the book but I have never seen it before.
		Incapacity leave – due to inability to fulfill duties due to mental health issues.
		"The effort I had to put in each time became more and more. It required more of myself – forced."
		PTSD – Wanting to go to a more relaxed environment where it won't give anxiety.
		Depression - "It was that the effort that it had taken out of me to do things, like to get out of bed, to move, the mindset, like the drive to the hospital and dread walking in the doors. It was like a dark cloud of gravity, depression followed me".
		Colleague has mental health issues of which results in him being unstable at work.
	Effects of trauma experienced	"I wasn't aware of the stress in the beginning".
		Trichotillomania - "I have serious Trichotillomania and when I got into the internship, it was triggered more and further exacerbated even more and I'm still currently

		struggling with it now".
		Suicide Ideation – "I did not demonstrate the full criteria but because I mentioned that they admitted me."
		Anti-depressants.
		Find it hard to motivate myself.
		"Depressant episode, I do attribute that to studying medicine and like the culture of medical school".
3.Mental health issues as result of internship	Effects of trauma experienced	"My lowest and not wanting to actively die but not having any pleasure in my life at all and wanting to sleep -.feeling numb and wanting to not feel anything".
		Burnout does get to you but you don't realise it.
		"HPCSA says you shouldn't do more than 60hrs of overtime, but we are doing 120hrs of overtime".
		Insomnia issues experienced and sometimes you can just sleep without a struggle.
		"You'd feel so tired yet you have been sleeping for 10 hours, and i felt like this every single morning and I'd call in and say I'm sick (it was just that type of situation)".
		Intern Curator sent a message recently of concern "Just checking in on you…"
		"No one seems to care or wants to listen, really".
		Psychological support is non-existent.
		Told every 2-3 months there would be a check-in to see how everyone is doing but due to COVID that has stopped.
		"The psychologist is there for the patients. There is no one there for us interns or assigned to or told us about there for us interns if we have any problems that we talk to them".
		Most administrative support, concerned with rosters and paperwork.
		Be useful if psychological support was well known because I and my colleagues would benefit from it.
		I haven't made use of psychological support but I do require it and I neglect to use it.
		"I don't know if they have a psychologist available for us or even a number for us to call because I wouldn't even know who to call".
		Never offered extra support to us during COVID.
		"No psychologist for interns as yet. When we arrived they said "psycho at Addington sees interns" and when we enquired they said oh no the post has not yet been

		filled. We now a year later and it hasn't been filled."
4.Variable psychological support at training institutions	Be the decision-maker, and "make the call"	Friends are more concerned about my wellbeing.
		COVID brought us together.
		WhatsApp group to ask the questions.
		"Work mentally takes up too much of peace of which we do not appreciate, and we find when we socialize as doctors we immediately start debriefing and then realise that we do actually need each other support in this".
		"You learn as an intern to support one another".
		"I'm the first point of contact for the patient, as they see me first and I get them ready for senior reviewing to make their work easier."
		Deal with patients as they come in. Say, "you are a jack of all trades and a master of none" and you do every single thing here.
		More independent in making decisions.
		"They do allow us some autonomy to make own decisions and then review it later to say we could have done it a bit better".
		"I must say that I didn't get used to the high pace and see the whole patient load".
		Any rotation you at, you can engage yourself to understand they have a different standard of knowledge its all-around.
	Timing is crucial on the job, "time waits for no man"	A new environment where not a lot of structure exists.
		Somewhat feels like "we are thrown in the deep end" in having to do tasks and procedures.
		The seniors expected you to do procedures even if you didn't know how to do it, you'd have to perform the procedure.
		Concerned that there are blanks in my learning and communityservice is the next step, the pressure of filling in those blanks.
		"It's the volume of patients as it was a bit too much at times".
6. Helplessness and Hopelessness	Be the decision-maker, and "make the call" Mastering your skill set: What	"We are overworked, burnout out and we must just push through".
		"Let's be honest that at the end of the day there will not

	level of preparedness are you?	be anything that can prepare you for internship".
		When you are failing to do things they are then not there to help you. I remember thinking "oh my I have 2 people's lives in my hand at the moment" and I have no idea of what I am doing and no signal because labour ward in an area of no connection so couldn't exactly google it.
		"No, I'm not psychological prepared as there is definitely ups and downs but on the whole what I find us to go through in the hospital I am actually okay with it".
	Pushed to the extreme limits of not having capacity	You are just filling in the blanks and they say, "you need to push the patient queue…you need to push the load".
		Sometimes you find yourself making mistakes as you don't know what to do".
		"Not all of us can cope and, some are not coping, and do decide to quit".
		"The load of the patients and I like worked the waves and waves of COVID and you'd think you're surfing the wave…I was carrying oxygen tanks…and you'd run for the entire team because your colleagues are sick". A lot of pressure on you.
		"It's not just work load but it's about dealing with different personalities".
		"Interns to do this…" and it adds to the current duties expected and we were all moving cities.
		Cannot discuss the masses of patients that come in and then we can question and say, "but we can't give them the sufficient care they need".
		When you see a lot of patients you end up saying "next…next…next…" and kind of add the personification and empathy.
Feeling of helplessness	Without support, interns' judgment becomes clouded resulting in errors Personality disengagement	I don't like to talk about my struggles and didn't want to tell my new friends for the fear of isolation and family back home that I have gone from succeeding to now struggling.
		In a weird way I'd enjoy my clinical exposure and its very different to theoretical perspective and be it more concrete in memory and sort of going back to the theoretical side of it struggling to keep up the demand of work.
		"You don't want to tell others because you want to make

		it seem that you can keep your head above water".
		"The more you reflect you can see that others are also experiencing the same as you" .
		I am stuck to do a job, I'm in a contract – and I can't change to a different hospital to serve my internship.
		"I do not have anyone to speak to that will listen to me".
		You see everyone else around is pushing, that you end up pushing too.
		"At the beginning and end of the blocks the seniors would mark our logbooks and they'd ask you then at the end "how are you doing and what did you like or not like?" and honestly I wanted to say but I could not really because all I wanted was for my logbook to be signed so I can move on".
		Lied about when I got the COVID symptoms because I didn't want to miss that much of work because i knew the type of drama it would cause.
	Personality disengagement	Problem is you are "shamed" if you call in sick. "But behaviour would be commendable if you were sick at work and running with a drip, but at work doing your work".
		Say "sneeze in the other direction",
		I just keep persevering and push through because it's the job.
		"Going to a psychologist and a psychiatrist has helped me to overcome difficulties now and I do have one on standby, a psychologist to set up an appointment with".
		"I have felt the need (for psychological support) but I didn't look for support within the hospital but I used external resources".
	Rationale for reluctancy to share personal struggles Be on duty despite ill health Coping strategies used by medical interns	As interns we learn to "adapt" and probably seek help quietly.
		Uses laughter as a mechanism to cope.
		There are mental health helplines links that is shared in the WhatsApp group chat.
		Good friends structure that I have met in internship – was the greatest of outlet, Supportive colleagues that bring it out " It is ok". Most support I got was from other interns and, its more like "the blind leading the blind".

		"It would not be possible without that significant other you have at home or with your parents".
		I had stopped anti-depressants during internship and it got too much for me and so internship did not cause it but I needed it.
		If you come to a point and need help – you'd seek it.
		Unless mine (my mental health) has been my own secret. I can afford therapy and can cope with work.
	Be on duty despite ill health	Personal characteristic traits influences whether an individual will be of assistance or not.
		The profession sets a tendency for their personality and mentorship.
		Mentorship is department specific, there could be internal politics within the department and it trickles down to the interns.
Support Utilised	Coping strategies used by medical interns In-house departmental culture	"You have to let them [seniors & registrars] know that you are needing help because they are not around at all times, and you are on your own. You sometimes have to give them a call and ask them for assistance".
		The registrar in our unit picked it up and said did y'all not have orientation, but then he was kind enough to explain to us…like on this day this is what we do…and on that day this is what we do. So the following week we then knew what to do".
		"It depends on the rotations and your seniors, but I can say that I have had good ones".
		"She was unapproachable, and it caused for anxiety and every time I would go to work".
		Seniors were very much approachable, nice, and perfectionists. They looked out for us, and were involved in our lives.
		Supportive team of good seniors and MOs that pushed me to do procedures, encourage me to do…from start to finish or complete a procedure under less supervision.
		If I really needed help and not lose my goals of why I chose to be a doctor I'd ask and I'd be helped.
		Seniors were relatively very friendly and never made you feel stupid or embarrassed to ask a question.
		Approachable seniors and easy communication.

		Nurses were of more assistance helping me on the first day on the job.
		"Sisters they are always there to help and are around [nurses]".
		Designated assistance for in hospital staff during working hours and let seniors know. There is 1hour off duty and be supportive. ***Only ONE of the hospitals provides this.***
		There is psychological support offered by the hospital but people just don't know about it.
	In-house departmental culture Work ethos of the team Interpersonal communication network If I do say I need help… I still feel unfairly treated	"No, I don't know the support. I know I am supposed to and meant to remember, so I supposed if you need help and then to go to psychiatrists but not a hospital psychologist/psychiatrist".
		"When they do want to offer their services and help its not really meeting you at where you are at… it merely we have a package that we have developed and we will force this package onto you and if you don't like it then there is nothing else and there is nothing genuine".
		"I have exhausted R.K.Khan psychological support services seeing that I am someone who suffers from depression and infact I can't control well and it does interfere with my work commitments at work".
		"When it gets to that point then they'd refer me to their social worker on duties and the employee practitioner assistants there and she can refer to the staff doctor who then refers you to the psychiatry ward/clinics and then you go to a local psychiatry ward".
		"There is a designated person you can reach out to and speak to them and they will see you during your working hours for a consultation".
		"you are expected to seek it [psychological services] from your own personal support structures, so nothing".
	Work ethos of the team	"If you have the opportunity to say you need it (psychological support) but if they offer you at the same side they treat you poorly in the other aspects".
		Recruit more interns - understaffed and often overworked.
	Interpersonal communication	"Oh it's rough and I'm struggling but coping" and the answer to that is almost always "well aren't we all" and

	network Dictated coping mechanisms	it's not brushing it off so much but acknowledging.
		Deal with it because you'd hear other say "shut up about it…so we had dealt with it before and now you should to…"
		"No that is how she/he (seniors) is always is and you know what its ok" - like that's how they talk or scream and shout.
	If I do say I need help… I still feel unfairly treated	Each block we had a small orientation and they tell us "you'd learn on the job" and "you'll get the hang of things".
		If you trust a doctor and become buddies with them, they will share, it is very much the culture"Oh so this is like apart of the rite of passage…everyone struggles and that is life".
		Enough ward work to do – then you need to hop into the next ward and "we trust that you will adapt".
		Accept the situation as it is.
"Go somewhere and cry by yourself"	Dictated coping mechanisms Prejudice rationale of interns' emotional regulation Humiliation by seniors	You don't exactly want to kill the vibe and "be the wet blanket". It links to the paradigm that "someone else has gone through it and so what".
		Difficult for medical people to introspect due to sense of pride - latch on to the strongest one.
		"It is abit of a toxic environment and so yes you have to adapt".
		If you made a mistake it was like a name and shame and everyone should know about it.
		"Hey this intern did this and that intern did that…"It always assumed that the interns did this but it is never an intern but an MO or a registrar who gets it wrong. But they are quick to blame an intern like it's the intern fault.
		Mentally beat interns down and you don't know the correct channels to raise concerns and some don't know the power they have within.
		Personally, I have gotten used to the shouting, belittling and been called lazy, useless "but to an extent you are used to it".
		We are called "online interns", online doctors that studied via online.
	Prejudice rationale of interns' emotional regulation	"Learn as you land on the role and be shouted at for the things you somewhat should have known but didn't".
		"Are you stupid or what?, "Embarrass you in front of

		people for your mistakes and your like supposed to be okay with this but it gets better overtime".
		I got an email saying "you have missed so much work, as your annual leave compounded with the COVID leave is too much and you run the risk of not completing your internship". Of which I found very unreasonable, so I found there is no support in that aspect".
Power dynamic within the institution context	Humiliation by seniors Signing off of the logbook COVID leave becomes an issue Requesting leave from work Racial dynamics	Demanded respect and authoritative behaviour - Contradictive like the next day called by titles and not by name.
		We'd be allocated our leave slots and without even consulting us, they'd make us feel like "we owe it to them".
		"I hated it when a lot of our seniors made it that us interns must be the only ones to swob patients and it wasn't an MOs job or a nurses job".
		I find race, their race does appear to help them (interns) and they (seniors) are more lenient to their groups (racial groups).
		I believe there was underlying racism within the environment of learning.
		"I wonder what their upbringing was, I wonder where was the white man [referring to senior] brought up because he respected me…most of the blocks I forgot my race".
		With some seniors "skin tone" does not matter at all.