# PERCEIVED SOCIAL SUPPORT AND SENSE OF COHERENCE AS PREDICTORS OF PSYCHOLOGICAL WELL-BEING AMONGST UNIVERSITY STUDENTS DURING A PANDEMIC

by

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I, Anneke-Jean Diesel, hereby declare that I did the language editing of the thesis of DIEGO LAMONT CHARLTONIO REX (title: *PERCEIVED SOCIAL SUPPORT AND SENSE OF COHERENCE AS PREDICTORS OF PSYCHOLOGICAL WELL-BEING AMONGST UNIVERSITY STUDENTS DURING A PANDEMIC*). This research thesis is submitted under the requirements for the degree Master of Social Sciences in Counselling Psychology (Msoc Sci) in the FACULTY OF THE HUMANITIES, DEPARTMENT OF PSYCHOLOGY at the UNIVERSITY OF THE FREE STATE. All the suggested changes, including the implementation thereof, were left to the discretion of the student.

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## ABSTRACT

University students face unique psychosocial and mental health challenges during their studies. Given the already stressful experiences endured, the COVID-19 pandemic was also perceived as an unprecedented mental and physical health challenge globally. This dissertation examined the impact of the COVID-19 pandemic on Psychological Well-being (PWB) of South African university students. More specifically, this study aimed to investigate which variable(s) statistically and significantly explained a percentage of the variance in Psychological Well-being (PWB) amongst university students during the COVID-19 pandemic. Sense of Coherence (SOC) and Perceived Social Support (PSS) were investigated as possible predictor variables of PWB during the pandemic.

This study utilised a quantitative, non-experimental research approach with a correlational design. The statistical relationships between the variables were determined through correlational analyses. Data was collected from a sample of 312 registered university students, consisting of male and female students from various age groups, ethnicities, and faculties. Non-probability convenience sampling was utilised to obtain the abovementioned sample.

This study utilised a self-developed biographical questionnaire and three measuring instruments, namely the *Multidimensional Scale of Perceived Social Support* (MSPSS), the *Orientation to Life Questionnaire* (SOC-29), and *Ryff's Scales of Psychological Well-being* (SPWB). Moreover, correlational analyses were computed to determine the statistical relationships between the variables, followed by a hierarchical multiple regression analysis (HRA). The HRA results demonstrated that the combination of all predictors (Comprehensibility, Meaningfulness; PSS from Family, Friends, and Significant Others) predicted 32.8% of the variance in Self-Acceptance ($f^2 = .49$). The combination of all predictors

also predicted 23.8% of the variance in Personal Growth ($f^2$ = .31), and 38.9% of the variance in overall PWB ($f^2$ = .64). In addition, regression results also showed that the combination of SOC predictors (Comprehensibility and Meaningfulness), statistically and practically significantly accounted for 25% of the variance in Self-Acceptance ($f^2$ = .37). The SOC predictors (Comprehensibility and Meaningfulness) explained 20% of the variance in Personal Growth ($f^2$ = .26). Additionally, this combination of SOC predictors predicted 26.2% of the variance of overall PWB ($f^2$ = .42). Meaningfulness was found to be the only statistically and practically significant individual predictor of university students' Self-Acceptance, Personal Growth, and PWB, during the pandemic. Therefore, higher levels of Meaningfulness within overall SOC, could significantly predict higher levels of PWB amongst students. More research on SOC and PWB of university students is needed to validate these results.

*Keywords*: COVID-19, pandemic, mental health, Sense of Coherence, Perceived Social Support, Psychological Well-being, university students, South Africa, Salutogenesis, Positive Psychology, University of the Free State

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# CHAPTER 1

## INTRODUCTION

### 1.1 Overview of the chapter

This study focused on Psychological Well-being (PWB) during the COVID-19 pandemic within the South African context. Registered undergraduate and postgraduate students from the University of the Free State, Bloemfontein, were recruited for participation. Moreover, this study emphasised identifying which predictors account for variance in Psychological Well-being (PWB). In essence, this study aimed to investigate which variables predicted the PWB of students during the COVID-19 pandemic and to contribute to the corpus of mental health and PWB research university students. Chapter 1 of this mini dissertation provides a brief overview of the study's background, the rationale for the study, and guiding research questions. Also included is a brief discussion of the research methodology, data collection, and statistical analysis procedures. Lastly, ethical considerations will be discussed, followed by an overview of the subsequent chapters and their contents.

### 1.2 Introduction

University students are a population within a country who generally experience unique mental health stressors in comparison to members of the public (Bantjies et al., 2016; Mason, 2019). This pursuit of tertiary education has been wrought with many challenges and obstacles (Mason, 2019) that can negatively impact a student's mental health (Bantjies et al., 2016). Furthermore, most students at university experience unique stressors since they are mainly young and/or emerging adults transitioning into adulthood (Arnett, 2000; Nann, 2018). Often, the bulk of the influx of students is first-year students, who are often underprepared for the

demands of tertiary education (Mokgele & Rothmann, 2014). Furthermore, previous literature indicates that a small percentage of the country's eligible youth are admitted into various tertiary education institutions (Mokgele & Rothmann, 2014), with high drop-out and low graduation rates (Matsolo et al., 2018). Given this significance, it is imperative to ensure that these students' mental health is supported as they are the future of a country's economy and workforce (Usher & Curran, 2019).

### 1.3 Context and Rationale

Over two years have passed since the SARS-Cov-2 virus (dubbed COVID-19) spread across continents (Liu et al., 2020). Beginning in Wuhan (Özdin & Özdin, 2020; Zhu et al., 2020), the World Health Organization (WHO) officially declared a pandemic on 11 March 2020 (WHO, 2020). It is the fifth documented pandemic since the 1918 flu outbreak (Liu et al., 2020). As a result, governments worldwide changed their citizens' natural livelihood to reduce COVID-19 infection and death rates (Alzueta et al., 2020). South Africa timeously followed suit (South African Government Gazette, 2020). However, this decision resulted in various mental health challenges and consequences for citizens (Kim et al., 2020), with variations in psychological responses, many of which are still understudied in South Africa (Van Bavel et al., 2020).

Mental health and PWB has been negatively impacted during this pandemic due to social isolation, movement, and social gathering prohibitions, increasing unemployment and retrenchment, financial distress, direct or indirect death of loved ones through COVID-19, and illness anxiety (Arslan et al., 2020; Van Bavel et al., 2020). Additionally, the consequences of this pandemic have precipitated and perpetuated an increase in levels of loneliness, anxiety, depression, posttraumatic stress disorder, and suicidality (Brooks et al., 2020; Courtet et al., 2020; Kim et al., 2020; Schäfer et al., 2020; Van Bavel et al., 2020). While it is known that

prior pandemics have posed negative consequences to mental and physical health (Esterwood & Saeed, 2020), with plenty of research on the physiology behind this pandemic (Weiner et al., 2020), mental health research on the same is underwhelming (Anglim & Horwood, 2021; Schäfer et al., 2020; Wang et al., 2020).

Diverse populations of individuals, to varying degrees, have been affected by this pandemic (Lades et al., 2020). However, few studies have illustrated the impact of the pandemic on the mental health (PWB) of university students, especially in South Africa (Pretorius & Padmanabhanunni, 2021). Recent local literature reported that university students subjectively reported experiences of anxiety, loneliness, and depression due to factors induced by the pandemic and subsequent lockdown protocols (Pretorius & Padmanabhanunni, 2021; Visser & Law-van Wyk, 2021). Additionally, the adjustment to online learning, social isolation, financial difficulties, impaired spiritual functioning, and limited resources were some of the factors that impacted the mental health of students (Visser & Law-van Wyk, 2021). Moreover, alterations in the traditional tertiary education system have posed various mental health challenges to many students, of which some students are at higher risk of social isolation and mental distress (Lischer et al., 2021). Therefore, it is imperative to understand which protective factors could effectively mitigate the distress imposed by stressful events, such as the COVID-19 pandemic (Liu et al., 2020; Tee et al., 2020).

Sense of Coherence (SOC) is a coping factor that plays a vital role in combatting the psychological consequences imposed by adverse life events and experiences, notably a pandemic (Barni et al., 2020; Schäfer et al., 2020). In addition, a higher SOC could buffer against psychological distress (Barni et al., 2020; Schäfer et al., 2020). Antonovsky (1993; 1996) hypothesised that individuals are constantly exposed to environmental changes and stressors and that the differences in resilience towards these can be explained through an

individual's SOC. Antonovsky (1993; 1996) described SOC as a subjective evaluation of one's ability to comprehend stressful situations, manage them through internal and external resources, and find meaning in life during and after adversity. Consequently, a higher SOC indicates a greater subjective evaluation of the above-mentioned and is positively correlated to greater physical and mental health (Barni et al., 2020; Eriksson & Lindström, 2006). There is consensus, however, that the impact of the pandemic varied among individuals (Anglim & Horwood, 2021; Li et al., 2021).

Social support is inversely associated with psychological distress (Holahan & Moos, 1981; Kaplan et al., 1977; Szkody et al., 2020). Research shows that *Perceived Social Support* (PSS) acts as a buffer against psychological distress in the face of adversity and that higher levels of social support indicate increased resistance to psychological distress (Grey et al., 2020; Lepore et al., 1991). More recently, Szkody et al. (2020) found that individuals who worried more about COVID-19 and had lower social support were more susceptible to poor mental health. Furthermore, it was concluded that higher levels of social support (perceived/received) were beneficial in buffering the adverse effects of social distancing on mental health (Szkody et al., 2020).

*Psychological Well-being (PWB)* has been a consistent area of mental health research for decades, and high levels of PWB have been positively correlated to optimal mental health (Ryff & Keyes, 1995; Ryff & Singer, 2008; Trudel-Fitzgerald et al., 2019). According to Ryff and Keyes (1995), a well-functioning individual can experience self-determination and independence, has a belief that life possesses meaning and purpose, can experience positive interpersonal relationships with others, is accepting of their past and present self, can experience a sense of control in their surroundings, and lastly, can experience a sense of ongoing personal development and growth (Ryff & Keyes, 1995; Ryff & Singer, 2008). PWB

has also been associated with greater mental health, improved subjective health, and fewer health problems (Yoo & Ryff, 2019). Literature shows a significant correlation between SOC and PWB (Krok, 2015; Krok & Kleszczewska-Albańska, 2019) and that a higher level of SOC is correlated to higher levels of PWB (Nilsson et al., 2009).

In retrospect, SOC, PSS, and PWB have been identified in research as protective factors for positive mental health (Barni et al., 2020; Krok & Kleszczewska-Albańska, 2019; Szkody et al., 2020). In addition, both SOC and social support have played a moderating role in mental health. However, few studies exist to demonstrate the significance of SOC and social support as determinants of mental health (Penachiotti et al., 2023). As a result, this motivated the researcher to investigate the theoretical and statistical relationship(s) between SOC, PSS, and PWB amongst South African university students in the context of the COVID-19 pandemic. This is a population group still vastly understudied concerning the pandemic, as they faced a unique set of mental health challenges uncommon to the public (Visser & Law-van Wyk, 2021).

### 1.4 Research objectives and aim of the study.

This study aimed to identify the combination(s) of predictor variables that explained a significant percentage of the variance in PWB scores of university students during the COVID-19 pandemic. PWB was the criterion variable of this study, and the predictor variables were Sense of Coherence (SOC) and Perceived Social Support (PSS). Furthermore, this study focused on registered undergraduate and postgraduate students from various faculties at the University of the Free State.

## 1.5 Research questions.

The following research questions were investigated throughout this research study:

1. Does the combination of predictor variables, namely Sense of Coherence and Perceived Social Support, explain a significant percentage of variance in the Psychological Well-being of university students during the COVID-19 pandemic?

2. Which individual predictor variable(s) significantly contributed to the variance of PWB of university students during the pandemic?

## 1.6 Research Methodology

### 1.6.1 Research approach and design.

A quantitative, non-experimental research methodology was utilised within the study (Stangor, 2015). To establish the statistical relationships between the variables in this study, a correlational research design was utilised (Stangor, 2015).

### 1.6.2 Participants and Sampling

To recruit participants for the study, non-probability sampling was used. More specifically, convenience sampling was utilised (Maree, 2020) to collect data from 312 registered university students at the University of the Free State (UFS) in Bloemfontein. This study aimed to include participants from all faculties. However, participants contained in the sample were primarily from the Faculty of the Humanities. The study also aimed to include participants from various demographic backgrounds and characteristics.

### 1.6.3 Data collection procedures and measuring instruments

To recruit participants, this study was advertised to registered students via the Blackboard learning management system and through the official email communication channel of the UFS. Students interested in participating had to complete three questionnaires and one demographic survey. The three questionnaires measuring SOC, PSS, and PWB were made available to students who volunteered to participate via a Google Forms link available in the Blackboard and email adverts. Participation in the study was voluntary. The measuring instruments utilised in this study were as follows:

- A demographic survey was designed to obtain demographic data such as age, gender, ethnicity, faculty of registration, and year of study.
- Antonovsky's (1987) *Orientation to Life Questionnaire* (SOC-29) was utilised to measure the Sense of Coherence of the sample. Across 29 items, it measures three components of a Sense of Coherence: Comprehensibility, Manageability, and Meaningfulness (Antonovsky, 1987). The 29 items are presented in a Likert-type scale format, with responses ranging from 1 to 7 (e.g., *Strongly disagree* - *Strongly agree*). Cronbach alphas for this measuring instrument range from 0.78 - 0.95 (Antonovsky, 1993; Khumalo et al., 2010).
- *The Multidimensional Scale of Perceived Social Support* (MSPSS) by Zimet et al. (1988) was used to measure Perceived Social Support (PSS). Consisting of 12 items, it measures three dimensions of PSS: Family, Friends, and Significant Others (Zimet et al., 1988). The overall instrument has good internal consistencies ranging from 0.80 to 0.95 and is presented in a seven-point Likert-type scale format (Bukhari & Afzal, 2017; Zimet et al., 1988). Higher scores indicate higher levels of PSS (Bukhari & Afzal, 2017).

- PWB was measured using *Ryff's Scales of Psychological Well-being* (SPWB; Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 2008). This instrument measures the six dimensions of PWB (Autonomy, Purpose in Life, Positive Relations with Others, Personal Growth, Self-Acceptance, and Environmental Mastery) through 42 items, presented in a six-point Likert-type scale format (Ryff, 1989; Ryff, 2014). Responses on this questionnaire range from 1 (*Strongly disagree*) to 6 (*Strongly agree*), with higher PWB scores indicating higher levels of PWB (Ryff & Keyes, 1995). Cronbach alpha coefficients for subscales ranged from 0.68 - 0.85 (Stecz et al., 2019).

### 1.7 Statistical procedures used.

Version 29 of IBM's Statistical Package for the Social Sciences [SPSS] was utilised for the statistical data analyses of the data set in this study (Version 27). Descriptive statistics were computed for the sample, and the measuring instruments utilised in the study. Internal consistencies were also calculated for the scales and their subscales (Tavakol & Dennick, 2011). Correlational analyses were computed to determine the statistical relationship(s) between the predictor variables, namely SOC, PSS, and PWB (Babbie, 2001). Hierarchical regression analyses were computed to determine which predictor variable(s) statistically and significantly contributed to the percentage of variance of PWB amongst university students (Allen et al., 2014).

## 1.8 Clarification of important terminology

### 1.8.1 COVID-19 pandemic

The COVID-19 pandemic refers to the official name of the Sars-Cov-2 pandemic declared by the World Health Organization (WHO; World Health Organization, 2020). COVID-19 is a severe acute respiratory virus that is highly contagious (World Health Organization, 2020). This pandemic resulted in countless deaths globally and prompted numerous governments and institutions to implement measures such as lockdowns, quarantining, and social distancing (Pak et al., 2020).

### 1.8.2 Sense of Coherence (SOC)

SOC refers to the degree to which an individual finds challenges and difficulties faced as understandable, manageable, and worth enduring (Antonovsky, 1979).

### 1.8.3 Perceived Social Support (PSS)

PSS refers to an individual's belief that social support from family, friends, and significant others is readily available and sufficient for coping with stressors. It does not necessarily entail the reception of the support but refers to the perception that one has the necessary social support whenever needed (Zimet et al., 1988).

### 1.8.4 Psychological Well-being (PWB)

PWB is conceptualised in this study according to the eudaimonic paradigm, which indicates that well-being is a process of living to achieve one's fullest potential and experience satisfaction with life despite its challenges (Deci & Ryan, 2008; Ryff, 2014).

## 1.9 Ethical considerations

Approval to conduct this research was obtained (UFS-HSD2022/0987/23) from the General Human Research Ethics Committee (GHREC) of the University of the Free State as well as the Director of Student Affairs of the University of the Free State. The questionnaires students were required to complete were made available online, and participants were made aware that using their data would incur minimal data charges. Students were further encouraged to utilise the University's Wi-Fi to minimise data charges.

Each participant was required to provide informed consent online before participating in the study. Participants were informed that participation was voluntary, that no compensation/incentives were offered, and that withdrawal was without consequence. All participants were also informed that their participation was anonymous and confidentiality of all submitted questionnaires would be ensured. The electronically answered questionnaires were stored on a secure, password-protected computer, and all hard copies of the data were securely locked in a cabinet.

The researcher strived to adhere to the basic ethical principles of not harming any participant. Although it was unlikely that completing the questionnaires would cause any distress, if any emotional distress were experienced by any participant(s), they could contact the coordinator of the Adult Practice of the Master's Programme in Psychology for debriefing/counselling. Participants could also contact Student Counselling and Development at the UFS. These services were rendered free of charge. If face-to-face consultation was not possible, participants could use MobieG, an established and reliable online text-based counselling platform. It is freely available on the Google Play Store. All counselling services

on MobieG are free of charge. No participant reported any need for psychological services during this study.

### 1.10 Value of the study

This dissertation could provide insightful and meaningful information that can contribute to the corpus of mental health and PWB research amongst university student populations within South Africa. In addition, it could contribute to the growing body of PWB, PSS, and SOC research internationally and locally, particularly within the COVID-19 pandemic context. The results of this study can also promote a better understanding of Sense of Coherence and Perceived Social Support as predictors of Psychological Well-being amongst university students. It may inform future studies on university students' mental health and contribute to the development of mental health workshops, interventions, and initiatives.

### 1.11 Outline of chapters in this study

This dissertation is presented through five chapters, with seven tables and seven appendices.

**Chapter 1** indicated the research problem of this study and outlined how it would be addressed through the research questions, aims, and methodology. A brief overview of the research design, population sample, measuring instruments, and statistical procedures utilised was also provided. This was followed by a clarification of important terminology used throughout this study. Lastly, a discussion of ethical considerations was provided, followed by an outline of the remaining chapters of this dissertation.

**Chapter 2** consists of the existing and relevant literature reviewed during this dissertation. This chapter provides a comprehensive discussion of mental health and PWB literature in the context of the pandemic. It also includes discussions on the developmental and

psychosocial experiences of university students pursuing tertiary education and contextually discusses the pandemic. Possible predictors of PWB during the pandemic are delineated and comprehensively discussed.

**Chapter 3** provides finer details regarding the methodological approach underlying this study. This chapter details the research approach, design, sampling method and technique, and measuring instruments used to collect data. The data analysis and statistical procedures followed are also outlined and discussed.

**Chapter 4** contains descriptive data obtained about the sample population and measuring instruments. Additionally, it provides the statistical results obtained from computed correlational and regression analyses.

**Chapter 5** consists of detailed discussions of the results obtained in Chapter 4 and summarises the findings of this study in line with relevant literature. The significance of the findings in this study is also provided in this chapter, followed by the limitations of the study and recommendations for future studies. Lastly, a conclusion on the findings of this study is provided.

## 1.12 Summary

This chapter summarised the topic under investigation and introduced mental health and PWB in the context of the COVID-19 pandemic. University students were introduced as the target population, and the possible predictors of their PWB, namely Sense of Coherence and Perceived Social Support were briefly discussed. Research questions and objectives were provided, and the research methodology and statistical procedures were outlined to answer the research questions and objectives. Important key terminology was defined, and the significance

of the study was discussed. Lastly, ethical considerations and the value of the study were outlined, followed by an overview of the consequent chapters.

# CHAPTER 2

## LITERATURE REVIEW

This chapter will provide an overview of the existing literature on the constructs and population of interest of this study. The chapter will start with a discussion of Positive Psychology and Well-being. This will be followed by an overview of the role of Positive Psychology during a pandemic, Psychological Well-Being, and the psychosocial experiences of students. The impact of the pandemic on mental health and on university students will then be discussed. A discussion of the predictor variables of Psychological Well-being, the Salutogenic perspective of health and Sense of Coherence as well as the Generalised Resistance Resources will follow. The chapter will conclude with a discussion of social support and Well-being, Perceived Social Support and mental health and the Perceived Social Support and student mental health during the pandemic.

### 2.1 Positive Psychology and Well-being

Psychology has a long history with the study and investigation of psychopathology, mental abnormality, and cognitive disturbances (Van Dusen, 2017). However, Martin Seligman (Seligman & Czikszentmihalyi, 2000), a prominent founder and proponent of positive psychology, noticed this trend. Based on this, he (Seligman) realigned the practice of psychology "*to build human strength and nurture genius*" (Seligman & Czikszentmihalyi, 2000; Compton & Hoffman, 2019, p.1). This hallmarked the birth of the discipline known as positive psychology, which is notably claimed as the branch of psychology that scientifically

studies positive human functioning and flourishment on multiple dimensions of human life (Compton & Hoffman, 2019; Seligman & Csikszentmihalyi, 2000).

Positive psychology is the scientific study of optimal human functioning (Linley et al., 2006; Seligman & Csikszentmihalyi, 2000). However, it is not just the opposite of the scientific study of psychopathology and mental illness. It is mainly concerned with predictors of the *good life*, which pertains to the understanding and application of principles that contribute to a life that is well-lived, satisfactory, and fulfilling (Compton & Hoffman, 2019). Seligman (2002) described the "*good life*" as a life where one can use one's strengths to produce true happiness and abundant fulfilment. Seligman (2002) also defines the "*good life*" in positive psychology as combining three foundations: connections to others, positive individual traits, and life regulatory traits. Theoretically, a *good life* can be achieved when there is synchronicity between the ability to form positive relationships with others through one's positive individual characteristics (i.e., personality, temperament), as well as being able to regulate one's behaviour in goal attainment and enrichment of others through autonomy, self-discipline, and wisdom (Seligman, 2002; Seligman & Csikszentmihalyi, 2000). As a field, positive psychology indicates a greater holistic benefit in embracing the best qualities of being human (Seligman, 2002). It is a well-known fact in psychological academia and culturally that the experience of positive emotions throughout one's life is important (Deci & Ryan, 2008; Fredrickson, 1998; Seligman & Csikszentmihalyi, 2000). Positive emotions have the power to undo the negative effects caused by stressful and traumatic experiences, which can potentially linger long after they have occurred (Fredrickson, 1998; Fredrickson & Branigan, 2005).

Research in positive psychology during the past decades has produced an understanding of how positive emotions and states can impact well-being and mental health (Kobau et al., 2011; Seligman & Csikszentmihalyi, 2000). Amongst many subjects of research and study in

the literature on positive psychology, well-being has received plenty of attention (Guidi et al., 2018; Ruggeri et al., 2020; Ryff & Keyes, 1995). Being a complex construct, well-being has been the topic of much research and debate and is still one of the central areas of focus within positive psychology (Linley et al., 2006; Kruger, 2013).

The renowned well-being debate in the literature is likened to a two-sided coin but equal in holistic value. According to Ryan and Deci (2001), research on well-being in positive psychology has been categorised into two main traditions. The first is the hedonic tradition, which mainly focuses on subjective happiness and life satisfaction (Deci & Ryan, 2008). The second conceptualisation is the eudaimonic tradition, which emphasises the development of human potential, strengths, and virtues (Deci & Ryan, 2008). The hedonic conceptualisation of well-being defines it as subjective pleasure, namely high levels of positive affect and low levels of negative affect, both of which contribute to a sense of life satisfaction (Govender et al., 2018; Kruger, 2013; Macdonald, 2018; Ryan & Deci, 2001). Thus, the hedonic view of well-being implies that subjective pleasure and the avoidance of pain or suffering form the basis of what it means to live a good, satisfactory life (Compton & Hoffman, 2019; Diener, 2000). In essence, hedonism involves pleasurable experiences, emotions and gratification, a sense of comfort and an experience where positive emotions outnumber negative ones (Huta, 2013; Huta & Waterman, 2014).

However, this definition of well-being brought dissatisfaction to many scholars since subjective pleasures are short-lived and result in little if any, tangible psychological growth or personality changes (Compton & Hoffman, 2019). Hedonic well-being is seen as a weak indication of well-being (Robbins, 2015), as it relates more to materialism and declines with age and over time (Huta, 2013; Joseph, 2015). Furthermore, the comparison in literature also shows that hedonism relates more to extrinsic motivation, whilst eudaimonia relates more to

intrinsic motivation (Anić & Tončić, 2013; Huta, 2013; Joseph, 2015). Lastly, hedonia has also been associated with features of extraversion, such as gregariousness and thrill-seeking (Huta, 2013; Joseph, 2015). In contrast, eudaimonia is more commonly associated with features of introversion. This means that eudaimonic well-being is more related to authenticity (being true to oneself), and individuals who pursue such well-being (eudaimonia) find more pleasure in solitude, tranquillity, and self-reflection (Huta, 2013; Joseph, 2015). Due to the pleasure-pain state of hedonic well-being, it is also commonly referred to as subjective well-being (Ryan & Deci, 2001).

The eudaimonic conceptualisation of well-being emphasises positive emotions and subjective pleasure less and is more humanistic (Deci & Ryan, 2008; MacDonald, 2018). Humanistic nature refers to self-actualisation, where one can build upon psychological strengths and seek meaning in life (Kruger, 2013; Ruini et al., 2009). In addition, the experience of challenges and adversity serves a humanistic purpose, which fosters psychological growth and functioning (Govender et al., 2018). Furthermore, the pursuit of eudaimonic well-being is associated with well-being in the long term rather than hedonic well-being, which is immediate and short-lived (Huta, 2013).

### 2.1.1 The role of positive psychology during a pandemic

For centuries, the medical model of health and well-being has purported to hold the key to understanding human health purely from a pathogenic standpoint (Park et al., 2014; Seligman, 1999). During the 1990s, Seligman (1999) saw the need to counterbalance the undue emphasis on pathogenic factors of health and shifted the focus of psychology towards fortogenic factors that contribute to well-being (Strümpher, 1995). Thus, the central task of

positive psychology is to ascribe humans as capable and active agents with the capacity to develop and thrive toward positive mental, emotional, and relational states of being (Seligman et al., 2005; Strümpher, 1995).

The human experience is more than just the product of external factors imposed on those who live it (Seligman, 1999). This was also realised by Frankl (1946) and Antonovsky (1979; 1996) that human struggles can offer meaningful experiences that shape how one views future struggles. Considering that human functioning was anciently conceptualised as a product of pathogenic forces, positive psychology essentially aims to focus on what is good within people, in other words, what is *"right"* with them (Peterson, 2006; Peterson & Park, 2003; Seligman & Csikszentmihalyi, 2000). Furthermore, apart from defining well-being as the capacity to live a meaningful life amidst various stressors and entropic forces (Adler, 1938; Antonovsky, 1996; Frankl, 1946; Ryff & Keyes, 1995; Wong & Worth, 2017), positive psychology also emphasises the role of positive psychological states, traits, institutions and relationships in optimal human functioning and mental health (Park et al., 2014). Positive psychological traits, such as character strengths, refer to positive traits and human virtues deemed valuable to both the individual and society (Peterson & Seligman, 2004). Moreover, it is indicated that developing character strengths could buffer against potentially distressing events and circumstances (Park et al., 2004; Park & Peterson, 2008; 2009). Insofar as insight into psychopathology and pathophysiology is necessary (Marik et al., 2021; Taylor et al., 2020), there is far more to human living and functioning than organismic suffering (Antonovsky, 1979; Park et al., 2014; Peterson, 2006; Seligman, 1999; Waters et al., 2021).

Positive psychology possesses significant relevance within modern psychology as it shifts the focus of medical and mental health practitioners away from the previously held pathology-disease orientation towards a strength-based health promotion orientation (Seligman

& Csikszentmihalyi, 2000; Slade, 2010). It is well articulated within the literature that the lack of mental and physical illness alone does not constitute a meaningful and satisfactory livelihood (Antonovsky, 1979; Westerhof & Keyes, 2009). Instead, positive psychology serves as an umbrella under which a myriad of theories about human functioning, excellence, and thriving exist (Boniwell, 2012). Prominent theories within positive psychology include but are not limited to hope (Snyder, 1989; 1995; 2002), gratitude (Emmons & McCullough, 2004; McCullough et al., 2001, 2002; Seligman et al., 2005), positive emotions (Fredrickson, 1998; Fredrickson & Branigan, 2005), authentic happiness (Seligman, 2002), subjective well-being (Diener, 2000), flourishing (Keyes, 2002) and psychological well-being (Ryff; 1989; Ryff & Keyes, 1995). Extensive research has been conducted regarding positive psychology and mental health promotion within various developmental populations, such as adolescents (Shoshani & Steinmetz, 2013), students in higher education (Williams et al., 2018), and individuals within early to late adulthood (Ferrer-Wreder et al., 2021; Russo-Netzer & Littman-Ovadia, 2019).

According to its founder, positive psychology is the empirical field of study concerned with the positive and essential aspects of human livelihood, whose primary remit is to investigate various elements of human functioning to promote thriving within individuals and communities (Seligman & Csikszentmihalyi, 2000). Before WWII, psychology had three basic goals: to cure mental disorders, improve human livelihood, and develop human talent. However, the maladies produced during and after WWII forced the focus of mainstream psychology into human psychopathology (Boniwell, 2012). Similarly, the pandemic simulated a global human war on various fronts against a seemingly invisible enemy, COVID-19 (Arslan et al., 2020; WHO, 2020; 2021). It is a documented fact that the pandemic waged a financial, emotional, psychological, physiological, and spiritual war on all humanity, and like WWII,

many research efforts focused on psychopathology and pathophysiology (Alzueta et al., 2020; Both et al., 2021; Chandu et al., 2020; Triggle et al., 2021; WHO, 2020; 2021).

The COVID-19 pandemic and its subsequent local and global lockdowns marked a distinctive era in human history where a myriad of things went and felt wrong (Liu et al., 2020; Min et al., 2021; WHO, 2021), where numerous research efforts focused on psychopathology and pathophysiology (Chandu et al., 2020; Marik et al., 2021; Taylor et al., 2020). Furthermore, normative livelihood was turned upside down, and consequently, these rapid, unprecedented, and stressful changes on a global scale possessed the propensity to contribute to distress and psychopathology (Alzueta et al., 2020; Brooks et al., 2020; Czeisler et al., 2021; van Zyl et al., 2021). Whilst it seemed only natural for many to be afflicted by the woes of the pandemic, little consideration was given to how individuals could strive for optimal functioning and growth and derive meaning from this global adverse event (Chandu et al., 2020; Dadaczynski et al., 2021; Kim et al., 2020).

Some studies have shown the value of positive psychology amidst one of the most seemingly negative global events in human history. For example, a South African study by Nel and Govender (2022) investigated the existential challenges and implications of the pandemic. Existentialism, which forms part of the larger whole, positive psychology, refers to theories of human existence on purpose, meaning, death, and anxiety (Nel & Govender, 2022). Existentialism in positive psychology emphasises how individuals define their existence and grow authentically despite their challenges and hardships throughout life (Frankl, 1946; Wong et al., 2021).

From an existential perspective, lessons could be learned from the experiences of the pandemic within a South African and global context. Existentialism holds that human suffering

is inevitable and must be embraced to discover hope, courage, and resilience, all of which are essential to flourishing (Nel & Govender, 2022; Wong et al., 2021). Once an individual can understand the nature of their suffering, they can understand how to live with it and eventually flourish authentically (Wong et al., 2021). Positive psychology is rooted in existentialism, as it primarily deals with questions about human life, worth, meaning, purpose, potential, freedom, and choice (Wong & Worth, 2017), and much like eudaimonia, a life worth living entails courageously overcoming adversity and finding authenticity, meaning, and purpose through adversity (Frankl, 1946; Wong & Worth, 2021).

Ultimately, Nel and Govender (2022) argued for the use of *Existential Positive Psychology* as an effective tool for mental health clinicians to aid individuals who were and still are suffering from the mental health consequences of the pandemic. The pandemic could also be seen as a period where humanity endured insurmountable hardship (WHO, 2020; 2021). However, positive psychology emphasises how individuals manage to survive and flourish instead of how individuals solely suffer (Wong et al., 2021).

A similar Tunisian study by Krifa et al. (2021) investigated the efficacy of positive psychological interventions among university students during the pandemic. More specifically, the authors investigated how online positive psychology interventions impacted students' mental health concerning their engagement with academics during the pandemic. In their study, consisting of 366 participants, they found that the students in the experimental group experienced a reduction of stress, anxiety, and depression symptoms in contrast to the control group. Moreover, the experimental group also experienced increased optimism, hope, emotional regulation, and well-being and were more engaged with their studies than the control group (Krifa et al., 2021).

Positive psychology has been touted as a promising means for enhancing mental health outcomes and promoting positive human functioning across various age groups and settings (Chakhassi et al., 2018; Owens & Waters, 2020; Waters et al., 2021; Williams et al., 2018). In addition, it has been claimed that positive psychology interacts with mental health processes in three ways: *buffering, bolstering,* and *building* (Waters et al., 2021). The first refers to processes in which positive psychological traits, states, attitudes, and relationships aid an individual in reducing the intensity and frequency of negative psychological emotions and states (Waters et al., 2021). *Bolstering* occurs when positive emotions, affective states, traits, and relationships allow an individual to maintain adequate mental health statuses during adversity, whilst *building* refers to a process in which individuals utilise stressors/adverse experiences to produce positive changes in insight, attitudes, habits, and behaviours (Waters et al., 2021).

Moreover, recent literature (Waters et al., 2021) demonstrates that positive psychology possessed protective qualities against distress and psychopathology during the pandemic through gratitude and grit (Bono et al., 2020), sense of coherence (Schäfer et al., 2020), optimism (Arslan et al., 2020), resilience (Kavčič et al., 2020), and positive emotions (Prinzing et al., 2022). Thus, it is evident that whilst the pandemic was a time of great difficulty for many, it was possible for many to still experience adequate mental health due to positive emotions, traits, institutions, and attitudes (Arslan et al., 2020; Bono et al., 2020; Kavčič et al., 2020; Prinzing et al., 2022; Waters et al., 2021).

### 2.1.2 Psychological Well-Being (PWB)

Eudaimonic wellness encompasses a broader outlook as to what constitutes a *good life,* such as meaningful positive social relationships, and is more oriented towards the development and reinforcement of abstract characteristics such as wisdom, congruence, spirituality, self-

control, humility, meaning in life, purpose, and integrity (Boniwell, 2012; Huta, 2013). Since it is about seeing the bigger picture of what makes life good, eudaimonia is more related to abstract thinking and development (Huta, 2013). It focuses on "*the creation of meaning and purpose in life"* (Hefferon & Boniwell, 2011, p. 4). Positive psychology studies within the eudaimonic framework have mainly centred around PWB.

Psychological well-being (PWB) is a vital aspect of human livelihood in personal and professional spheres of life (Šarotar Žižek et al., 2015). Literature has shown that a well-known six-factor model proposed by Ryff and Keyes (1995) has been derived from the work of numerous prominent authors, such as Abraham Maslow's (1968) concept of self-actualisation, Gordon Allport's (1961) concept of maturity, Charlotte Buhler's (1968) work on basic life tendencies towards life fulfilment, Erik Erikson's (1958;1963) psychosocial stage theory, Carl Jung's (1933) concept of individuation, Carl Roger's (1961) concept of the fully functioning person, Bernice Neugarten's (1968) work on personality changes in adulthood and old age, and Marie Jahoda's (1958) work on optimal psychological functioning (Beangstrom, 2016; Šarotar Žižek et al., 2015).

The six-factor model of psychological well-being (PWB) conceptualised by Ryff (1989; 2017) and Ryff and Keyes (1995) attempt to collectively explain how an individual may experience positive emotions and general contentment with life, oneself, and others. Ryff (1989) and Ryff and Keyes (1995) listed six dimensions: autonomy (AU), self-acceptance (SA), personal growth (PG), purpose in life (PL), positive relations with others (PO), and environmental mastery (EM). These dimensions will be defined and discussed in greater detail below in their respective order.

*Autonomy* refers to an individual's capacity to act out of free will, to be self-determined, and to have a sense of self-control (Ryff, 1989). This means that an individual can act out of independent will without the constant need for the approval of others (Ryff, 1989; Ryff & Singer, 2008). Individuals who can accept and positively evaluate themselves and embrace their strengths and weaknesses demonstrate high *self-acceptance* (Ryff & Singer, 2008). These individuals, therefore, are more likely to have a more positive attitude about themselves and evaluate their self-image and identity more favourably (Ryff & Singer, 2008). Furthermore, high levels of Self-Acceptance indicate that an individual can embrace their strengths and weaknesses whilst still experiencing satisfaction with past and present life (Ryff & Keyes, 1995).

Humans are also spiritual beings (Šarotar Žižek et al., 2015). They have an inherent need to experience continued growth and development physically, emotionally, psychologically, and spiritually (Ryff, 1989). This dimension is called *personal growth* and refers to the degree to which one envisions and anticipates the current and future potential for growth and development (Ryff, 1989). The most existential dimension, *purpose in life*, refers to the belief that one can find meaning in life, and whether life is purposeful generally entails possessing clear life goals and ambitions that produce motivation for life (Ryff, 1989; Ryff & Singer, 2008). Optimal well-being can be achieved when individuals experience a sense of meaning and purpose in life (Beangstrom, 2016).

*Positive relations with others* are more social in nature and refer to the extent to which one has meaningful and genuine social relationships with others (Ryff, 1989; Ryff & Singer, 2008). Therefore, optimal levels of this dimension could mean that an individual may possess warm, trusting, and intimate social relationships with others, as well as concern for the welfare of others (Ryff & Keyes, 1995). Finally, *environmental mastery* refers to a sense of competence

in managing one's daily environment and, through that, one's everyday life. Essentially, it entails the autonomy to choose and create environments conducive to personal and psychological growth and control external activities in their environment to maximise the full potential of satisfying personal needs (Ryff & Singer, 2008). According to Keyes (2002), individuals who function well have positive social relationships with others, can better themselves, have a sense of direction and purpose, manage their surroundings to suit their needs and have a sense of freedom. Figure 1 on the next page provides definitions of the theory-guided dimensions of PWB.

**Figure 1**

*Theory-guided dimensions of PWB (Ryff, 1989; Ryff, 2014)*

**Table 1.** Definitions of theory-guided dimensions of well-being

| | |
|---|---|
| *Autonomy* | |
| High scorer | Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards |
| Low scorer | Is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways |
| *Environmental mastery* | |
| High scorer | Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values |
| Low scorer | Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world |
| *Personal growth* | |
| High scorer | Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness |
| Low scorer | Has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors |
| *Positive relations with others* | |
| High scorer | Has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection and intimacy; understands give and take of human relationships |
| Low scorer | Has few close, trusting relationships with others; finds it difficult to be warm, open, concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others |
| *Purpose in life* | |
| High scorer | Has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living |
| Low scorer | Lacks a sense of meaning in life; has few goals or aims, lacks sense of direction; does not see purpose in past life; has no outlooks or beliefs that give life meaning |
| *Self-acceptance* | |
| High scorer | Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life |
| Low scorer | Feels dissatisfied with self; is disappointed with what has occurred in past life; is troubled about certain personal qualities; wishes to be different than what he or she is |

*Note*: Adapted from Psychological Well-Being Revisited: Advances in the Science and Practice of Eudaimonia by C. D. Ryff, 2014, *Psychotherapy and Psychosomatics*, *83*(1), 10-28.

## 2.2 Psychosocial experiences of students

Research demonstrates an association between student mental health and optimal academic performance (Eloff & Graham, 2020; Mason, 2019). Students need to be able to maintain a good state of mental health, as the transition out of family environments and familiar settings to attend university can cause experiences of anxiety and stress (Bantjies et al., 2019;

Usher & Curran, 2019). Being young and/or emerging adults transitioning into adulthood amongst all their stressors also places them in the peak age of the onset of mental health problems (Bantjies et al., 2023).

Individuals who pursue tertiary education are generally at least 18 years of age after they have completed high school. This infers that they are categorised as young adults who have just grown out of late adolescence (Sigelman & Rider, 2018). A prominent author in the field of lifespan developmental theories is Erik Erikson (1958), who postulated that all individuals undergo eight psychosocial stages of human development. Erikson (1958, 1963) theorised that an individual between the ages of 18 and 35 can be considered a *young adult* who faces the psychosocial challenges of *intimacy vs isolation*. Individuals during this stage can be described as transitioning into early adulthood, where their primary developmental task is to develop and sustain both intimate relationships with a romantic partner and platonic relationships with others [family, friends, colleagues] (Erikson, 1963; Syed & McLean, 2017).

In this phase, it is considered vital for individuals to form these types of relationships with others, in which they can share themselves as a form of social belonging within personal, academic, and professional spheres of society (Syed & McLean, 2017). Experience of genuine relationships rather than isolation is a vital source of social support during the stressful university years (Erikson, 1963; Syed & McLean, 2016; 2017). According to Erikson (1968), an individual's failure to successfully negotiate the developmental tasks in this stage can potentially hinder well-being and are therefore more susceptible to experiencing depression through *isolation* (Malone et al., 2016). According to this perspective, it can be assumed that most university students are still navigating through this development stage, according to Erikson (1958; 1959).

Another developmental theory holds that university students could also be considered *emerging adults*, according to Arnett (1997; 2000). In his theory, individuals who are generally between the ages 17 and 18 to late twenties undergo this relatively new developmental period. *Emerging adulthood* is widely considered a liminal phase of development because these individuals are no longer adolescents but are also not yet fully-fledged adults either (Arnett, 2014; 2015; Luyckx et al., 2008). Arnett (2007) also identified five normative transitions that describe the experiences of emerging adults: identity exploration, self-focus, instability, feelings of in-between, and possibilities.

As Arnett (2000; 2015) maintains, identity exploration occurs much later than Erikson (1963) theorised and involves exploring and experimenting with romantic relationships, vocations, and worldviews. Furthermore, in conjunction with the above, emerging adults also identify and cling to values and traditions that help them construct an authentic life (Arnett, 2000; 2015). In the age of self-focus, emerging adults spend much of their time and effort on themselves. That is, they devote their resources to doing what is deemed beneficial for them in their context, and this transitional characteristic is often compared to the form of egocentrism found in adolescence (Arnett, 2015). Furthermore, Arnett (2000; 2015) argues that this self-focus is geared towards developing self-sufficiency, skills, habits, and independence that are much needed for adulthood.

The age of instability is characterised as a phenomenon in which emerging adults experience unprecedented changes in their social, personal, academic, and/or professional lives—these range from changes in friendships to jobs, romantic relationships, and even housing. Therefore, the developmental goal of an emerging adult is to develop flexibility, resilience, and adaptive coping skills in response to changes present in adulthood (Arnett, 2015). Over time, emerging adults often experience times of feeling adult-like and other times

feeling more like an adolescent. This characteristically refers to the feelings of being "in-between" in emerging adulthood and experiencing aspects of adulthood and adolescence without distinctively belonging to either category. For example, most emerging adults have left home and their families without having a family of their own. Many have also started tertiary education but have not finished and have started romantic relationships but are not yet married (Arnett, 2014; Willoughby & Carroll, 2016).

Lastly, emerging adulthood, as the age of possibilities, refers to the beliefs held by these individuals that they can become anything they want and achieve anything they aspire to (Arnett, 2015). For some of these emerging adults, some possibilities became unlikely due to various factors, such as a lack of finances or a lack of the academic requirements for a specific tertiary course (Henig & Henig, 2012). These five experiences are dubbed the "rubric" of emerging adulthood (Swanson, 2016; Syed & Mitchell, 2013) and provide insight into how emerging adults perceive their transition from adolescence and debut into adulthood (Arnett, 2007).

Given the myriad of psychosocial challenges university students face, their mental health is irrefutably vital. Research has suggested that university students are more vulnerable than the general population to the development of psychological distress and mental disorders (Ibrahim et al., 2013; Stallman, 2010). Therefore, this can negatively impact their subjective health and well-being, academic attainment, and their adjustment to the demands of university life (Alonso et al., 2018; McLafferty et al., 2017). Additional studies regarding stressors of university students reported similar findings (Bantjes et al., 2019; Eloff & Graham, 2020).

The stressful adjustments to university life may precipitate psychological distress and symptoms of mental disorders for numerous students (Bantjies et al., 2019; Bantjies et al.,

2023; Conley et al., 2014; McLafferty et al., 2017). Since many of these students leave home and study far from a familiar environment, they face challenges adapting to new environments and, therefore, have increased academic and financial pressure and, lastly, are more prone to substance abuse (Bantjies et al., 2019; Mekonen et al., 2017). Furthermore, female students are more prone to internalising disorders [anxiety, mood disorders, eating disorders] (McLafferty et al., 2017; Mokrue & Acri, 2015; Tseng et al., 2013), and male students are more prone to externalising disorders [substance abuse, behavioural problems] (Bantjies et al., 2019; Leppink et al., 2014).

Student mental health is also implicated by other factors, such as inequality, marginalisation, and underuse of mental health resources (Bantjies et al., 2020). In addition, despite an association between the underuse of mental health services and psychological impairment, there is also a significant disproportional ratio between the number of students who require mental health services/interventions and mental health personnel and resources available to students (Eloff & Graham, 2020). Students' mental health also suffers due to under usage of mental health services, which are influenced by factors such as lack of access, stigmas about these services, time and availability, cost, and privacy (Bantjies et al., 2020; Harrer et al., 2019; Krifa et al., 2021; Palacios et al., 2018).

According to Eloff and Graham (2020), student mental health gradually decreases during their tertiary studies. In addition, transitioning from high school to higher education and undergoing emerging adulthood is associated with lower levels of PWB (Basson, 2021; Conley et al., 2014). Despite this reduction in well-being levels, it gradually increases over time but remains lower than before pursuing tertiary education (Conley et al., 2014). However, the COVID-19 pandemic implicated this return to pre-degree well-being levels, as it swiftly

introduced major and stressful changes for university students (Pretorius & Padmanabhanunni, 2021).

In summary, whether considered as being in early adulthood (Erikson, 1968; Syed & McLean, 2016; 2017) or emerging adults (Arnett, 2007; 2014), they equally experience the quest for identity development, experimenting with worldviews and careers, seeking independence, and finding financial, emotional, and social stability. Moreover, emerging adulthood also includes engagement in tertiary education, seeking employment, establishing romantic relationships, and, in some cases, marriage and parenthood (Arnett, 2015; Erikson, 1968; Naudé & Piotrowski, 2022; Syed & McLean, 2017). However, it is argued that the socioeconomic context and resource limitations South African university students face may inhibit these strides toward identity development (Naudé & Piotrowski, 2022). Furthermore, most South African university students are first-generation students (Du Plessis et al., 2020; Wilbur & Roscigno, 2016), and adequate psychosocial development and mental health are imperative to their academic success and economic participation in society (Bantjies et al., 2023; Harding et al., 2019; Van Breda, 2017).

### 2.3 Impact of the pandemic on mental health

Despite non-pharmaceutical global responses to slow down and ameliorate the collateral caused by the pandemic, the mental health response to the same was questionable, especially in a South African context (Nguse & Wassenaar, 2021). Thus, many studies attempted to analyse how mental health has been directly and indirectly affected by the pandemic. Indirect effects include stringent lockdown policies, mandates, and non-pharmaceutical protocols, whilst direct effects mainly pertain to infection, fear of infection, and death (Czeisler et al., 2021; Duby et al., 2022; Santomauro et al, 2021). Whilst these

responses dealt with prevention in terms of collective physical health, individual and collective mental health has been negatively impacted due to various factors. These include social isolation, limitations in movement, social gathering prohibitions, increasing unemployment and retrenchment, financial distress, direct or indirect death of loved ones through COVID-19, health comorbidities, and illness anxiety (Arslan et al., 2020; Kola et al., 2021; Van Bavel et al., 2020). Moreover, lockdowns and non-pharmaceutical measures to curb the spread of COVID-19 gave rise to adverse effects socially and socioeconomically (Czeisler et al., 2021; Santomauro et al., 2021). The pandemic has also precipitated and perpetuated an increase in levels of loneliness, anxiety, depression, posttraumatic stress disorder, and suicidality (Ammerman et al., 2021; Brooks et al., 2020; Courtet et al., 2020; Kim et al., 2020; Manchia et al., 2021; Schäfer et al., 2020; Van Bavel et al., 2020).

Previous research regarding pandemics have indicated negative consequences to mental health and physical health (Esterwood & Saeed, 2020), and given that research is abundant on the physiology behind this pandemic (Weiner et al., 2020), mental health research on the same is underwhelming in comparison (Anglim & Horwood, 2021; Schäfer et al., 2020; Wang et al., 2020). It must also be noted that whilst psychological distress due to the pandemic is a normative response, prolonged psychological distress without adequate mental health resources and interventions bears significant psychological consequences (Kola et al., 2021).

There were concerns about the prolonged effects of the pandemic on mental health (Czeisler et al., 2021; Kola et al., 2021). The pandemic continued longer than expected and proved taxing financially, socially, psychologically, and physically (Manchia et al., 2021). Moreover, there have been numerous studies that assessed the impact of the pandemic on mental health across a variety of population groups (Lades et al., 2020; Manchia et al., 2021).

Studies indicated a general increase in prevalence rates of distress and/or negative affective states. According to McGinty et al. (2020), there was a reported prevalence of 13.6% (N=1468) for serious distress among American adults compared to prevalence rates in 2018. A study by Gloster et al. (2020), done during the peak of the pandemic, reported that most individuals (N=9565) found the pandemic to be distressing, and 11% of this cohort experienced serious distress. Additionally, another study found that the prevalence of depressive symptoms before the pandemic increased by at least three-fold during the pandemic in comparison to pre-pandemic prevalence rates (Ettman et al., 2020).

According to Kola et al. (2021), most of the global population lives in low-income and middle-income countries. Typically, countries that fall under these categories are thought to have been affected tremendously, in conjunction with a significant lack of resources for the mitigation of adverse mental effects. It is further indicated that at least 83% of the world's population resides in the above-classified countries. Another area of concern is highlighted, where mental health is also impacted by physical health and comorbidities of an individual and/or their family members (Kola et al., 2021). South Africa is currently a middle-income country that has suffered a great deal economically (BizNews, 2021). Moreover, South Africa was also ranked as one of the countries with the worst mental health outcomes (Mental State of the World Report, 2021). Furthermore, the pandemic aftermath could precipitate an increase in suicide ideation due to psychological distress caused by financial and job insecurity, unemployment, and economic strain (Kola et al., 2021).

A large systematic review conducted by Santomauro et al. (2021) assessed the global impact of the pandemic on mental health. Specifically, this review analysed approximately 48 studies from 204 countries. Moreover, this review observed literature published from January 2020 until January 2021 and reported a significant prevalence of depressive and anxiety

disorders during the first year of the pandemic (Santomauro et al., 2021). Increases in SARS-Cov-2 infection rates, coupled with non-pharmaceutical measures such as lockdowns and limitations to movement and freedom, were associated with an increased prevalence in anxiety and major depression (Santomauro et al., 2021). Furthermore, this review found that female mental health was impacted more negatively than that of males and that younger age groups were affected more than older age groups (Santomauro et al., 2021). South Africa was also shown to have changed prevalence (more than 38%) in major depressive and anxiety disorders [> 36%] (Santomauro et al., 2021, p. 1706).

Few studies have illustrated the impact of the pandemic on the mental health of university students, especially in South Africa. Recent local literature reported that university students subjectively reported experiences of anxiety and depression due to factors induced by the pandemic (Visser & Law-van Wyk, 2021). One study, however, demonstrated that the pandemic and the lockdowns in South Africa contributed to an increase in stress and anxiety and that prior mental health statuses and conditions were compounded by the resultant effects of a lockdown: the death of loved ones, food insecurity, domestic violence, economic insecurity, and strained family relationships (Duby et al., 2022).

### 2.3.1 Impact of the pandemic on university students

A great majority of South Africans are still facing post-apartheid-induced issues such as unemployment, poverty, inequality, unequal access to basic services and resources, and health issues (Beangstrom, 2016; Christie, 2010; Fleetwood, 2012; Mattes, 2012;). According to van Breda (2017), SA university students who are previously disadvantaged face unique stressors such as food insecurity, lack of finances, family issues (medical, substance abuse), loss of a family member, off-campus transport challenges, and personal safety, especially female students. One of the main functions of tertiary education is not just to foster and harness

intellectual skills but to promote the development of well-functioning individuals into society to contribute to the growth of a country (van Breda, 2017). It is well known that university is associated with tumultuous stressors for students, and the pandemic presented as a major unprecedented stressor for students globally (Campbell et al., 2022; Marongwe & Garidzirai, 2021). Due to this, it is necessary to understand how these sociocultural and pre-existing mental health challenges coincided with the coronavirus pandemic, which brought about a myriad of mental health, socioeconomic, and social challenges (Wangenge & Kupe, 2020).

A qualitative study by Hagedorn et al. (2022) highlighted the psychosocial experiences and academic challenges faced by students during the pandemic. The study titled "*My Entire World Stopped*..." found that students generally experienced a reduced quality of life and well-being due to the abrupt and stressful changes enforced upon the lives of students (Hagedorn et al., 2022). The pandemic also presented significant academic challenges experienced by students with a predisposition to financial, social, and psychological difficulties (Eloff & Graham, 2020; Hagedorn et al., 2022; Visser & Law-van Wyk, 2021).

During the pandemic, there has been a change in how students engaged with their studies, which required much adjustment. For example, the adjustment to online learning, social isolation, financial difficulties, impaired spiritual functioning, and limited resources were some of the factors that implicated the mental health of students (Krifa et al., 2021; Visser & Law-van Wyk, 2021). Moreover, alterations in the traditional tertiary education system have posed various mental health challenges to many students, of which some students are at higher risk of social isolation and mental distress (Lischer et al., 2021). Therefore, it is imperative to understand which protective factors can aid in effectively mitigating the distress imposed by COVID-19 (Li et al., 2020; Tee et al., 2020).

However, given that the pandemic has become endemic (Nel & Govender, 2022), its impact on mental health in South Africa remains largely under-researched (Kim et al., 2020; Marongwe & Garidzarai, 2021). This mini dissertation, therefore, aimed to contribute to the corpus of research surrounding the PWB and mental health of university students, as well as the roles of social support and positive psychology toward mental health in the context of a pandemic.

## 2.4 Predictor variables of Psychological Well-being

The PWB of university students can be predicted by various variables, such as their demographic or psychological characteristics. In this study, two possible predictors of PWB during the COVID-19 were identified: Sense of Coherence (SOC) and Perceived Social Support (PSS).

### 2.4.1 The Salutogenic perspective of health and Sense of Coherence (SOC)

Aaron Antonovsky was a renowned Israeli medical sociologist who is considered the seminal theorist of Salutogenesis and SOC (Antonovsky, 1979; Antonovsky & Sagy, 2022). Being a medical sociologist, Antonovsky (1979) was familiar with the pathogenic framework guiding medical and mental healthcare. This was until he interviewed various Israeli women about their perceived health amidst various life stressors during menopause (Eriksson, 2017). Some of the stressors experienced by these women were loss of vision, loss of a loved one, amputation of an extremity, deteriorating health, and economic difficulties (Eriksson, 2017). However, a small group of women (29%) piqued Antonovsky's interest as they reported general good mental and physical health despite these stressors, including the survival of the Holocaust (Eriksson, 2017). Antonovsky (1979) was particularly intrigued by the fact that

although people could undergo the same stressors, some of them managed to emerge from it seemingly unscathed, if not "stronger" (Antonovsky, 1993; Eriksson, 2017).

### 2.4.2 Development of Salutogenesis

Decades ago, both physical and mental health were viewed on a spectrum of polarising opposites (Antonovsky, 1979; 1987; 1996). An individual would either be categorised as healthy or diseased, and the medical model of the day emphasised the pathology of the individual. Although there was value in identifying and investigating underlying pathologies of individuals, few questions were asked about why certain individuals do not succumb to pathology (Antonovsky, 1979; Seligman, 1999).

This pathogenic model of health explored the causes and risk factors of an individual's genetics, environment, and circumstances as a primary cause-and-effect contributor to pathology. More specifically, this pathological perspective emphasised an individual's diagnosis and prognosis during and after the disease. In contrast to this pathological paradigm of health, Antonovsky (1979) introduced the theory of salutogenesis as an alternative paradigm of health and well-being. Salutogenesis attempts to explore how and why individuals can resist disease and negative states of mental, physical, and emotional well-being (Antonovsky, 1979; 1987; 1996; Flensborg-Madsen et al., 2005). More specifically, salutogenesis emphasises the factors that may promote global well-being. It focuses on creating and maintaining good health rather than searching for the cause of specific diseases. This is the opposite of the traditional pathogenic model, which focuses on risk factors involved in disease generation (Antonovsky, 1996).

Salutogenesis, as a concept, was developed to supplement the pathogenic model of health, not replace it entirely (Hochwälder, 2022). Antonovsky (1987; 1993) maintained that

holistic physical and mental health that is adaptive considers both pathogenic and salutogenic factors. Therefore, optimal physical and mental health outcomes could be achieved if the underlying origins of pathogenic/environmental stressors and available internal and external resources are known and utilised to mitigate entropic forces (Hochwälder, 2022).

Theoretically, salutogenesis models that health should be viewed as a binary continuum constantly shifting under the influence of stressors and tension between polarities of health and disease (Antonovsky, 1987; Moksnes, 2021). Human life inevitably comes with stressors. Thus, how individuals evaluate, respond to, and appraise these stressors determines how they position themselves along the ease-disease continuum. The effect of stressors and tension on health may differ variably in duration, nature, regularity, and intensity (Antonovsky, 1979; 1987). The salutogenic theory indicates that an individual's response to stressors may occur in three ways. Firstly, the individual may experience neutrality towards the stressor, which is not appraised positively or negatively. Secondly, the stressor may be appraised negatively or overwhelmingly. Thus, the individual would experience a breakdown or deterioration of their current health and move closer toward a state of illness/disease. Lastly, the individual may appraise the stressor as manageable and would move towards more optimal or adaptive health/ease (Antonovsky, 1979; Moksnes, 2021).

The perspective of salutogenesis is resource-oriented and seeks to motivate how individuals keep healthy amid entropic forces, life challenges, and stressors (Antonovsky, 1987; Mittelmark et al., 2022). Antonovsky (1979) identified stressors as stimuli, events, or situations that cause physiological, psychological, or emotional upset to an individual's functioning. Additionally, he posited that stimuli, events, or situations occur daily, potentially becoming a stressor. These may or may not become a stressor, depending on the meanings

attached to these stimuli/events and the availability of internal or external resources (Antonovsky, 1979; Johnston, 2011).

The neologism "*salutogenesis*" is derived from the Latin word *salus* (meaning health or well-being) and the Latinised derivation of the Greek word *genesis* (meaning the birth, origin, or creation of). Indicative of Antonovsky's (1979, 1987) focus, this orientation to health is based on understanding how and why individuals can strive towards significantly better health and well-being in the face of pathogenic forces and stressors (Antonovsky, 1979). Eriksson and Lindström (2006) simplify this salutogenic orientation as an individual's ability to effectively identify and utilise internal and external resources in ways that purposively promote positive well-being and health. Moreover, the essential underpinning of the salutogenic orientation to health and mental well-being is captured by Antonovsky (1979) as follows:

> *I can now summarise what is meant by salutogenic orientation. It derives from the fundamental postulate that heterostasis, senescence, and increasing entropy are core characteristics of all living organisms. Thus: (1) It leads us to reject the dichotomous classification of people as healthy or diseased in favour of their location on a multidimensional health ease/disease continuum. (2) It keeps us from falling into the trap of focusing solely on the aetiology of a given disease rather than always searching for the total story of a human being, including his or her sickness. (3) Instead of asking, "What caused (or will cause, if one is prevention-oriented) a person to fall prey to a given disease?"— that is, instead of focusing on stressors—we are enjoined to ask, "What are the factors involved in at least maintaining one's location on the continuum or moving toward the healthy pole?"; we come to focus on coping resources. (4) Stressors come to be seen not as a dirty word, always to be reduced, but as omnipresent.*

> *Moreover, the consequences of stressors are viewed not as necessarily pathological but as quite possibly salutary, contingent on the character of the stressor and the successful resolution of tension. (5) In contradistinction to the search for magic-bullet solutions, we are urged to search for all sources of negative entropy that may facilitate the active adaptation of the organism to the environment. (6) Finally, the salutogenic orientation takes us beyond the data obtained from the pathogenic inquiry by always looking at the deviant cases found in such inquiry,* (Antonovsky, 1987, p. 12-13).

Flensborg-Madsen et al. (2005) identified several assumptions within Antonovsky's (1979) paradigm. Firstly, the salutogenic paradigm does not categorise individuals as healthy or diseased but rather views them as moving along a continuum between ease (health) and disease (Antonovsky, 1979; 1987). Secondly, greater emphasis is placed on internal and external resources that individuals can use to aid their dealings with pathogens and stressors (Antonovsky, 1979; 1987). In addition, the salutogenic orientation to health and well-being does not posit that positive well-being and health are associated with the absence of adversity and stressors (Antonovsky, 1996). Alternatively, this orientation contends that positive physical, mental, and spiritual health can be attained through effective coping mechanisms during adversity (Antonovsky, 1987; Flensborg-Madsen et al., 2005). Moreover, this aligns with the following premise of the salutogenic orientation that the goal is not an eradication of stressors as they are inevitable and sometimes essential to human functioning (Antonovsky, 1979; 1996; Flensborg-Madsen et al., 2005). Instead, the goal is to promote effective and healthy coexistence with stressors and adversity. Lastly, salutogenesis does not focus on specific population groups or categories of pathology but rather aims to investigate and examine the general symptoms, be it behaviours, traits, cognitions, or resources, that elicit and promote positive well-being (Antonovsky, 1987; 1996; Flensborg-Madsen et al., 2005).

Therefore, salutogenesis aims to understand the reasons why some individuals may find themselves toward the positive end of the ease-disease continuum despite adversity (Antonovsky, 1979). Alternatively, it may also seek to uncover ways to prevent an individual's health or mental well-being from deteriorating further. The pathogenic orientation, in contrast, aims to investigate how individuals reach a state of disease or unhealthy states of being and exemplify how life stressors, microbiological stressors/vulnerabilities, and psychosocial challenges predispose one to disease or health (Antonovsky, 1979; Flensborg-Madsen et al., 2005; Grevenstein & Bluemke, 2021; Mittelmark et al., 2022).

### 2.4.3 Sense of Coherence

Salutogenesis asks the question, "*What are the origins of health?"* in opposition to pathogenesis, which asks, "*What are the origins of pathogens?"*. Antonovsky's (1979; 1987) answer was a *Sense of Coherence*. This concept is fundamental to Antonovsky's (1979; 1987) salutogenic model of health [SMH] (Mittelmark et al., 2022). Antonovsky (1996, p. 14) explained it as follows: "*A salutogenic orientation, I wrote, provides the basis, the springboard, for the development of a theory which can be exploited by the field of health promotion […] which brings us to the sense of coherence*".

*Salutogenesis,* as conceptualised by Antonovsky (1979, 1987), posits that an individual's life experiences and the influence these experiences have on health are shaped by their SOC. SOC, being the core concept of the SMH, is *"a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement"* (Antonovsky, 1987, p. 19; Mittelmark et al., 2022).

Antonovsky (1979; 1987) categorised his theory of SOC as an orientation to life rather than viewing it as a personality trait. He also believed that one develops a SOC throughout one's life, up until the age of 30. Leading up to 30, life experiences shape an individual's SOC, which is malleable, dynamic, and fluctuates (Antonovksy, 1987; Mittelmark et al., 2022). Moreover, SOC is fostered throughout developmental phases, with research indicating that it may develop during childhood (Idan et al., 2017). Adolescence is also implied to be a sensitive developmental phase in the development of SOC (Grevenstein & Bluemke, 2021; Mittelmark et al., 2017). Research indicates that the main predictors of SOC development during adolescence include a child-centred parenting style (Feldt et al., 2005) and the nature of the parent-child relationship (Rivera et al., 2012). Grevenstein et al. (2019) added that an individual's SOC is correlated with the quality of familial relationships in later life.

However, the literature reveals that SOC possibly develops over the developmental lifespan. More specifically, it is postulated that SOC develops through an individual's encounters with, responses to, appraisals of stressors and adverse sequelae throughout their lifetime (Antonovsky., 1979; 1987; Mittelmark et al., 2022; Silverton & Heap, 2015). Various literature highlights the protective role that SOC serves in developmental phases. For example, SOC becomes evident in early childhood, where a child learns how to explore, interpret, and make sense of the challenges they face in the internal and external environments (Idan et al., 2017). SOC also becomes a key factor in how they adapt to their household and school environments and navigate developmental challenges, obstacles, and milestones (Damon, 2004; Idan et al., 2017). Furthermore, a sense of coherence is utilised during adolescence in navigating developmental transitions and stressors evident in their academic, interpersonal, and emotional experiences at school (Braun-Lewensohn et al., 2022). Furthermore, a review of

over 30 studies found that adolescents with a higher sense of coherence generally demonstrated better mental and physical health outcomes (Braun-Lewensohn et al., 2022).

SOC, the core concept in Salutogenesis, proposes that health and disease should not be viewed as binary states but rather that humans naturally find themselves somewhere along a continuum between health and disease (Antonovsky, 1996; Mittelmark et al., 2022). Furthermore, Antonovsky (1996) posited that because stressors are ubiquitous in human existence, humans require various resources to deal with stressors and life challenges. To explain how Salutogenesis is possible through a SOC, the concept of *General Resistance Resources* [GRR] was introduced (Antonovsky, 1972; 1979; 1996; Eriksson et al., 2007; Mittelmark et al., 2022).

According to Antonovsky (1979, 1987, 1996), SOC consists of three core dimensions: *Comprehensibility, Manageability,* and *Meaningfulness*. *Comprehensibility* refers to the extent to which stimuli, events, or stressors can be perceived as understandable. Crucial to this dimension is the ability to cognitively make sense of information and to find consistency and structure in the event/stressor (Moksnes, 2021). *Comprehensibility* requires an individual to cognitively perceive the event/stressor as making sense, constant, and clear. An individual who measures highly on comprehensibility views internal (cognitive, emotional, physiological, psychological) and external stressors (relational, financial, occupational, socio-economical) as predictable for the most part. However, in situations where they are unexpected, they are explicable. Furthermore, Antonovsky (1979) added that comprehensible stressors do not indicate that they are desirable in the event of death, famine, or war.

*Manageability* is defined as the degree to which the demands of a stimulus, event, or situation can be met through the availability of internal and external resources (Antonovsky,

1979). A high sense of *manageability* is experienced when an individual can satisfactorily meet their demands by mobilising adequate resources (Moksnes, 2021). These resources can be internal, such as knowledge or skills, or external, such as material resources, support from family or friends, and access to services (Antonovsky, 1987; Eriksson et al., 2007). Thus, this dimension refers to the extent to which an individual can perceive their available/potential resources as adequate to meet the demands in their life (Antonovsky, 1979; Eriksson et al., 2007).

*Meaningfulness* refers to the extent to which an individual feels that life makes sense and is worth living and investing in despite ongoing stressors (Moksnes, 2021). This dimension pertains to a more motivational aspect, in which individuals view their challenges as worthwhile (Antonovsky, 1987; Eriksson et al., 2007; Flensborg-Madsen et al., 2005). A high sense of *meaningfulness* is experienced when stressors and their challenges are welcomed, as opposed to being perceived as aversive (Antonovsky, 1979; Flensborg-Madsen et al., 2005). Essentially, given the inevitability of stressors and adversity in life, the *meaningfulness* component of SOC refers to an individual's willingness to make a personal, emotional, and spiritual sense of stressors and to judge them as worthy of engagement and commitment (Antonovsky, 1987; Mittelmark et al., 2017).

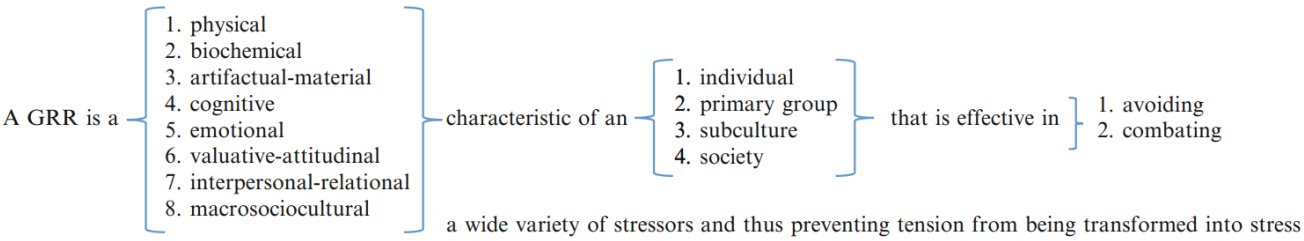
### 2.4.4 Generalised Resistance Resources

Given the conceptualisation of SOC, an inquiry was often posed as to how the components of SOC relate to one another and, more importantly, what mechanism/process drives an individual's movement along the ease and dis-ease continuum. To answer this, Antonovsky (1987) introduced *Generalised Resistance Resources* [GRR]. According to Antonovsky (1972; 1979), an individual has internal and external resources to deal with life challenges and stressors. These GRRs can range from and are not limited to material/artefactual

objects such as money, food, consumables, housing/shelter; cognitive resources include knowledge, information, intelligence, religion and spirituality, interpersonal relationships and social support structures, ego strength, previous experiences, and availability of services (Antonovsky, 1979; Eriksson, 2017; Strümpher, 1995). Moreover, they are indicated to be any phenomenon that effectively aids in dealing with stressors and, more importantly, aids in making sense of a stressor (Antonovrivsky, 1987; Eriksson, 2017; Flensborg-Madsen et al., 2005).

When an individual experiences adequate access to GRRs that are reasonably available, they develop a SOC; that is, they appraise a stressful situation or stimulus as one that they are capable of comprehending and managing and one whose challenges are meaningful (Mittelmark et al., 2022). Also, the availability of the GRRs allows the individual to meet the demands of the stressor. Therefore, as the individual experiences returning to homeostatic functioning, their use of the previously employed GRRs reinforces their appraisal of their ability to deal with stressful and entropic stimuli, strengthening their SOC (Antonovsky, 1979; 1987; Strümpher, 1995). Antonovsky (1987) added that a greater abundance of GRRs also yields greater salutogenic benefits beyond a stronger SOC, such as better physical health outcomes and positive outcomes on other measures of well-being. Figure 2 provides a graphical representation of GRRs.

**Figure 2***: Antonovsky's (1979) definition of Generalised Resistance Resources*




*Note:* Adapted from Antonovsky (1979, s. 103) in the *Handbook of Salutogenesis* (1st ed., p.94), by, M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindström, & G. A. Espnes, 2017, Cham Springer International Publishing.

In summary, a well-developed or higher SOC indicates that an individual possesses a greater perception of stressors and challenges as manageable, comprehensible, and meaningful (Super et al., 2015). SOC influences coping through the perceptions of and meanings one attaches to situations, adversity, and events (Larsson & Kallenberg, 1996). This perception of one's ability to cope with and through adversity is modified through GRRs, which strengthen one's capacity to manage, comprehend, and find meaning in stressful situations (Antonovsky, 1987).

SOC is a coping factor that plays a significant role in combatting the psychological consequences imposed by adverse life events and experiences, particularly a pandemic (Barni et al., 2020; Schäfer et al., 2020). In addition, a higher SOC could buffer against psychological distress (Barni et al., 2020; Schäfer et al., 2020). Antonovsky (1993; 1996) hypothesised that individuals are constantly exposed to environmental changes and stressors and that the differences in resilience towards these can be explained through an individual's SOC. Antonovsky (1993; 1996) described SOC as a subjective evaluation of one's ability to comprehend stressful situations, manage them through internal and external resources, and find meaning in life during and after adversity. Consequently, a higher SOC is indicative of a greater

subjective evaluation of the abovementioned and is positively correlated to greater physical and mental health (Barni et al., 2020; Eriksson & Lindström, 2006). There is consensus, however, that the pandemic's impact varied among individuals (Anglim & Horwood, 2021; Li et al., 2020).

### 2.4.5 Sense of Coherence and mental health during the pandemic

Some studies looked at the predictive role of SOC towards mental health during the pandemic. For example, Torinomi et al. (2022) found that SOC predicted more effective coping strategies and responses, which contributed to better overall mental health amongst German university students. A similar study by Penachiotti et al. (2023) investigated whether SOC and PSS were predictors of mental health during the pandemic, and their results indicated that SOC was a predictor of both anxiety and mental health amongst Brazilian samples.

Also, higher levels of SOC were found to buffer against psychopathological symptoms and experiences (Schäfer et al., 2020; Schäfer et al., 2022). SOC was also discovered to be a mediator of mental health during the pandemic, specifically by mediating the effects of various stressors on Austrian university students' mental health (Kulcar et al., 2023). The results from these studies demonstrated the protective and mediational role of SOC towards mental health and psychopathology during the COVID-19 pandemic. In summary, the results of this dissertation could potentially contribute to existing SOC and pandemic mental health literature with novel findings.

## 2.5 Social support and well-being

Social support is an invaluable resource that often contributes to positive mental health outcomes (Zimet et al., 1988; Cobo-Rendon et al., 2020). It has long been researched as a vital coping resource in times of adversity and is inversely associated with psychological distress (Cohen, 1992; Holahan & Moos, 1981; Kaplan et al., 1977; Szkody et al., 2020). Social support is relative to the severity of the reported physiological and psychological symptoms and can buffer the effects of stressors (Andrews et al., 1978; Zimet et al., 1988). The literature demonstrates different approaches to defining social support as a psychological construct (Zimet et al., 1988).

Social support refers to a network of family, friends, and significant social relationships within one's environment and community, which enables one to adjust to and deal with stress (Cobo-Rendon et al., 2020; Taylor, 2011; Zimet et al., 1988). An adequate social support network also buffers the impact and experiences of stressful events and stressors. In addition, social support offers the recipient a platform for exchanging other beneficial resources and conferring a sense of belonging and emotional support (Cohen et al., 1997; Holahan & Moos, 1981; Tam & Lim, 2009). Thus, it is an exchange of resources between two or more individuals in which the provider or recipient perceives such a resource as beneficial to the well-being of the recipient (Shumaker & Brownell, 1984).

Sufficient literature hallmarks the role of social support in well-being and health through interpersonal relationships (Fasihi Harandi et al., 2017; Ozbay et al., 2007). These socially supportive and interpersonal relationships are indicated to play a protective role against the effects of pathogenic, environmental, and psychological stressors (Cohen & McKay, 1984; Lepore & Schneider, 1991; Turner et al., 2014). Durkheim (1951) observed that suicidality was

significantly more prevalent in individuals with limited to no social support and integration, and it is commonly understood and researched that social support plays a vital role in well-being (Schwarzer et al., 2004). To date, literature shows that adequate social support generally confers various mental health, emotional, physiological, and socioeconomic benefits (Cohen, 2004; Rui & Guo, 2022; Turner & Turner, 2013; Uchino et al., 2018).

Psychosocial development also hinges on the role of social support in successfully resolving psychosocial crises faced across the lifespan (Erikson, 1958). Erikson (1958; 1963) theorised that personality and psychosocial development was an epigenetic process and that often, the role of the social environment influenced psychosocial development. Furthermore, the social environment and the support required during each transitional stage would differ from the previous and the next. For example, the social support infancy requires differs from that required during various childhood, adolescence, and adulthood stages (Erikson, 1959; 1963).

The role of social support towards stress has been extensively studied during early childhood, adolescence, and adulthood (Kahn & Antonucci, 1980). Whilst parents and caregivers are the primary protective agents against stress in early childhood, adolescence is also seen as a critical period for long-term mental and physical health (Salgado et al., 2021). As a unique developmental stage, adolescence is often associated with interpersonal, academic, financial, and psychosocial stressors that place such individuals at risk for mental and physical health risks (Ehrlich et al., 2015; Smetana et al., 2006).

The transition from adolescence to adulthood is commonly understood to consist of various stressors and changes, usually experienced during the liminal phase known as *emerging adulthood* (Arnett, 2000; 2007). Arnett (2007; 2014) argued that emerging adulthood consists

of pursuing a career, relationships, financial independence, and increasing responsibilities, all of which invariably produce stress. Ultimately, stress is inevitable during this transitional development phase, and social support is deemed an invaluable coping resource (Moyle & Parkes, 1999; Scardera et al., 2020). Lastly, social support is associated with better mental and physical health outcomes in elderly cohorts. The losses in physical and cognitive acuity, social relationships, financial independence, and occupation present various mental and physical health risks in late adulthood (Czaja et al., 2021). Literature shows that adequate social support not only minimises these risks but also facilitates successful ageing (Annele et al., 2019).

Social support broadly confers psychological, behavioural, and cognitive benefits (House et al., 1988), which may present as emotional, instrumental, evaluative, informational, and esteem support (Cutrona & Suhr, 1992; Sarason et al., 1990). Social support bears emotional benefits in that there is an experience of assurance, catharsis, feelings of belonging, and nurture (Helgeson, 2003). Esteem support refers to messages of encouragement that reinforce one's worth, purpose, abilities, and skills (Cutrona & Suhr, 1992). Instrumental support refers to concrete help, which is instrumental to coping with or alleviating the effects of the stressor, ranging from monetary support to assistance in daily or occupational tasks and activities (Cohen & Wills, 1985; Helgeson, 2003; Schultz et al., 2022). Behaviourally, social support can stimulate modified or new behavioural coping responses which contribute to better physiological and mental functioning whilst similarly operating through physiological pathways by reducing the impact of stressors and trauma on the cardiovascular, neuroendocrinal, and immune systems (Cohen, 1988; Cohen, 2004; Ozbay et al., 2007; Schwarzer et al., 2004; Uchino et al., 1996; Uchino et al., 2011).

In addition, social support also plays a cognitive role through the modification of cognitive perceptions of stressors. This occurs through stress appraisal, an evaluative process

of a stressor's magnitude, as well as the availability and efficacy of the resources to respond to its demands (Lazarus & Folkman, 1984). Social support thus allows for the provision of perspective, which could positively alter one's appraisal of the stressor and/or the efficacy of one's coping abilities (Cohen, 2004; Lazarus & Folkman, 1984). Therefore, by providing knowledge, wisdom, or information, social support could bolster one's capacity to manage the stressor or reduce its impact (Cohen, 1992; Cohen, 2004; Tam & Lim, 2009).

Literature records two seminal hypotheses used to conceptualise how social support could contribute to desirable mental and physical health outcomes. These are the *Main Effect Model* and the *Stress-Buffering Model* (Cohen, 2004; Cohen & Wills, 1985; Landerman et al., 1989; Thoits, 1982). Both models attempt to theorise the role of social support and its interaction with stress. However, there are clear distinctions between how social support operates. In the *Main Effect* model, high levels of social support reportedly promote more favourable mental health outcomes, irrespective of the level or magnitude of the stressors. In contrast, the *Stress-Buffering* model asserts that lower levels of social support predispose individuals to greater vulnerability to stressors and contribute to poorer mental health outcomes (Cohen & Wills, 1985; Landerman et al., 1989). Both models, therefore, attempt to illustrate the role of social support in the acquisition of mental well-being and the underlying process in which social support works to mitigate the impact of the stressor (Cohen, 2004).

The *Main Effect* model, in detail, simply asserts that social support yields generalised benefits, through which an individual experiences overall benefits despite the size and nature of the stressor. (Cohen & Wills, 1985; Landerman et al., 1989). Furthermore, social support networks, according to this model, provide a consistent source of positive affect, stability, and self-esteem, as well as a sense of predictability of the stressor and the social support. Therefore,

social support in this model provides an overall benefit to an individual, irrespective of whether there is high or low stress experienced (Cohen & Wills, 1985; Landerman et al., 1989).

According to the *Stress-Buffering* model, social support, whether received or perceived, serves the function of buffering the impact of the stressor on the affected individual. (Cohen & Wills, 1985; Landerman et al., 1989). The support received or available thus may assist the affected individual to effectively modify their cognitive perceptions/appraisals of the stressor, including their emotional, behavioural, and/or coping responses towards the stressor, and furnish the individual with tangible resources or information to manage the impact. Ultimately, the provision or availability of the above resources from the social support network may thus also dampen the affected individual's physiological responses toward the stressor (Cohen, 1988; 2004; Cohen & Wills; 1985; Lazarus & Folkman, 1984).

Cutrona and Russell (1987) postulate that the effect of social support on stressors and the receiver is dynamic. Since stressors vary in context, duration, dilemma, and implication, social support needs to be tailored to match the needs the context stressor/stressful event calls for. Therefore, just as one ought to adapt to the circumstances and demands of a stressor, the type of social support required is also adaptive. Social support thus may be more effective if the type of support offered matches the demand and context of the receiver (Cutrona & Russell, 1987). The relative frequency of social support a support network provides also enhances an individual's overall perception of social support.

### 2.5.1 Perceived Social Support and mental health

Given the importance of social support and its many forms, perhaps the most important distinction in social support research is the differences and similarities between *Perceived Social Support* and *Received Social Support* (Uchino, 2009; Uchino et al., 2011). The former,

*Perceived Social Support* (hereafter PSS), refers to the anticipation or perception that, if needed, socially supportive resources and relationships are available and accessible. Therefore, this pertains to the subjective belief and faith one possesses that help is within reach, accessible, and sufficient in the prevention, amelioration, or management of stressors (Barrera, 1986; Cohen & Wills, 1985; Eagle et al., 2018; Uchino, 2011). Furthermore, the benefits of PSS may be derived whether support has been accessed or not (Cohen, 1988) because the individual appraises their social support networks and resources to be sufficient, satisfactory, and readily available (Haber et al., 2007).

The latter construct within social support literature, *Received Social Support* (hereafter RSS), refers to actual support, regardless of the manifestation thereof, that is received from family, friends, and others in response to a stressor (Haber et al., 2007; Helgeson, 2003; Uchino et al., 2011). In contrast to PSS, RSS pertains primarily to the acknowledged reception of socially supportive materials or actions and is, therefore, more transactionally oriented than PSS, which is a subjective evaluation of the availability of social support (Helgeson, 1993; 2003; Norris & Kaniasty, 1996). Although at face value, PSS and RSS seem synonymous and interchangeable, there is a dearth of literature that differentiates the two and their associations with mental and physical well-being (Uchino, 2009; Uchino et al., 2011; Wills & Shinar, 2000). Moreover, it has been found that PSS and RSS are separate constructs (Haber et al., 2007) and that PSS seems to be more significantly associated with positive mental health outcomes than RSS (Barrera, 2000; Eagle et al., 2018; Uchino, 2009).

Extensive research has been conducted on PSS concerning mental health, coping, and various other constructs and contexts. Greater levels of perceived social support significantly predict greater satisfaction with life and lesser negative affect (Cobo-Rendon et al., 2020; Siedlecki et al., 2014). There is also an inverse association between perceived social support

and negative affective states such as depression and anxiety (Ioannou et al., 2019; Kleiman & Riskind, 2013; Szkody et al., 2020).

For example, a Turkish study by Ikiz and Cakar (2010) investigated the association between PSS and adolescent self-esteem and found a statistically significant positive relationship. Higher levels of PSS from parents, teachers, and/or friends were correlated with an increase in self-esteem amongst adolescents (n = 257). Moreover, gender differences were evident in that female adolescents were more perceptive to social support than male adolescents, but these differences were not statistically significant (Ikiz & Cakar, 2010). Ultimately, the authors identified PSS as a protective factor against the various stressors faced during adolescence, indicating that lower levels of self-esteem were associated with the development of psychological dysfunction (Ikiz & Cakar, 2010; Landsford et al., 2003; Nishikawa et al., 2010).

A Spanish study conducted on 300 first-year university students (198 females, 102 males) investigated the impact of PSS on student adjustment (Martinez-Lopez et al., 2019). Given the stressful transition from high school to university and adolescence to emerging adulthood (Arnett, 2000), the researchers found that higher levels of PSS were positively associated with social, emotional, and academic adjustment during this transition (Martinez-Lopez et al., 2019). Furthermore, it was found that there were different effects between various sources of social support. PSS from parents predicted positive academic adjustment, whilst PSS from peers predicted positive academic, emotional, social, and institutional adjustment (Martinez-Lopez et al., 2019). Interestingly, this was ascribed to the fact that peers undergoing the same experiences were more relatable and potentially provided better support than parents (Tao et al., 2000). A follow-up study by Tinajero et al. (2020) also indicated that perceived

social support was positively correlated with academic success among Spanish university students.

A similar study was conducted by Vungkhanching et al. (2016) on 234 Social Work students. Findings demonstrated that anxiety, stress, and depressive symptoms were inversely correlated to PSS and that female students were more likely to engage in solution and emotion-focused coping responses in comparison to males. Furthermore, the authors discovered that students in their first year of studies reported lower levels of PSS than those in more advanced years of study (Vungkhanching et al., 2016).

Calvete and Connor-Smith (2006) investigated the mediation of coping responses in the relationship between PSS and symptoms of distress in a cohort of 349 American and 437 Spanish students. More specifically, the authors wanted to explore whether approach or avoidance coping styles mediated the effect of PSS on symptoms of anxiety, depression, social withdrawal, and aggression. Results depicted a partial coping mediation in the relationship between PSS and symptoms of distress and that coping mediation was most effective for students who were experiencing high levels of social stress (Calvete & Connor-Smith, 2006). In other words, they found an inverse association between PSS and symptoms of distress exists without approach or avoidance coping. Lastly, it was discovered that higher levels of PSS were associated with less frequent avoidance coping methods (Calvete & Connor-Smith, 2006).

Studies conducted during the pandemic focused on PSS concerning mental health. Most of the results revealed that a significant negative correlation existed between PSS and anxiety (Hou et al., 2021; Ozmete & Pak, 2020), confirming previous literature highlighting this inverse relationship (Dour et al., 2014). Research also indicated that perceived social support, apart from being linked to decreased depressive and stress-related symptoms, is also associated

with better outcomes in terms of self-esteem, physiological and cardiovascular health, and mental well-being (Ioannou et al., 2019; Lackey & Cohen, 2000; Lee et al., 2014; Uchino et al., 2012). However, there still appears to be uncertainty about the specific mechanisms and pathways through which perceived social support works to bring about the above outcomes (Uchino et al., 2018).

### 2.5.2 Perceived Social Support and student mental health during the pandemic.

It is well documented that the pursuit of tertiary education is wrought with various challenges for students (Mai et al., 2021; Mason, 2019; McLean et al., 2022). However, it is within reason to assert that the duration of the pandemic has made an already stressful academic and psychosocial transition even more challenging (Ntema, 2022; Takács et al., 2023). Once the pandemic began, educational institutions globally were affected, consequently impacting the typical scholar/student experience (Cahuas et al., 2022; Mai et al., 2021).

For some students, university studies comprise more than just an academic life because university life also provides opportunities for meaningful social interaction and integration (Charalambous, 2019; Wilcox et al., 2005). Since most students are *emerging adults*, tertiary institutions are often spaces where most students establish their social identities and vocational identities, build meaningful relationships with others, experience intellectual growth, and exercise independence (Arnett, 2000; Paramo et al., 2014; Wilcox et al., 2005). Social support during the challenging years of tertiary education is important for optimal psychosocial development, academic performance, and adequate adjustment as a student within an academic environment (Friedlander et al., 2007). Students with higher levels of social support have better academic, mental health, and physical health outcomes than those with lower levels (Mai et al., 2021; McLean et al., 2022). Furthermore, students with higher levels of social support can meet

the demands and expectations imposed upon them by their academic and social environment (Cobo-Rendón et al., 2020; Friedlander et al., 2007).

Some studies have been conducted on the PSS of university students during the advent of the COVID-19 pandemic. For example, researchers Mai et al. (2021) sought to investigate the perceived social support of 3,545 Chinese university students during the pandemic by considering their coping styles and demographic characteristics. The authors found a significant association between students' perception of social support and their adaptive coping. Furthermore, Mai et al. (2021) concluded that higher levels of PSS were negatively associated with anxiety during the pandemic. In summary, this study found that students with higher levels of PSS were more likely to engage in positive coping strategies, and in return, these strategies, alongside their perceptions of their social support, contributed to better mental health during the pandemic (Mai et al., 2021). Thus, students who perceived their social support to be higher were able to cope with pandemic-related stress more effectively. These results were also considered significant, given that the Chinese government's response to the pandemic was more stringent than most countries (AlTakarli, 2020).

Cahuas et al. (2022) conducted a similar study on 1296 American university students, intending to investigate the impact of the pandemic on students' quality of life concerning their levels of perceived social support. Their study found that perceived social support from family significantly predicted students' quality of life experiences during the COVID-19 pandemic. Quality of life was measured using the COVID-19 QoL, which assesses participants' sense of safety and physical and mental health during the pandemic. It was indicated that students who received more social support, particularly from family, were less affected than students who received little to no support (Cahuas et al., 2022). Quality of life is significantly associated with

social support, which serves as a protective factor against mental health problems and promotes better adjustment (Alsubaie et al., 2019; Friedlander et al., 2007).

Other studies have also documented the impact of PSS on mental health during the pandemic. For example, a cross-sectional study on a Turkish population (N = 1032) found that PSS was a significant predictor of sleep quality, anxiety, depression, and stress symptoms (Sahin et al., 2022). Thus, individuals who had higher levels of PSS experienced lower levels of anxiety, depression, and stress. These individuals also reported better sleep quality and lower levels of insomnia (Sahin et al., 2022).

PSS was also reported to be a significant predictor of mental health, according to a similar study conducted by Rathakrishnan et al. (2022). This study sought to explore PSS concerning coping and psychological distress amongst Malaysian students (N = 385) during the pandemic. The researchers found that, in conjunction with coping, PSS significantly predicted students' levels of psychological distress (Rathakrishnan et al., 2022). These findings also indicated that social support from family, friends, and significant others can aid in students' coping responses to stressful events. Huang et al. (2021) investigated similar parameters with similar results. Their study examined the effects of coping styles and PSS on the mental health of Chinese undergraduate students during the pandemic (N = 3113). According to Huang et al. (2021), PSS was negatively correlated to stress, anxiety, and depressive symptoms. Furthermore, social support from family was reported to be a significant protective factor for student mental health (Huang et al., 2021).

In conclusion, the abovementioned studies have indicated that higher levels of PSS were correlated with positive and effective coping responses to stress (Rathakrishnan et al., 2022), better psychosocial adjustment (Friedlander et al., 2007), and more optimal academic

outcomes (Mai et al., 2021; McLean et al., 2022). Moreover, lower levels of PSS were reported to be predictors of various psychopathology symptoms (Huang et al., 2021; Sahin et al., 2022). In addition, PSS was positively and significantly correlated to better mental health outcomes, physical health outcomes in terms of sleep quality, and a lower likelihood of insomnia (Cahuas et al., 2022; Sahin et al., 2022). Lastly, social support from family was highlighted as a valuable safeguard to student mental health (Cahuas et al., 2022; Huang et al., 2021).

## 2.6 Chapter Summary

This chapter acclimatised the reader to the history and definitions of the various predictor variables of PWB. It also explored the conceptualization of PWB in the context of this study, and why PWB is of importance for university students. In addition, this chapter aligned its literary discussion in the context of the COVID-19 pandemic, as well as within the South African context. PSS and SOC were explored as possible predictors of PWB. The research methodology used for this study will be discussed in the next section.

# CHAPTER 3

## RESEARCH METHODOLOGY

This chapter will provide an overview of the research methodology of the study. First the research aims and questions will be stated. This will be followed by an overview of the research design, and the participants and sampling procedure. The data collection followed in this study and the measuring instruments used will then be discussed. The data analyses procedure will be discussed, and the chapter will conclude with the ethical considerations which were followed in the study.

### 3.1 Research aims and questions.

This study aimed to investigate the predictors of PWB among students during the COVID-19 pandemic by answering the following questions:

- Does the combination of predictor variables, namely Sense of Coherence and Perceived Social Support, explain a significant percentage of variance in the Psychological Well-being of university students during the COVID-19 pandemic?
- Which individual predictor variable(s) significantly contributed to the variance of PWB of university students during the pandemic?

### 3.2 Research design.

A quantitative, non-experimental, and correlational research design was followed to investigate the role of PSS and SOC on PWB. Non-experimental studies traditionally refer to studies in which no explicit programme or intervention is being tested amongst participants (Maree, 2020; Stangor, 2015). This category of research primarily aims to provide a

retrospective and descriptive view of the prevalence of phenomena (Stangor, 2015; Thompson et al., 2007). Additionally, no manipulation of independent variables occurs because non-experimental studies are "*ex post facto"*; these studies happen after the observed phenomenon has occurred (Thompson & Panacek, 2007). The COVID-19 pandemic is an example of such, as the researcher aimed to observe and study a naturalistic phenomenon after it occurred, in which there was no manipulation or control of the phenomena or variables (Gravetter & Wallnau, 2009).

Contextually, this non-experimental research aimed to identify possible associations between PSS, SOC, and PWB of students during the pandemic. Thus, a correlational design was used. Correlational approaches aim to determine whether a statistically significant and linear relationship exists between two variables (Tabachnick & Fidell, 2013; Thompson & Panacek, 2007). Correlational analyses are commonly computed with Karl Pearson's product-moment correlation coefficient, which signifies the strength and directionality of the relationship between variables (Gravetter & Wallnau, 2009). Correlation coefficients, also called p-values, range between -1,00 and +1,00, with the integers indicating whether the relationship between the variables in question is positive or negative (Ratner, 2009; Stangor, 2015).

### 3.3 Participants and sampling

Scientific research on a population requires sampling. Sampling is often employed to gain scientific insight into phenomena occurring within a population (Stangor, 2015). Since conducting scientific research on a total population is cumbersome at the very least, sampling methods are used to select a smaller population of the larger whole for scientific research (Stangor, 2015).

This study used non-probability convenience sampling. Convenience sampling is utilised when participants for the study are readily available and when the criteria for participation are more inclusive (Maree, 2020; Stangor, 2015). Concerning this study, all registered students were invited to participate, and recruitment of participants was based solely upon who was available for participation at any given time (Babbie, 2001). Non-probability sampling also has credit in this regard since all university students were exposed to the psychological effects of the COVID-19 pandemic and its subsequent lockdowns (Visser & Law-van Wyk, 2021; WHO, 2020; 2021).

A total of 312 students participated in the data collection process. Evidently, the decision was made by the researcher and supervisor to conclude the data collection process due to a decline in participant numbers over time. Regarding participant demographics, males, females, non-binary and other genders, and different racial and cultural groups were encouraged to participate to achieve the best degree of diversity and sociocultural representation. The official university email communication channels were utilised to invite all registered students to participate in the study. Furthermore, this broadcasted email provided students with the link to a Google Forms sheet comprising a biographical information sheet and three questionnaires.

### 3.4 Data collection

Data was collected through various measuring instruments and a biographical questionnaire. Participants were recruited through the Blackboard learning management system, as well as through advertising during undergraduate Psychology lectures. A recruitment advertisement was also distributed via email through the official UFS email system to reach students from other faculties and departments. The instruments used to collect data

were aimed to measure PSS, SOC, and PWB. A biographical questionnaire was used to collect demographic information of students, and no personal and identifiable information was collected. All the questionnaires were in English, and participants could fill these in online through Google Forms or physically with pen and paper.

### 3.5 Measuring Instruments

Four questionnaires were used to collect data:

- A biographical questionnaire
- The Multidimensional Scale of Perceived Social Support (MSPSS)
- The Sense of Coherence Orientation to Life scale (SOC-29)
- Ryff's Scales of Psychological Well-being (SPWB)

These measuring instruments will be discussed in more detail in section 3.6 below.

### 3.6 Biographical Questionnaire

The researcher compiled a demographic questionnaire to ascertain the gender, age group, race/ethnicity, and faculty of study of each participant.

### 3.7 The Multidimensional Scale of Perceived Social Support (MSPSS)

*Perceived Social Support* was measured using the *Multidimensional Scale of Perceived Social Support scale* (Zimet et al., 1988). It consists of 12 items across three subscales (family, friends, and significant other) and possesses strong factorial validity. The internal consistency at the time of development was 0.88 (Zimet et al., 1988). Higher scores on the scale are indicative of higher social support. The response format is a 7-point Likert type scale (*1= very strongly disagree, 7= very strongly agree*). This scale has been previously used and validated

for South Africa on a youth sample, which indicated a Cronbach alpha of 0.86 (Bruwer et al., 2008).

### 3.8 The Sense of Coherence Orientation to Life Questionnaire (SOC-29)

The S*ense of Coherence Orientation to Life scale* (SOC-29) was developed by Antonovsky (1987). The instrument aims to measure SOC as a universal score consisting of three interrelated dimensions: Comprehensibility, Manageability, and Meaningfulness (Antonovsky, 1993). The scale consists of 29 items, with responses ranging from 1-7 on a Likert-type scale (e.g., *1 = Never have this feeling*, and *7 = Always have this feeling*). Higher scores indicate greater levels of SOC, and lower scores indicate a lower SOC. When the instrument was initially developed, the internal consistency ranged from 0.82 - 0.95 (Antonovsky, 1993). The SOC-29 has been validated and used on South African samples, with Cronbach alphas of 0.78 (Khumalo et al., 2010), 0.82 (Temane et al., 2014), and 0.89 (Basson & Rothman, 2002).

### 3.9 Ryff's Scales of Psychological Well-being (SPWB)

To measure Psychological Well-being, the 42-item *Scales of Psychological Well-being* questionnaire (SPWB) by Ryff and Keyes (1995) was used. The response format is a Likert-type scale, with responses ranging from 1 *(strongly agree*) to 6 (*strongly disagree*). Six core dimensions are measured within this instrument: (i) Autonomy, (ii) Environmental Mastery, (iii) Positive Relations with Others, (iv) Personal Growth, (v) Self-Acceptance, and (vi) Purpose in Life (Ryff, 1989; Ryff, 2014). Higher scores indicate greater PWB, whilst lower scores suggest lower PWB. Previous studies have measured the internal consistency of the SPWB, with alpha values above 0.70 (Kállay & Rus, 2014), ranging between 0.86 - 0.93 (Ryff & Keyes, 1995), and 0.85 (Victor, 2013). Subscale internal consistencies were found to be at

0.81 for Autonomy, 0.84 for Environmental Mastery, 0.68 for Personal Growth, 0.77 for Positive Relations, 0.69 for Purpose in Life, and 0.85 for Self-Acceptance (Stecz et al., 2019). Cronbach alphas computed by another researcher from the University of the Free State on a similar population found that the SPWB subscales reported values of 0.60 for Autonomy, 0.40 for Environmental Mastery, 0.61 for Personal Growth, 0.63 for Positive Relations with Others, 0.60 for Purpose in Life, and 0.71 for Self-Acceptance (Basson, 2021).

### 3.10 Data analysis – descriptive and statistical procedures

The Statistical Package for Social Sciences [SPSS] (Version 27), was used for statistical analyses and descriptive statistics of the study. Through SPSS, researchers can use bivariate and multivariate analyses and modelling techniques to gain a deeper comprehension of the statistical relationships between variables under study (IBM Corporation, 2022). Cronbach's alpha, the internal validity of a scale/instrument, is generally associated with validity and reliability (Cronbach, 1951; Tavakol & Dennick, 2011). Cronbach's alpha coefficient was calculated for the internal reliability of the various scales used in this study.

SPSS was also used to obtain descriptive statistics which describe the central tendencies of the data, and Pearson's product-moment correlation coefficient was computed to investigate the relationship(s) between *Sense of Coherence*, *Perceived Social Support*, and *Psychological Well-being* (Babbie, 2001; Stangor, 2015). Pearson's product-moment correlation coefficient was computed to measure the strength of the linear relationships between the variables under study (Maree, 2020). The statistical and practical significance of these correlations were considered in this regard.

Regression analyses were used to examine the predictive relationships between the variables of interest. Regression analyses were computed for one dependent variable and two

independent variables (Maree, 2020). Hierarchical regression analyses are computed when a criterion variable is believed to be influenced by multiple predictor variables (Howell, 2017; Maree, 2020; Maxwell, 2000). The purpose was also to investigate and analyse the percentage of variance accounted for in the criterion/dependent variable by the predictor variables. Hierarchical regression is a theory-driven statistical procedure that entails sequentially entering predictors into models/equations to ascertain their statistical impact on the dependent variable(s) (Allen et al., 2014).

Hierarchical regression analyses were done to establish whether PSS and/or SOC subscales predicted the PWB total and subscales. Descriptive statistics were also computed and discussed. The total score for the SPWB scale, as well as the PSS, SPWB, and SOC subscales, were used for correlational analyses. Only subscales that met satisfactory internal consistencies were used for hierarchical regression analyses.

### 3.11 Ethical considerations

Approval to conduct this research was obtained (UFS-HSD2022/0987/23) from the General Human Research Ethics Committee (GHREC), from the Faculty of the Humanities as well as from the Director of Student Affairs of the University of the Free State. The questionnaires students were required to complete were made available online, and participants were made aware that using their data would incur minimal data charges. Students were further encouraged to use the university's Wi-Fi to minimise data charges.

Each participant was required to provide informed consent online before participating in the study. Participants were informed that participation was voluntary, that no compensation/incentives were offered, and that withdrawal was without consequence. All participants were also informed that their participation was anonymous and confidentiality of

all submitted questionnaires would be ensured. The electronically answered questionnaires were stored on a secure, password-protected computer, and all hard copies of the data were securely locked in a cabinet.

The researcher strived to adhere to the basic ethical principles of not harming any participant. Although it is unlikely that completing the questionnaires would cause any distress, if any emotional distress were experienced by any participant(s), they could contact the coordinator of the Adult Practice of the Master's Programme in Psychology for debriefing/counselling. Participants could also contact Student Counselling and Development. These services were rendered free of charge. If face-to-face consultation was not possible, participants could use MobieG, an established and reliable online text-based counselling platform. It is freely available on the Google Play Store. All counselling services on MobieG are free. No students reported any distress after their participation in the study.

# CHAPTER 4

## RESULTS

This chapter presents the descriptive and statistical results of the study. The descriptive analysis will be elaborated upon regarding the participants/sample. Following this, the measures of dispersion and central tendencies will be presented for the various variables in terms of standard deviation, kurtosis, skewness, and means. Cronbach alphas for the measurement instruments will be discussed as well. The statistical findings computed from SPSS will also be discussed in terms of correlations to determine the significance, directionality, and effect sizes between PSS, SOC, and PWB. In addition, results from multiple regression and moderated hierarchical analyses will be presented and discussed.

Also, effect sizes for correlations and regression analyses will be discussed. A small effect size is 0.1, a medium effect size is 0.3, and a large effect size is 0.5 and greater (Stangor, 2015; Steyn, 2005). For hierarchical regression analyses, a small effect size is 0.02, a medium effect size is 0.15, and a large effect size is 0.35 (Cohen, 1992).

### 4.1 Population demographics

This sample comprised 312 participants from the University of the Free State, from various ethnicities, ages, and faculties. Both males and females participated in the study. All students were registered. The frequencies were computed and are presented in Table 1.

**Table 1** *Population demographic frequencies*

| ***Gender of students*** | | | N | % |
|---|---|---|---|---|
| **Female** | | | 254 | 81.4% |
| **Male** | | | 58 | 18.6% |
| | | | 312 | 100% |
| ***Ethnicity of students*** | | | | |
| | | | N | % |
| **African** | | | 259 | 83.0% |
| **Asian** | | | 1 | 0.3% |
| **Caucasian (White)** | | | 30 | 9.6% |
| **Coloured** | | | 21 | 6.7% |
| **Indian** | | | 1 | 0.3% |
| | | | 312 | 100% |
| ***Faculty*** | | | | |
| | | | N | % |
| **Economic and Management Sciences** | | | 22 | 7.1% |
| **Education** | | | 27 | 8.7% |
| **Health Sciences** | | | 9 | 2.9% |
| **Law** | | | 11 | 3.5% |
| **Agricultural and Natural Sciences** | | | 29 | 9.3% |
| **The Humanities** | | | 204 | 65.4% |
| **Theology** | | | 10 | 3.2% |
| ***Gender according to Ethnicity*** | | | | |
| | Male | Female | N | % |
| **African** | 54 | 205 | 259 | 83.0% |
| **Asian** | 0 | 1 | 1 | 0.3% |
| **Caucasian** | 28 | 2 | 30 | 9.6% |
| **Coloured** | 2 | 19 | 21 | 6.7% |
| **Indian** | 0 | 1 | 1 | 0.3% |
| | | | 312 | 100% |
| ***Age category*** | | | | |
| | | | N | % |
| **18-35 (Emerging adults)** | | | 301 | 96.5% |
| **35-50 (Adults)** | | | 10 | 3.2% |
| **50+ (Late adulthood)** | | | 1 | 0.3% |
| | | | 312 | 100% |

Table 1 indicates that most participants were female students (81.4%, n= 254), whilst male students only constituted 18.6% (n=58) of the total sample. It was noted that male participants were under-represented within this sample, which creates a limitation for the results of this study.

The data in Table 1 shows that most of the students who participated in the study (N = 312) were African (83%, n = 259). This was followed by Caucasian (9.6%, n = 30), Coloured (6.7%, n =21), Asian (0.3%, n= 1), and Indian (0.3%, n=1) students. According to Statistics South Africa (2018), these population demographics are seemingly more representative of the South African population than not.

Data in Table 1 also highlights that convenience, non-probability sampling was utilised in this study. As a result, 65.4% (n = 204) of the sample was obtained from students within the Faculty of the Humanities. Agricultural and Natural Sciences students represented 9.3% of the sample (n = 29), Education students 8.7% (n = 27), and Economic and Management Sciences 7.1% of the sample (n = 22). Lastly, Law students constituted 3.5% (n = 11) of the sample, followed by the Theology faculty with 3.2% (n = 10).

Table 1 further demonstrates the ethnicity of the participants according to gender. The data indicates that most males (n = 54) and females (n = 205) in the study were African by ethnicity. Only one participant identified as an Asian female and another as an Indian female. Mostly Caucasian females participated (n = 28) compared to Caucasian males (n = 2). The results are similar pertaining to Coloured students, with 19 females and two males. Approximately 96.5% of the participants were aged between 18 and 35 (n = 301), 3.2% were aged between 35 and 50 (n = 10), and one participant was aged 50+ (0.3%).

### 4.2 Descriptive statistics

Table 2 presents the means, standard deviations, skewness, kurtoses, and Cronbach values for the total scales and their constituent subscales. Literature suggests that Cronbach alphas approximating 0.90 are exceptional (Nawi et al., 2020; Takavol & Dennick, 2011),

whilst other literature deems internal reliability values ranging from 0.70 ideal (Cortina, 1993; Pallant, 2016). However, some literature indicates that acceptable internal consistencies can range from 0.60 upwards (Hajjar, 2018; Janssens et al., 2008; Ursachi et al., 2015). Normally distributed data has skewness values lower than 2 and kurtosis values below 4 (Kahane, 2008). None of the scores on the total and subscales deviated significantly from normality in terms of skewness and kurtosis.

**Table 2**

*Descriptive statistics and internal consistencies for MSPSS, SOC, and SPWB scales and subscales*

| | N | Mean | SD | Skewness | Kurtosis | α |
|---|---|---|---|---|---|---|
| **MSPSS** | **312** | **4,53** | **1,507** | **-0.402** | **-0.818** | **0,93** |
| PSS Family | 312 | 4,68 | 1,821 | -0.485 | -0.991 | 0.92 |
| PSS Friends | 312 | 4,06 | 1,760 | -0.202 | -0.995 | 0.94 |
| PSS Significant Others | 312 | 4,86 | 1,876 | -0.631 | -0.752 | 0.90 |
| **SPWB** | **312** | **167,30** | **26,717** | **-0.091** | **-0.123** | **0.86** |
| Autonomy | 312 | 28,20 | 6,450 | -0.216 | -0.065 | 0.61 |
| Environmental Mastery | 312 | 25,31 | 5,215 | 0.068 | 0.078 | 0.35 |
| Personal Growth | 312 | 30,10 | 6,173 | -0.335 | -0.332 | 0.61 |
| Positive Relations with Others | 312 | 28,97 | 5,909 | -0.244 | -0.401 | 0.53 |
| Purpose | 312 | 28,45 | 5,743 | 0.146 | -0.350 | 0.51 |
| Self-Acceptance | 312 | 26,25 | 6,867 | -0.271 | -0.078 | 0.66 |
| **SOC** | **312** | **110,94** | **19,938** | **-0.120** | **0.339** | **0.78** |
| Comprehensibility | 312 | 35,75 | 9,980 | 0.176 | -.207 | 0.72 |
| Manageability | 312 | 40,52 | 8,245 | -.148 | .051 | 0.54 |
| Meaningfulness | 312 | 34,67 | 7,757 | -.011 | -.154 | 0.62 |

Cronbach alphas were computed for the MSPSS, SOC, and SPWB subscales. The internal reliability values ranged from 0.35 - 0.94. The Environmental Mastery subscale was excluded from further analyses, as its internal reliability ($\alpha = 0.35$) was deemed statistically unacceptable. Similar results were obtained by other researchers when computing the internal consistencies for the Environmental Mastery subscale (Basson, 2021; Nel, 2021). In addition,

Purpose in Life and Positive Relations with Others were also excluded due to inadequate internal reliabilities of 0.51 and 0.53, respectively. The Manageability subscale from SOC was also excluded from further analyses due to its unsatisfactory Cronbach's alpha of 0.54.

### 4.3 Pearson Product Moment Correlation Coefficients between MSPSS, SOC, SPWB, and their subscales

In Table 3, the correlation coefficients were computed utilizing SPSS for the predictor variables, Perceived Social Support (PSS) and Sense of Coherence (SOC), and the dependent variable, Psychological Well-Being (PWB). Table 3 is a correlation matrix that was produced, inclusive of the correlation coefficients between the subscales of the predictor variables and that of the dependent variable. All correlational assumptions were satisfied.

**Table 3:** *Pearson Correlations between SPWB total scale and subscales (Autonomy, Personal Growth, Self-Acceptance), with MSPSS subscales (Family, Friends, and Significant Others) and SOC subscales (Meaningfulness and Comprehensibility) (N=312)*

| | | PWB | AU | PG | SA | FAM | FRI | SO | COMP | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|
| **1.** | **PWB** | - | .703** | .769** | .818** | .293** | .249** | .333** | .324** | .566** |
| **2.** | **AU** | | - | .468** | .479** | .165** | .153** | .215** | .189** | .262** |
| **3.** | **PG** | | | - | .529** | .130* | .108 | .199** | .058 | .469** |
| **4.** | **SA** | | | | - | .258** | .173** | .248** | .372** | .506** |
| **5.** | **FAM** | | | | | - | .397** | .721** | .300** | .261** |
| **6.** | **FRI** | | | | | | - | .460** | .140* | .139* |
| **7.** | **SO** | | | | | | | - | .277** | .255** |
| **8.** | **COMP** | | | | | | | | - | .249** |
| **9.** | **MEAN** | | | | | | | | | - |

Note: PWB – Psychological Well-being full scale; AU – Autonomy; PG – Personal Growth; SA – Self-Acceptance; FAM – Perceived Social Support Family; FRI – Perceived Social Support Friends; SO – Perceived Social Support Significant Others; COMP – Comprehensibility; MEAN – Meaningfulness; MAN – Manageability.

* p≤.05 ** p≤.01

Table 3 indicates the Pearson correlation coefficients between the SOC subscales (Comprehensibility and Meaningfulness), MSPSS subscales (Family, Friends, and Significant Others), and SPWB subscales (Autonomy, Personal Growth, Self-Acceptance) and the PWB global score. Only statistically and practically significant correlations, with at least a medium effect size, will be discussed in detail.

According to Table 3, there is a statistically significant positive correlation between Family support and PWB ($r$ = .293, $p \leq .01$), and the effect size of this finding gravitates towards a medium effect size (.29). This finding seems to suggest that university students who had higher perceptions of their families as being socially supportive during the pandemic, also tended to have higher levels of PWB. This finding may also suggest that university students with greater levels of PWB during the COVID-19 pandemic also had an increased perception of social support from their families. There is a statistically significant positive correlation between Significant Others and PWB ($r$ = .333, $p \leq .01$), and the medium corresponding effect size (.33) suggests that this finding is of practical significance. This finding also suggests that university students with higher perceptions of significant others being socially supportive during the pandemic had higher levels of PWB. This finding may also suggest that university students with greater levels of PWB during the COVID-19 pandemic also had an increased perception of social support from significant others. During the pandemic, university students who perceived support from significant others as less effective had lower levels of PWB.

There is a statistically significant positive correlation between Comprehensibility and PWB ($r$ = .324, $p \leq .01$), and the medium corresponding effect size (.32) suggests that this finding is of practical significance. This finding could suggest that university students with a greater cognitive perception of stressors and challenges during the pandemic as understandable and

predictable experienced higher levels of PWB. This finding may also suggest that university students who cognitively perceived stressors and events during the pandemic as more chaotic and unorganised tended to experience reduced PWB. Furthermore, students who experienced greater levels of PWB tended to also experience stressors as more comprehensible and predictable.

There is a statistically significant positive correlation between Meaningfulness and PWB ($r = .566$, $p \leq .01$), and the large corresponding effect size (.57) suggests that this finding is of practical significance. This finding suggests that university students who found their circumstances and stressors during the pandemic worthy of engagement and personal, emotional, and spiritual investment also experienced higher levels of PWB. In addition, students who experience greater levels of PWB tended to find stressful circumstances as worthy of engagement and personal, emotional, and spiritual investment. This finding may also suggest that university students who were less motivated to meaningfully engage and participate in daily life and stressors during the pandemic experienced reduced levels of PWB and vice versa.

Table 3 further indicates that there is a statistically significant positive correlation between Personal Growth and Meaningfulness ($r = .469$, $p \leq .01$), and the medium corresponding effect size (.47) suggests that this finding is of practical significance. This finding suggests that university students who experienced their lives as more meaningful and engaging amidst stressors during the pandemic also experienced a greater degree of personal development and psychological growth. This finding may also suggest that university students who experienced greater personal growth during the pandemic were more likely to possess an orientation that

their lives were meaningful despite the stressors and challenges being faced. In contrast, university students who experienced their lives as less meaningful during the pandemic may have experienced less personal, emotional, spiritual, and psychological growth.

The results in Table 3 further indicate a statistically significant positive correlation between Self-Acceptance and Comprehensibility ($r$ = .372, $p \leq .01$), and the corresponding effect size (.37) suggests that this finding is of practical significance. This finding seems to suggest that when university students reported higher scores in Comprehensibility, they also reported higher scores in Self-Acceptance, and vice versa. Therefore, it could be interpreted that university students who experienced a greater understanding of challenges and stressful events during the pandemic also experienced greater levels of positive self-evaluation. This finding may also suggest that university students who experienced higher levels of positive self-evaluation and self-affirmation were more inclined to perceive stressful stimuli during the pandemic as comprehensible due to positive appraisals of their strengths and weaknesses. However, students who reported lower levels of Comprehensibility also reported lower levels of Self-Acceptance, indicating that lower perceptions of stressors being understandable and predictable correlated with lower levels of positive self-evaluation. In addition, a statistically significant positive correlation was found between Self-Acceptance and Meaningfulness ($r$ = .506, $p \leq .01$), and the large corresponding effect size (.51) suggests that this finding is of practical significance. This finding suggests that university students who experienced life during the pandemic as meaningful were more inclined to embrace themselves positively. This finding may also suggest that when university students experience more positive attitudes about themselves, they also tend to experience greater feelings of their lives being worthwhile and

purposeful. Lower levels of Meaningfulness were associated with less Self-Acceptance amongst the university students.

The following segment will discuss the hierarchical regression analyses.

### 4.4 Hierarchical Regression Analysis

Hierarchical regression analyses were conducted to determine which predictor variables or combination thereof (Comprehensibility, Meaningfulness, PSS Family, PSS Friends, PSS Significant Others) statistically and practically accounted for significant variance in Autonomy, Self-Acceptance, Personal Growth, and the global PWB scale as criterion variables. Assumptions of normality were examined to ensure that the data did not violate a normal distribution. There was no multicollinearity within the dataset, and the data was homoscedastic. Only predictors and criterion variables that satisfied the cut-off of 0.60 for internal consistency (Ursachi et al., 2015) were regressed. Since half of the SPWB subscales were not fit for regression analyses due to their unsatisfactory internal consistencies, the researcher included the SPWB global scale in the regression analysis as a criterion variable.

Tables 4-7 below illustrate the variances predicted by the independent variables on various criterion variables.

### 4.4.1 Hierarchical regression analysis with Autonomy as the criterion variable

Table 4 presents the regression results with Autonomy as the criterion variable.

***Table 4**: Contributions of Perceived Social Support (Family, Friends, and Significant Others) and Sense of Coherence (Comprehensibility, Meaningfulness) to $R^2$ with Autonomy as the criterion variable*

Key: FAM – Perceived Social Support Family; PSS FRI – Perceived Social Support Friends; PSS SO –

| *Variables in equation* | $R^2$ | *Contribution to $R^2$: Full model – reduced model* | *F* | $f^2$ |
|---|---|---|---|---|
| 1. [FAM + FRI + SO] + [COMP + MEAN] | .105 | 1-4=.055 | 9.402** | .06 |
| 2. [FAM + FRI + SO] + COMP | .068 | 2-4=.018 | 5.929* | .02 |
| 3. [FAM + FRI + SO] + MEAN | .095 | 3-4=.045 | 15.265** | .05 |
| 4. [FAM + FRI + SO] | .050 | - | - | - |
| 5. [COMP+ MEAN] + [FAM + FRI + SO] | .105 | 5-9=.02 | 2.279* | .02 |
| 6. [COMP + MEAN] + FAM | .090 | 6-9=.005 | 1.692 | .01 |
| 7. [COMP + MEAN] + FRI | .096 | 7-9=.011 | 3.747 | .01 |
| 8. [COMP + MEAN] + SO | .101 | 8-9=.016 | 5.482* | .02 |
| 9. [COMP + MEAN] | .085 | - | - | - |

Perceived Social Support Significant Others; COMP – Comprehensibility; MEAN – Meaningfulness; MAN – Manageability.

* p≤.05 ** p≤.01

Table 4 illustrates the changes to $R^2$ of Autonomy as a criterion variable by the various combinations of the independent variables. When all the independent variables are present in the model, this combination accounts for 10.5% (**$F_{5;306} = 7.174$; $p \leq .001$**) of the variance in the Autonomy scores of the university students. The corresponding effect size ($f^2$ = .12) suggests that this finding is of practical significance. The SOC subscales (Comprehensibility and

Meaningfulness), a set (combination) of predictor variables, account for 5.5% of the variance in the Autonomy scores of the university students. This finding is statistically significant at the 1% level, and the corresponding effect size ($f^2$ = .06) suggests that this finding is of little practical significance. Individually, Comprehensibility accounts for 1.8% of the variance in Autonomy ($p \leq .05$; $f^2$ = .02), while Meaningfulness accounts for 4.5% of the variance in Autonomy ($p \leq .01$; $f^2$ = .05). The relevant effect sizes suggest that these findings are of little practical significance.

Family, Friends, and Significant Other respectively explain 0.5% ($F_{3;308}$ = 1.692; $p \geq .05$; $f^2$ = .01), 1.1% ($F_{3;308}$ = 3.747; $p \geq .05$; $f^2$ = .01), and 1.6% ($F_{3;308}$ = 5.482; $p \leq .05$; $f^2$ = .02) of the variance in the participants' Autonomy. The relevant effect sizes suggest that these findings are of little practical significance; thus, no further detailed discussion on these results will occur.

### 4.4.2 Hierarchical regression analysis with Self-Acceptance as the criterion variable

Table 5 presents the regression results with Self-Acceptance as the criterion variable.

***Table 5**:Contributions of Perceived Social Support (Family, Friends, and Significant Others) and Sense of Coherence (Comprehensibility, Meaningfulness) to $R^2$ with Self-Acceptance as the criterion variable*

| *Variables in equation* | $R^2$ | *Contribution to $R^2$: Full model – reduced model* | *F* | $f^2$ |
|---|---|---|---|---|
| 1. [FAM + FRI + SO] + [COMP + MEAN] | .328 | 1-4= .25 | 56.919** | .37 |
| 2. [FAM + FRI + SO] + COMP | .169 | 2-4=.091 | 33.618** | .11 |
| 3. [FAM + FRI + SO] + MEAN | .277 | 3-4=.199 | 84.499** | .28 |
| 4. [FAM + FRI + SO] | .078 | - | - | - |
| 5. [COMP+ MEAN] + [FAM + FRI + SO] | .328 | 5-9=.008 | 1.214 | .01 |
| 6. [COMP + MEAN] + FAM | .325 | 6-9=.005 | 2.281 | .007 |
| 7. [COMP + MEAN] + FRI | .326 | 7-9=.006 | 2.741 | .008 |
| 8. [COMP + MEAN] + SO | .325 | 8-9=.005 | 2.281 | .007 |
| 9. [COMP + MEAN] | .320 | - | - | - |

Key: FAM – Perceived Social Support Family; PSS FRI – Perceived Social Support Friends; PSS SO – Perceived Social Support Significant Others; COMP – Comprehensibility; MEAN – Meaningfulness; MAN – Manageability.

* p≤.05 ** p≤.01

It is evident in Table 5 that the set (combination) of independent (predictor) variables accounts for 32.8% ($F_{5;306}$ = 29.893; $p \leq$,001) of the variance in the Self-Acceptance scores of the sample. The corresponding effect size ($f^2$ = .49) suggests that this finding is of practical significance. The SOC subscales (Comprehensibility and Meaningfulness), as a set (combination) of predictor variables, account for 25.0% of the variance in the Self-Acceptance

scores of the university students. This finding is statistically significant at the 1% level, and the corresponding effect size ($f^2$ = .37) suggests that this finding is of practical significance. Individually, Comprehensibility accounts for 9.1% of the variance in Self-Acceptance ($p \leq .01$; $f^2$ = .11), while Meaningfulness accounts for 19.9% of the variance in Self-Acceptance ($p \leq .01$; $f^2$ = .28). The relevant effect size (.28) suggests that this finding is of practical significance.

Also indicated in Table 5 is the variability accounted for by the PSS subscales with Self-Acceptance as the criterion variable. The PSS subscales (Family, Friends, and Significant Others), as a set (combination) of predictor variables, account for 0.8% of the variance in the Self-Acceptance scores of the university students. This finding is not statistically significant, and the corresponding effect size ($f^2$ = .01) suggests that this finding is of little practical significance. Family, Friends, and Significant Other respectively explain 0.5% ($F_{3;308}$ = 2.281; $p \geq .05$; $f^2$ = .01), 0.6% ($F_{3;308}$ = 2.741; $p \geq .05$; $f^2$ = .01), and 0.5% ($F_{3;308}$ = 2.281; $p \geq .05$; $f^2$ = .01) of the variance in the participants' Self-Acceptance. The relevant effect sizes suggest that these findings are of little practical significance.

### 4.4.3 Hierarchical regression analysis with Personal Growth as the criterion variable

Table 6 shows the regression results with Personal Growth as the criterion variable.

***Table 6**:Contributions of Perceived Social Support (Family, Friends, and Significant Others) and Sense of Coherence (Comprehensibility, Meaningfulness) to $R^2$ with Personal Growth as the criterion variable*

Key: FAM – Perceived Social Support Family; PSS FRI – Perceived Social Support Friends; PSS SO –

| *Variables in equation* | $R^2$ | *Contribution to $R^2$: Full model – reduced model* | *F* | $f^2$ |
|---|---|---|---|---|
| 1. [FAM + FRI + SO] + [COMP + MEAN] | .238 | 1-4= .20 | 39.755** | .26 |
| 2. [FAM + FRI + SO] + COMP | .040 | 2-4= 0 | 0 | .00 |
| 3. [FAM + FRI + SO] + MEAN | .232 | 3-4=.192 | 76.750** | .25 |
| 4. [FAM + FRI + SO] | .040 | - | - | - |
| 5. [COMP+ MEAN] + [FAM + FRI + SO] | .238 | 5-9=.014 | 1.874 | .02 |
| 6. [COMP + MEAN] + FAM | .225 | 6-9=.001 | 0.397 | .001 |
| 7. [COMP + MEAN] + FRI | .227 | 7-9=.003 | 1.195 | .003 |
| 8. [COMP + MEAN] + SO | .234 | 8-9= .01 | 4.020 | .01 |
| 9. [COMP + MEAN] | .224 | - | - | - |

Perceived Social Support Significant Others; COMP – Comprehensibility; MEAN – Meaningfulness; MAN – Manageability.

* p≤.05 ** p≤.01

According to Table 6, the set (combination) of independent (predictor) variables accounts for 23.8% ($F_{5;306}$ = 19.070; $p \leq .001$) of the variance in the Personal Growth scores of the sample. The corresponding effect size ($f^2$ = .31) suggests that this finding is of practical significance. The SOC subscales (Comprehensibility and Meaningfulness), as a set (combination) of predictor variables, account for 20.0% of the variance in the Personal Growth

scores of university students. This finding is statistically significant at the 1% level, and the corresponding effect size ($f^2$ = .26) suggests that this finding is of practical significance. Individually, Meaningfulness accounts for 19.2% of the variance in Personal Growth ($p \leq .01$; $f^2$ = .25). The corresponding effect size ($f^2$ = .25) suggests that this finding is of practical significance.

Table 6 also indicates the variability accounted for by the PSS subscales with Personal Growth as the criterion variable. The PSS subscales (Family, Friends, and Significant Others), as a set (combination) of predictor variables, account for 1.4% of the variance in the Personal Growth scores of the university students. This finding is not statistically significant, and the corresponding effect size ($f^2$ = .02) suggests that this finding is of little practical significance. Significant Other explains 1.0% ($F_{3;308}$ = 4.020; $p \leq .05$; $f^2$ = .01) of the variance in the participants' Personal Growth. The relevant effect size suggests that this finding is of little practical significance.

### 4.4.4 Hierarchical regression analysis with Psychological Well-being (PWB) as the criterion variable

Table 7 presents the regression results with Psychological Well-being as the criterion variable.

***Table 7****:Contributions of Perceived Social Support (Family, Friends, and Significant Others) and Sense of Coherence (Comprehensibility, Meaningfulness) to $R^2$ with Psychological Well-being as the criterion variable*

| *Variables in equation* | $R^2$ | *Contribution to $R^2$: Full model – reduced model* | *F* | $f^2$ |
|---|---|---|---|---|
| 1. [FAM + FRI + SO] + [COMP + MEAN] | .389 | 1-4= .262 | 65.607** | .42 |
| 2. [FAM + FRI + SO] + COMP | .181 | 2-4=.054 | 20.241** | .07 |
| 3. [FAM + FRI + SO] + MEAN | .368 | 3-4=.241 | 117.068** | .38 |
| 4. [FAM + FRI + SO] | .127 | - | - | - |
| 5. [COMP+ MEAN] + [FAM + FRI + SO] | .389 | 5-9=.033 | 5.509** | .05 |
| 6. [COMP + MEAN] + FAM | .367 | 6-9=.011 | 5.352 | .02 |
| 7. [COMP + MEAN] + FRI | .379 | 7-9=.023 | 11.407** | .04 |
| 8. [COMP + MEAN] + SO | .380 | 8-9=.024 | 11.922** | .04 |
| 9. [COMP + MEAN] | .356 | - | - | - |

Key: FAM – Perceived Social Support Family; PSS FRI – Perceived Social Support Friends; PSS SO – Perceived Social Support Significant Others; COMP – Comprehensibility; MEAN – Meaningfulness; MAN – Manageability.

* p≤.05 ** p≤.01

Since three SPWB subscales (*Environmental Mastery, Positive Relations with Others,* and *Purpose in Life)* were omitted from regression analyses due to inadequate internal consistency, the researcher performed regression analysis on the global SPWB scale.

According to Table 7, the set (combination) of independent (predictor) variables accounts for 38.9% ($F_{5;306} = 38.996$; $p \leq .001$) of the variance in the PWB scores of the sample. The corresponding effect size ($f^2 = .64$) suggests that this finding is of practical significance. The SOC subscales (Comprehensibility and Meaningfulness), as a set (combination) of predictor variables, account for 26.2% of the variance in the PWB scores of the university students. This finding is statistically significant at the 1% level, and the corresponding effect size ($f^2 = .42$) suggests that this finding is of practical significance. Individually, Comprehensibility accounts for 5.4% of the variance in PWB ($p \leq .01$; $f^2 = .07$), while Meaningfulness accounts for 24.1% of the variance in PWB ($p \leq .01$; $f^2 = .38$). The corresponding effect size (.38) suggests that this finding is of practical significance.

Also indicated in Table 7 is the variability accounted for by the PSS subscales with PWB as the criterion variable. The PSS subscales (Family, Friends, and Significant Others), as a set (combination) of predictor variables, account for 3.3% of the variance in the PWB scores of the university students. This finding is statistically significant at the 1% level, and the corresponding effect size ($f^2 = .05$) suggests that this finding is of little practical significance. Family, Friends, and Significant Other respectively explain 1.1% ($F_{3;308} = 5.352$; $p \leq .05$; $f^2 = .02$), 2.3% ($F_{3;308} = 11.407$; $p \leq .01$; $f^2 = .04$), and 2.4% ($F_{3;308} = 11.922$; $p \leq .01$; $f^2 = .04$) of the variance in the participants' PWB. The relevant effect sizes suggest that these findings are of little practical significance. Given the limited practical significance of the findings in Table 7, no further detailed discussion on these results will take place.

## 4.5 Summary

This chapter consisted of descriptive statistics and statistical analyses. Correlational analyses revealed that predictor variables Significant Others, Comprehensibility, and Meaningfulness were statistically and practically significantly correlated with PWB. Meaningfulness was statistically and practically significantly correlated to both Personal Growth and Self-Acceptance, whilst Comprehensibility was both statistically and practically significantly correlated to Self-Acceptance and PSS from Family. All these correlations had at least a medium effect size.

During regression analyses, various predictors were combined to establish whether there were statistically and practically significant associations with the criterion variable(s). The combination of predictors from Sense of Coherence (Comprehensibility and Meaningfulness) significantly predicted variance in Self-Acceptance, Personal Growth, and PWB as criterion variables. The variance predicted was both statistically and practically significant. Lastly, it was found that Meaningfulness significantly predicted variance in Self-Acceptance, Personal Growth, and PWB among all predictors. These predictions were statistically and practically significant. The following chapter will discuss the results in depth in alignment with previous and relevant literature.

# CHAPTER 5

## INTERPRETATION OF FINDINGS, LIMITATIONS AND RECOMMENDATIONS

### 5.1 Introduction

The main purpose of this study was to examine which predictor variable(s), individually or in combination, accounted for the highest variance in PWB amongst university students in the context of the COVID-19 pandemic. This chapter will discuss the main results compared to relevant literature. The measuring instruments will also be discussed concerning their internal consistencies. Correlational and hierarchical regression analyses will be discussed in the context of their guiding research questions. This chapter also includes the significance of the study, limitations, and recommendations for further studies. Lastly, this chapter will conclude with a summary of the research process and its findings.

### 5.2 Discussion of the measuring instruments used in this study.

Several measuring instruments were used during this study to obtain results. This included *Zimet's Multidimensional Scale for Perceived Social Support* (MSPSS; Zimet et al., 1988), the *Sense of Coherence Orientation to Life* (SOC-29; Antonovsky, 1987), and Ryff's *Scales of Psychological Well-being* (SPWB; Ryff, 1989). Globally, all scales showed acceptable Cronbach alphas. However, when the subscales were assessed for regression, it was found that some were unfit for further statistical use. These subscales were Manageability (SOC-29), Environmental Mastery (SPWB), Positive Relations with Others (SPWB), and Purpose in Life (SPWB). The relevant Cronbach alphas are indicated in Table 2 in Chapter 4.

### 5.2.1 The Multidimensional Scale of Perceived Social Support (MSPSS)

To measure participants' levels of PSS, the MSPSS scale was utilised (Appendix D). This study computed internal consistencies for the global and subscales of MSPSS. The global scale reported an excellent internal consistency of 0.93. Simultaneously, the subscales reported similar Cronbach alphas of 0.92 for Family, 0.94 for Friends, and 0.90 for Significant Others. This study confirmed similar, acceptable psychometric properties (internal reliability) of the MSPSS, as indicated by previous studies (Akanni & Oduaran, 2018; Bruwer et al., 2008; Zimet et al., 1988).

### 5.2.2 The Sense of Coherence Orientation to Life questionnaire (SOC-29)

SOC was measured using Antonovsky's (1987) SOC-29 instrument (see Appendix E). The global and subscales were assessed for their internal consistencies, and the global scale reported good internal reliability in this study with a Cronbach alpha of 0.78. However, it must be noted that there is a scarcity of studies that have attempted to utilise the subscales of SOC-29 for predictive statistical analyses individually. This study found that Meaningfulness reported an adequate internal consistency of 0.62, and Comprehensibility reported a good internal reliability of 0.72. However, Manageability showed an inadequate Cronbach alpha of 0.54. Both Meaningfulness and Comprehensibility possessed satisfactory internal reliabilities (Ursachi et al., 2015).

Antonovsky (1993) stated that amongst 26 different studies, the internal reliability of SOC-29 ranged from 0.78 - 0.93. Khumalo et al. (2010) and Lipowski et al. (2019) reported an

internal reliability for the global scale of SOC-29 of 0.78, confirmed by the internal reliability for the SOC-29 in this study. In addition, the SOC-29 also reported strong psychometric properties in other relevant studies, with Cronbach alphas ranging from 0.80 - 0.86 (Piedmont et al., 2014; Van der Colff & Rothmann, 2009; Wissing & van Eeden, 2002).

### 5.2.3 Ryff's Scales of Psychological Well-being (SPWB)

To measure PWB, the SPWB was administered (Appendix F). The internal reliability for the global and subscales was computed as with the previous scales in the study. The SPWB global scale reported a Cronbach alpha of 0.86. The subscales yielded variations in their internal consistencies: Self-Acceptance (0.66), Autonomy (0.61), Personal Growth (0.61), Positive Relations with Others (0.53), Purpose in Life (0.51), and Environmental Mastery (0.35). Self-Acceptance, Autonomy, and Personal Growth were the only subscales that showed acceptable alpha coefficients (Ursachi et al., 2015). Previous studies have confirmed similar Cronbach alphas for the SPWB global scale (Saajanaho et al., 2020) and similar Cronbach alphas for the Autonomy, Personal Growth, and Self-Acceptance subscales (Basson, 2021; Nel, 2021).

## 5.3 Discussion of the significant correlation results

Correlational analyses were conducted to determine the statistical relationship between the various independent variables, namely SOC (Comprehensibility, meaningfulness), PSS and the dependent variable of PWB (autonomy, personal growth, and self-acceptance. As

previously indicated, only statistically and practically significant correlations with at least a medium effect size will be discussed. According to Steyn (2005), a medium effect size is 0.3.

### 5.3.1 Correlations between Perceived Social Support (PSS) and Psychological Well-being (PWB)

Previous literature has highlighted two main theoretical pathways in which PSS impacts mental health and PWB (Thoits, 1982). The former, the *Stress-buffering hypothesis*, identified social support as a factor that potentially reduces or buffers the impact of negative daily stressors or life events. The former, the *Main Effect model,* suggests that social support directly impacts mental health in terms of PWB through its presence or absence (Thoits, 1982).

This study found a statistically and practically significant correlation between Perceived Social Support from Significant Others and Psychological Well-being. There was also a statistically significant correlation between Perceived Social Support from Family and Psychological Well-being, which gravitates towards practical significance ($f^2$ = .293). These correlations will be discussed below.

### 5.3.2 Correlation between Perceived Social Support from Significant Others and Psychological Well-being

This study found a positive relationship between PSS from Significant Others and PWB, which was both statistically and practically significant. This correlation could suggest that university students with higher PSS levels from Significant Others experienced greater PWB. Similar supporting studies are referenced below.

One could extrapolate this finding in a developmental context, given that social support from significant others includes, but is not limited to, social support from romantic partners, spouses, colleagues, others from an academic community, or a mental health professional (Cheng & Chan, 2004). Therefore, social support from significant others seems developmentally appropriate given that most university students are emerging adults (Arnett, 1997; 2000; 2007) or young adults (Erikson, 1968). Regardless of how this student cohort was conceptualised, the key similarity in this sense is that they are in a psychological stage of development where the initiation, development, and maintenance of social relationships are imperative (Arnett, 2007; Segrin, 2003). This also could be related to the strides towards autonomy that are involved in this stage of development, that these individuals seek to find independence from their familial social circles in their quest to becoming an adult, thus prompting the need for additional social relationships other than family and friends (Lee & Goldstein 2015). Harding et al. (2019) support this correlation, indicating that university students who reported higher levels of social support from significant others also reported higher levels of PWB dimensions, such as Autonomy, Self-Acceptance, Personal Growth, and Purpose in Life.

Other literature also supports this correlation between PSS and PWB from a developmental perspective. According to Szwedo et al. (2017), social support from a romantic partner is also perceived as more meaningful and salient for emerging adults. This is because individuals prioritise various sources of social support according to their relative psychosocial and developmental needs and challenges (Arnett, 2000; Erikson, 1958; 1963; 1968; Marckiewicz et al., 2006; Villatte et al., 2022). Moreover, emerging adults tend to perceive

social support from significant others (e.g., romantic partner, spouse) more favourably if their familial source of support (e.g., parents, siblings, close relatives) are experiencing mental and/or physical health problems (Villatte et al., 2022). Alternatively, students who experienced greater levels of PWB also experienced greater levels of PSS. More specifically PSS from Significant Others was said to predict greater levels of Purpose in Life and Personal Growth (Harding et al., 2019). Therefore, it could be assumed that individuals who experience a higher level of PWB, may perceive support from their significant others as being adequate and satisfactory.

### 5.3.3 Correlation between Perceived Social Support from Family and Psychological Well-being

A statistically significant correlation between PSS from Family and PWB was found. It was decided to report on this result due to the practical significance of this finding bordering closely towards a medium effect size (.293). Therefore, this finding could suggest that students who had higher levels of PSS from Family also tended to report higher levels of PWB and vice versa.

Perceived Social Support refers to the perception and belief that the necessary help, support, and guidance are relatively available and sufficient for navigating stressful and difficult circumstances (Day & Livingstone, 2003; Zimet et al., 1988). University students are mostly emerging adults because they are neither adolescents nor fully-fledged adults who undergo various physical, social, psychological, environmental, and cognitive transitions (Arnett, 2000; 2015). Therefore, social support from family members serves as a vital resource for navigating

these changes, particularly as university students face challenges and stressors unprecedented to them (Arnett, 2000; 2007; Awang et al., 2014; Pettit et al., 2011). However, despite emerging adults' social focus shifting more towards friends and significant others, family support still seems to be an important source when major life decisions are involved (Pettit et al., 2011; Shulman et al., 2009). Family, particularly parents or parental figures, are also deemed a salient source of social support due to their emotional maturity, wisdom, and life experiences with various stressors and challenges (Alsubaie et al., 2019; Camara et al., 2017).

Previous literature associated PSS from Family with better adjustment outcomes concerning university life and stress (Friedlander et al., 2007), better social, emotional, and academic functioning (Awang et al., 2014), and more adaptive coping responses and problem-solving behaviours (Calvete & Connor-Smith, 2011). This study's finding is in line with previous literature in that social support from family protects against psychopathology symptoms such as anxiety and depression among university students and promotes a better quality of life (Alsubaie et al., 2019). Furthermore, higher levels of social support from family were found to be a predictor of higher levels of PWB dimensions, such as Autonomy and Self-Acceptance, among university students (Harding et al., 2019). Likewise, this correlation also indicates that individuals who experienced higher levels of PWB also tended to perceive social support from family more favourably, and higher levels of overall PSS (Kalpana Rani, 2016).

### 5.3.4 Correlations between Sense of Coherence and Psychological Well-being

This study found statistically and practically significant correlations between the SOC subscales (Comprehensibility and Meaningfulness) and SPWB global and subscales (Personal

Growth and Self-Acceptance). More specifically, it was found that Comprehensibility reported statistically and practically significant correlations with Self-Acceptance and the SPWB global scale. Meaningfulness was statistically and practically correlated to Personal Growth, Self-Acceptance, and the SPWB global scale. Literature on the correlation between SOC components and PWB is relatively sparse. These correlations will be discussed below in more detail.

### 5.3.5 Correlation between Comprehensibility and Self-Acceptance

Comprehensibility reported a statistically and practically significant correlation to Self-Acceptance. Comprehensibility refers to an individual's cognitive orientation that internal and external stimuli and/or stressors are explainable, predictable, and understandable (Antonvosky, 1987). Self-Acceptance refers to the degree to which an individual positively evaluates themselves, their strengths, weaknesses, and past and present life (Ryff, 2014). Comprehensibility is influenced by positive self-appraisal, a cognitive orientation that indicates a worldview that stressors, challenges, or events can be understood, explained, and addressed (Antonovsky, 1987; Moksnes, 2021). This cognitive belief is often influenced by previous experiences, self-perception, knowledge, and informational social support (Moksnes, 2021). Therefore, one's ability to cognitively interpret stressors and stimuli could positively contribute to one's self-perception when faced with stressful situations. A deeper insight and understanding of stressors could allow for more effective coping responses regarding one's strengths and weaknesses (Henn et al., 2016; Mittelmark et al., 2022). Additionally, these results could also mean that individuals with a more appreciative evaluation of themselves may

find stressors easier to comprehend and navigate in relation to their relative strengths and weaknesses.

### 5.3.6 Correlation between Comprehensibility and Psychological Well-being

Comprehensibility was indicated to have a statistically and practically significant correlation to PWB. The results of this correlation indicate that university students who experienced a higher sense that stressors and events were explicable and predictable also experienced better overall PWB. The ability to cognitively perceive daily and life events as understandable is a key aspect of eudaimonic well-being (Huta & Waterman, 2014). Comprehensibility entails a cognitive appraisal of internal and external stressors, which enables one to formulate appropriate coping and problem-solving responses (Antonovsky, 1979; 1987; 1996). A greater sense of comprehensibility could contribute to an individual's capacity to (i) think, act, and behave autonomously, (ii) seek, maintain, and utilise positive social relationships which could aid coping or enhance well-being, (iii) interpret stressors as an opportunity for self-development, (iv) think of stressors and events as contributing to a greater purpose, (v) consider ways in which their environment can be manipulated in response to stressors, and (vi) contribute to a more realistic and positive self-evaluation (Antonovsky, 1996; Bauer, 2008; Ryff, 1989; 2014). Therefore, the ability to make sense of everyday and difficult life situations can positively impact one's capacity to experience life as satisfying, meaningful, and fulfilling (Huta & Waterman, 2014; Krok, 2015; Krok & Kleszczewska-Albińska, 2019). In a similar manner, this correlation also indicates that students who had higher levels of PWB found challenges and stressors to be comprehensible, and through this

understanding, enable the mobilization of necessary internal and external resources to cope with them (Antonovsky, 1979; 1987; 1996).

### 5.3.7 Correlation between Meaningfulness and Personal Growth

This study found that Meaningfulness had a statistically and practically significant relationship with Personal Growth. Higher levels of Meaningfulness seem to indicate a greater experience of self-development and growth. Also, greater experiences of Personal Growth could indicate a greater sense that life is worthwhile.

Meaningfulness, as described by Antonovsky (1979; 1987; 1996), encompasses the motivational component of SOC. It refers to the extent to which one is motivated to find life worthy of living and commitment despite adversity and challenges (Antonovsky, 1987; Moksnes, 2021). Moreover, it entails perceiving previous, present, and future challenges as worthy of emotional, psychological, and spiritual investment (Antonovsky, 1987, p. 18; 1996). Personal Growth (Ryff, 2017) pertains to how individuals perceive themselves to develop toward their full potential through personal experiences that foster psychological growth. Higher scores in Personal Growth indicate that such an individual experiences their life as psychologically stimulating, devoid of boredom and feelings of stagnation (Ryff, 2014). University students who had a greater sense of meaningfulness perceived their stressors and challenges as worth enduring and, thus, also experienced a greater sense of personal development and psychological growth (Konaszweksi et al., 2021). In summary, students with a greater motivation to cope with stressors could experience them as opportunities for positive self-growth. Alternatively, students who possessed greater levels of Personal Growth could

view challenges and stressors as meaningful opportunities for growth and development, and therefore would find them worth enduring.

### 5.3.8 Correlation between Meaningfulness and Self-Acceptance

Meaningfulness was correlated to Self-Acceptance, with statistical and practical significance. University students who scored higher in Meaningfulness also reported higher scores in Self-Acceptance. Also, university students with higher Self-Acceptance scores reported higher scores in Meaningfulness. According to Ryff (1989; 2017), Self-Acceptance reflects an individual's capacity to positively embrace themselves in terms of their past and present self, as well as their perceived good and bad traits. Antonovsky (1979; 1987) defined Meaningfulness as the capacity of an individual to feel motivated to cope with stressors and view them as challenges rather than burdens.

Both these constructs share a conceptual link: the motivation to cope with stressors could contribute to one's capacity to perceive oneself positively and vice versa. A positive self-perception of one's strengths, weaknesses, experiences, and characteristics (Ryff, 1989; 2014; 2017) could also be categorised as a Generalised Resistance Resource (GRR), which is any personal or communal characteristic that can facilitate an effective coping response to stress (Antonovsky, 1987; Hochwälder, 2019). Ryff (1989) and Antonovsky (1979) also both referred to positive self-perception in terms of ego identity, which is the degree to which an individual can experience themselves authentically and have a strong sense of self.

In conclusion, university students motivated to perceive stressors more meaningfully also experienced a stronger and more positive sense of self. Therefore, individuals with a higher level of Meaningfulness may be more motivated to use their GRRs to cope with stress (Antonovsky, 1987; Moksnes, 2021). This motivation to cope with stress could positively impact an individual's perception of their capacity to deal with, respond to, and overcome stressors and difficulties (Konaszewski et al., 2021). When someone possesses a positive view of themselves, they may perceive their lives as more fulfilling (Ryff, 2017), thus enabling them to experience life as purposeful and worth living (Antonovsky, 1987).

### 5.3.9 Correlation between Meaningfulness and Psychological Well-being

It was found that Meaningfulness had a statistically and practically significant relationship with PWB. This result suggests that university students with higher Meaningfulness levels also experienced greater Psychological Well-being. Conversely, it could also indicate that university students with better PWB generally perceived life and its stressors as worth enduring.

PWB is defined as the capacity to experience oneself as fully functioning and live according to one’s fullest potential despite challenges and difficulties in life (Huta & Waterman, 2014; Ryff, 1989; Ryff & Singer, 2008). Salutogenesis is also concerned with the capacity of an individual to strive towards optimal physical and mental health amid stressors and entropic forces (Antonovsky, 1979; Super et al., 2015). Whilst PWB is concerned with experiencing the best possible life psychologically (Deci & Ryan, 2008), SOC is concerned

with coping with stressors in such a manner that it produces better mental and physical health outcomes (Moksnes, 2021; Super et al., 2015).

Antonovsky (1987) firmly believed that the Meaningfulness component of SOC was the most vital because the motivation to want to cope with stressors energises the capacity to think about them rationally and then respond to them behaviourally. It also refers to the degree to which one feels emotionally motivated to engage in life and its toils (Antonovsky, 1987). Therefore, it could be argued that a greater degree of emotional commitment to life could motivate an individual to utilise the necessary coping resources in pursuit, attainment, and maintenance of PWB. The ability to perceive one's life and its inherent challenges and stressors as meaningful can positively impact one's psychological well-being and health (Krok & Kleszczewska-Albińska, 2019).

### 5.4 Discussion of Predictors of Psychological Well-being

The overarching objective of this study was to investigate which variables predicted PWB amongst students during the COVID-19 pandemic. To achieve this, hierarchical regression analyses were conducted to identify which predictor variables (Comprehensibility, Meaningfulness, and PSS from Family, Friends, and Significant Others) explained variance in PWB (Autonomy, Personal Growth, Self-Acceptance, SPWB). More specifically, these predictors were examined both individually and as a combination of predictors.

The results were statistically significant when the predictor variables were regressed onto Autonomy as a criterion variable. However, the same was of limited practical significance.

Therefore, these specific results will be excluded from the discussion in this section. The combination of all predictors predicted statistically and practically significant variance in Self-Acceptance, Personal Growth, and overall PWB (SPWB). The combination of both SOC components, Comprehensibility and Meaningfulness, predicted statistically and practically significant variance in Self-Acceptance, Personal Growth, and overall PWB (SPWB). Lastly, as a sole predictor, Meaningfulness predicted statistically and practically significant variance in Self-Acceptance, Personal Growth, and overall PWB (SPWB). In summary, Meaningfulness appeared to be the most important predictor of PWB of university students during the pandemic.

### 5.4.1 Predictors of Self-Acceptance

The full regression model comprising all predictor variables statistically and practically significantly predicted 32.8% of the variance in Self-Acceptance scores of university students ($F_{5;306}$ = 29.893; p≤.001; $f^2$ = .49). The corresponding statistical significance was on the 1% level, with a large effect size. When exploring the predictions of SOC on Self-Acceptance, it was found that Comprehensibility and Meaningfulness explained 25% of the variance in Self-Acceptance scores of university students. Furthermore, it was statistically significant on the 1% level with a corresponding large effect size ($f^2$ = .37). Meaningfulness explained 19.9% of the variance in Self-Acceptance scores in university students. This finding also indicated that Meaningfulness was a statistically and practically significant predictor of Self-Acceptance, with a medium effect size (p≤.01; $f^2$ = .28).

The orientation that life stressors and events are cognitively sensible and emotionally motivating could promote better coping with academic challenges and better mental health (Antonovsky, 1987; Mayer et al., 2019). The COVID-19 pandemic could be deemed an extraordinarily stressful event, intersecting with the already stressful psychosocial and developmental challenges inherent in higher education (Dadaczynski et al., 2021; Van Hoof, 2020). Pursuing tertiary education is stressful for many university students, and their sense of self is often challenged by developmental, personal, academic, financial, and vocational stressors (Arnett, 2000). University students with higher levels of Self-Acceptance could demonstrate a better understanding of themselves and have higher overall PWB levels (Bhullar et al., 2014; Morales-Rodríguez et al., 2020). Furthermore, greater Self-Acceptance in university students has been linked to greater levels of resourcefulness (Ceyhan & Ceyhan, 2011). Therefore, university students who perceive stressors as being understandable and emotionally motivating could engage in more resourceful coping strategies to navigate or mitigate them, thus contributing to better overall PWB (Antonovsky, 1987; Bhullar et al., 2014; Ceyhan & Ceyhan, 2011; Mayer et al., 2019; Morales-Rodríguez et al., 2020).

This study also suggests that university students who perceived stressors as meaningful during the pandemic reported higher Self-Acceptance scores. Individuals with a more positive evaluation and understanding of themselves in the context of their strengths and weaknesses may have a greater motivation to meaningfully engage with stressors in their lives. Likewise, a greater belief in one's life as being purposeful could also contribute to a more positive evaluation of oneself (Antonovsky, 1987; Ryff, 2017).

### 5.4.2 Predictors of Personal Growth

The combination of all predictors reported a statistically and practically significant prediction of variance in Personal Growth scores of university students. More specifically, 23.8% of the variance was predicted at the 1% level of significance with a corresponding medium effect size ($F_{5;306} = 19.070$; $p \leq .001$; $f^2 = .31$). The combination of Comprehensibility and Meaningfulness collectively explained 20% of the variance in university students' Personal Growth scores, with statistical significance on the 1% level and a medium effect size ($f^2 = .26$). Meaningfulness individually predicted 19.2% of the variance in Personal Growth scores of university students. Moreover, it reported statistical significance on the 1% level and practical significance with a medium effect size ($f^2 = .25$).

This study found that the extent to which university students found stressors during the pandemic explicable and the degree to which they believed it was meaningful contributed to higher scores in Personal Growth. University students normatively undergo developmental changes, which are characteristic of being an emerging adult (Arnett, 2000). This entails experiencing challenges and situations that can contribute to Personal Growth (Arnett, 2000; Ryff, 2017). Personal Growth is a dynamic process of experiencing positive transformational changes, which denotes self-improvement and progress toward self-actualisation (Boniwell, 2012; Ryff, 1989; Ryff et al., 2004). Thus, it is imperative for university students to understand these changes and possess the motivation to undergo and cope with these stressors. If these stressors are perceived as meaningful, then the efforts and methods required to cope with them may be deemed emotionally and existentially justifiable (Antonovsky, 1987). Once these

stressors are deemed worthwhile, the necessary coping resources may be sought out to facilitate a response to the demands of the stressors (Antonovsky, 1987; Ayub & Iqbal, 2012; Moksnes, 2021).

Previous literature indicates that Personal Growth is linked with greater PWB (Ayub & Iqbal, 2012; Bhullar et al., 2014) and negatively linked to psychological distress (Ayub & Iqbal, 2012). Therefore, a greater cognitive perception that stressful situations are understandable and predictable, coupled with a greater emotional drive to cope, could enhance experiences of self-development and improvement and promote PWB.

### 5.4.3 Predictors of Psychological Well-being (SPWB)

The full set of predictor variables accounted for 38.9% of the variance in PWB scores of university students ($F_{5;306}$ = 38.996; p≤.001; $f^2$ = .64). This result was statistically and practically significant at the 1% level, with a large effect size ($f^2$ = .64). When Comprehensibility and Meaningfulness were analysed as predictors, they collectively explained 26.2% of the variance in university students' PWB scores. These two variables were also statistically and practically significant predictors at the 1% level and with a large effect size (p≤.01; $f^2$ = .42). Individually, Meaningfulness predicted 24.1% of the variance in PWB scores of university students on a 1% level of significance. The corresponding effect size was large ($f^2$ = .38).

PWB is a conceptualisation of eudaimonic well-being, which pertains to the capacity to function fully and experience fulfilment in life despite adversity and struggles (Henn et al.,

2016; Huta & Waterman, 2014; Ryff, 1989; 2017). University students who have higher levels of PWB tend to report greater academic goal attainment (Davis & Hadwin, 2021) and reduced vulnerability to psychopathology and psychological distress (Bhullar et al., 2014; Chi et al., 2019; Mason, 2019). Furthermore, these university students are less likely to feel lonely and experience overwhelming academic stress (Munir et al., 2015).

Previous research confirmed that SOC was a significant predictor of mental health during the pandemic (Penachiotti et al., 2023; Schäfer et al., 2020), particularly that of university students (Kulcar et al., 2023; Torinomi et al., 2022) and that it was associated with better coping strategies and resilience (Torinomi et al., 2022). University students with a higher SOC are more likely to utilise effective coping strategies and experience less distress than those with a lower SOC (Hochwälder & Saied, 2018; Konaszewski et al., 2021). SOC has also been found to mediate the impact of various stressors on university students' mental health during the pandemic (Kulcar et al., 2023).

This present study found that SOC (Comprehensibility and Meaningfulness) statistically and practically significantly predicted overall PWB and confirms previous findings on SOC as a predictor of mental health (Kulcar et al., 2023; Penachiotti et al., 2023; Schäfer et al., 2020; Torinomi et al., 2022). In contrast to Kulcar et al. (2023), whose study found that Manageability was a more significant predictor of PWB of university students, this study found that Meaningfulness was the most important predictor of university students' PWB during the COVID-19 pandemic. For Antonovsky (1987), Meaningfulness was considered the most important component of SOC, as the motivation to accept and embrace the demands of internal

and external stressors drives an individual toward cognitive and behavioural coping responses. This study confirmed this statement.

### 5.5 Research Contributions

Students enter tertiary institutions for the pursuit of tertiary education, to get employed, earn an income, and contribute economically to their households, communities, and the economic growth of their country (Bloom et al., 2006; Matsolo et al., 2018; Ntema, 2022). However, studies have articulated that university students face unique stressors that pose various threats to their mental and physical health, personal lives, and, ultimately, the achievement of their degree (Bantjies et al., 2019; 2020; 2023; Mthalane et al., 2021).

Literature abounds with data elucidating that university students tend to drop out of higher education institutions due to psychological, academic, and financial challenges (Matsolo et al., 2018; Ntema, 2022; Tinto, 2012). The COVID-19 pandemic, which was unprecedented, became a new reality for the world over the past three years (United Nations, 2023). During this time, the challenges and stressors already faced by South African university students were exacerbated by the pandemic and its effects on the globe (Ntema, 2022; Van Hoof, 2020). There was concern that the mental health impact of the pandemic may still linger long after the pandemic has surpassed (Nguse & Wassenaar, 2021).

Amidst the onset and peak of the pandemic, there was a paucity of mental health research in South Africa concerning COVID-19, suggestive that mental health is a peripheral factor within the healthcare sector (Nguse & Wassenaar, 2021; October, 2019; Pillay & Barnes,

2020). Therefore, the results of this study aimed to contribute to the scant body of knowledge surrounding PWB and mental health research amongst South African student populations during the COVID-19 pandemic. Additionally, this study contributed to the growing body of international and local research on SOC, PSS, PWB, and mental health in the context of the COVID-19 pandemic.

The researcher encountered difficulty sourcing literature in which SOC components were separated for correlational and regression analyses. Usually, SOC scores are utilised as total scores rather than subscale scores. Thus, this study presented novel findings regarding SOC as a predictor of PWB, especially during the past pandemic. SOC (Comprehensibility and Meaningfulness) was identified as an important predictor of university students' PWB during the pandemic. This study also identified Meaningfulness as the single most statistically and practically significant predictor of PWB amongst university students during the pandemic. Furthermore, this research aimed to contribute to the corpus of current Salutogenic studies because it forms part of a minority of studies attempting to measure the predictive qualities of SOC subscales separately. The result also confirmed previous literature regarding Meaningfulness as the most important component of SOC (Antonovsky, 1987).

Furthermore, these findings may be used to inform the development of mental health workshops and initiatives to enhance the well-being of university students. Since higher education environments are stressful for many of its students, it is ethically imperative for these institutions to address the mental health of their students and staff (Baik et al., 2019; Larcombe et al., 2016). University institutions do not solely provide opportunities for the economic

development of a country's future workforce (Bloom et al., 2006); they also provide opportunities for health promotion and the well-being of the individuals who inhabit these institutions and other communities (Dooris et al., 2017; Vos, 2019). Universities could play a vital role in the promotion of the mental health of their students by building their SOC (Dooris et al., 2017).

### 5.6 Limitations

Scientific research requires transparency regarding the limitations of results. The first limitation, therefore, was that this study comprised only students from the University of the Free State. Considering this, these results cannot be generalised to other universities. Furthermore, most participants reported originating from the Faculty of the Humanities, indicating that these results have limited application to other students studying from other faculties in the University of the Free State. Ultimately, these results were predominantly the product of students' mental health experiences from the University of the Free State and did not consider the experiences from other public/private tertiary institutions.

Secondly, the ethnic characteristics of the sample indicated that its composition was mainly African students (83%). Other ethnicities were represented as Caucasian students (9,6%), Coloured students (6,7%), and Indian and Asian a mere 0,3%, respectively. Moreover, gender characteristics indicated that females were in the majority (N=259, 81,4%) compared to males (N=58, 18,6%). It could be argued that males were under-represented within the sample. However, concerning ethnicity, it is expected that African students ought to constitute much of the ethnic demographic within public South African universities.

Thirdly, there were limitations to the research methodology. Whilst quantitative data may have yielded important empirical insights on the predictors of PWB amongst students, there is still a need to explain the finer nuances. As a result, quantitative data lacks the descriptive and phenomenological depth to understand the unique and varied experiences of student well-being during the pandemic. Correlational research primarily focuses on assessing the statistical relationship between variables, the statistical significance thereof, and the statistical practicality of those results. However, it cannot infer a causal relationship between the variables (Stangor, 2015).

Non-probability convenience sampling was utilised. Consequently, the sample characteristics reflected the students most accessible to the researcher (Maree, 2020), with 65,4% of the participants from the Faculty of the Humanities. Although relatively quick and inexpensive to conduct, convenience sampling methods possess no generalisability in findings (Maree, 2020). Lastly, the period during which the data was collected could be considered a limitation because the data was collected almost a year after the pandemic officially became endemic in South Africa. The interpretation of these results should also be done bearing in mind that they are subject to participants' subjective recollection of their experiences of the pandemic. Furthermore, it is not explicitly stated when during the pandemic these participants experienced what they did, and therefore this places a limitation on its interpretation.

It could have been more insightful if longitudinal data had been collected during the peak of the pandemic and after the pandemic began to subside. Also, self-report questionnaires are subjective to the interpretation of the participants (McDonald, 2008). Therefore, when items in

self-report questionnaires evoke certain psychological and emotional responses, participants may not answer truthfully (Demetriou et al., 2015). They may answer in a manner that makes them appear virtuous or socially desirable (Demetriou et al., 2015).

### 5.7 Future recommendations

Whilst this study has contributed to understanding predictors of PWB amongst university students and mental health during the pandemic, more research is still needed. Additional research efforts should be directed at obtaining data from numerous other universities within South Africa, as well as Further Education and Training (FET) and Technical and Vocational Education and Training (TVET) colleges. This would increase the generalisability of future findings and yield data that more accurately represents South African university populations. Probability sampling should also be utilised in future studies to increase generalisability. In addition, longitudinal data gathering and/or qualitative methods could yield more informative results regarding patterns and trends in PWB of university students.

This research and previous literature highlight the need for and importance of supportive mental health measures for South African university students. Given the nature of the stressors they face and the consequences of psychological distress, these findings should be used to develop workshops, initiatives, and psycho-educational programmes aimed at enhancing students' SOC and PWB. Furthermore, information from this study and future studies can be used in various educational contexts and curricula to promote a better understanding of PWB in lecturers and students.

## 5.8 Conclusion

In closing, this study discovered that the combination of predictor variables from SOC (Comprehensibility, Meaningfulness) and PSS (Family, Friends, and Significant Others) statistically and practically significantly predicted Self-Acceptance, Personal Growth, and overall PWB. The SOC components (Comprehensibility and Meaningfulness) statistically and practically significantly predicted Self-Acceptance, Personal Growth, and overall PWB. Lastly, Meaningfulness as an individual predictor was indicated to predict Self-Acceptance, Personal Growth, and PWB statistically and practically significantly. Meaningfulness (SOC) was the only predictor variable that seemed to predict two PWB dimensions and overall PWB, with statistical and practical significance.

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# Appendices

## APPENDIX A:

## GENERAL HUMAN RESEARCH ETHICS COMMITTEE: ETHICAL CLEARANCE/APPROVAL LETTER

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

**GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)**

31-Jan-2023

Dear Mr Diego Rex

**Application Approved**

Research Project Title:
**The role of perceived social support in the relationship between sense of coherence and psychological well-being amongst university students, during a pandemic.**

Ethical Clearance number:
**UFS-HSD2022/0987/23**

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

**Dr Adri Du Plessis**
**Chairperson: General/Human Research Ethics Committee**

Adri Du Plessis
Digitally signed by Adri Du Plessis
Date: 2023.01.31 14:40:30 +02'00'

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# APPENDIX B:

# INFORMED CONSENT AND PARTICIPATION FORM

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

**RESEARCH STUDY INFORMATION LEAFLET AND CONSENT FORM**

**DATE**

May 2022 – November 2022

**TITLE OF THE RESEARCH PROJECT**

Perceived Social Support and Sense of Coherence as predictors of Psychological Well-being amongst university students, during a pandemic.

**PRINCIPLE INVESTIGATOR / RESEARCHER(S) NAME(S) AND CONTACT NUMBER(S):**

Diego Lamont Charltonio Rex 2015096833 078 531 8356

**FACULTY AND DEPARTMENT:**

Faculty of the Humanities
Department of Psychology

**STUDYLEADER(S) NAME AND CONTACT NUMBER:**

Mr. Henry Taylor
051 401 9322

**WHAT IS THE AIM / PURPOSE OF THE STUDY?**

The aim of the study is to explore the whether perceived social support and/or sense of coherence predicts psychological well-being amongst university students during a pandemic.

**WHO IS DOING THE RESEARCH?**

I, Diego Rex, will be conducting this study as part of my Master's degree in Psychology in the Department of Psychology of the University of the Free State. The data obtained from this study will be published in the form of a Master's dissertation and a possible journal article.

**HAS THE STUDY RECEIVED ETHICAL APPROVAL?**

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

**Approval number:** UFS-HSD2022/0987/23

**WHY ARE YOU INVITED TO TAKE PART IN THIS RESEARCH PROJECT?**

If you are studying at the University of the Free State, you will be invited to take part in this research project. As a participant your role is to complete the questionnaires in relation to your subjective mental health during the pandemic. You are kindly approached to partake in the study because you form part of the population sample, being university students.

**WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?**

I am interested in investigating the whether perceived social support and/or sense of coherence predicts psychological well-being amongst university student in the context of a pandemic. Participation in the study will require you to have access to the internet and Blackboard to complete four online questionnaires. The first questionnaire is about your biographical information. Secondly, the Multidimensional Scale of Perceived Social Support (MSPSS) will measure your level of perceived social support from family, friends, and others. Third, the Sense of Coherence scale (SOC-29) assesses your sense of coherence, which is your ability to cope with everyday stressors. Fourth, the Psychological Well-Being Scale measures your psychological well-being. These questionnaires will take approximately between 30-45 minutes to complete. Your participation will be anonymous, and all the information provided will be kept confidential.

**CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?**

This study is voluntary, there will be no penalty or loss of benefit for not participating. Since participation in this study is voluntary you are under no obligation to consent to participate. If you do decide to take part, you will electronically provide consent when you access the questionnaires on Blackboard. You are free to withdraw from the study at any time without providing a reason. However, the study involves submission of non-identifiable questionnaires, and it would not be possible to identify your questionnaires to withdraw once the questionnaires have been submitted by you.

**WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?**

Although there are no direct benefits for participating in the study, the results of the study will contribute to the existing body of knowledge in the field of Positive Psychology as well as to mental health research within the context of a pandemic. Should you request feedback on the results of the study, you may benefit in terms of enhanced insight on the relationship between the variables. If the results of this study find possible relationships between these variables, it can inform the development of intervention programs to enhance the well-being of university students to assist them to adapt to adversity, cope, promote well-being, and help them succeed in their studies.

**WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?**

The risk of any distress to participate in the study and complete the questionnaires is minimal. Should you as a participant suffer emotional distress or personal and/or cultural embarrassment during the process of participating in this study, you may contact the Adult Practice of the Department of Psychology of the University of the Free State for psychological counselling. Mr. Taylor, the

coordinator, 051 401 9322 may be contacted and the service will be provided free of charge to you. You may also enquire for counselling sessions at Student Counselling and Development, at 051 401 2853, if the need arises. You can also contact MobieG, an online counselling platform which also renders their services free of charge by sending a WhatsApp to 0637043030 or an email to ops@mobieg.co.za. There will be no indemnity or insurance coverage for participants in this study.

**WILL WHAT I SAY BE KEPT CONFIDENTIAL?**

The data obtained in this study will be treated with the utmost levels of confidentiality. All information and data provided by you will be reported only as an amalgamation of scores and no information can be linked with you. Further, your answers may be reviewed by the research auditor, as well as members of the Research Ethics Committee, who are responsible for ensuring that the research is conducted in a sound manner. These individuals will also not have access to any of your identifying details and will sign a confidentiality agreement to ensure that any information that you share is protected. Your anonymous data may be used for the purposes of a Master's dissertation, journal articles, or conference presentations.

**HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?**

The electronic information will be stored on a password protected computer. All hardcopies will be stored in a locked cabinet. Future use of the stored data will be subject to further Faculty Research Ethics Committee review and approval, if applicable. Information will be permanently deleted from electronic devices and the hardcopies will be destroyed by shredding after five years to prevent unauthorized access to confidential information.

**WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICPATING IN THIS STUDY?**

There will be no payment or reward offered for involvement, nor will any coercion be used to recruit you to take part in this study. The feedback of the research findings will be provided to you on request, and this might benefit you in terms of increased knowledge and insight regarding the role and relationships between the variables researched.

**HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?**

If you would like to be informed of the final research findings, you are welcome to contact me, Diego Rex, on 078 531 8356 or email me at charltoniorex@gmail.com. Should you have concerns about the way in which the research has been conducted, you may contact the administrator of the Faculty of Humanities Research Ethics Committee, Mrs. Charné Vercueil on VercueilCC@ufs.ac.za or 0514017083.

**Thank you for taking time to read this information sheet and for participating in this study.**

**CONSENT TO PARTICIPATE IN THIS STUDY**

I, _____ (participant name), confirm that the researcher, Diego Rex, has asked for my consent to take part in this research, and has informed me about the nature, procedure, potential benefits, and anticipated inconvenience of participation.

I have read (or been informed) and understood, the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

Please tick the appropriate box below. I agree to participate in the following quantitative data collection process:

*Questionnaires (Demographic survey, *Multidimensional Scale of Perceived Social Support, Sense of Coherence Scale,* and *Psychological Well-being Scale*) ☐

I understand that the data from the questionnaires will be treated as strictly confidential and will be available only to members of the research team.

Moreover, I understand that should I suffer any emotional or psychological distress, personal and/or cultural embarrassment during the process of participating in this study, I am eligible for psychological counselling. I may contact Mr. Taylor who will arrange counselling sessions free of charge.

In addition, should I have any concerns about the way in which the research has been conducted I may contact the administrator of the Faculty of Humanities' Research Ethics Committee, Mrs. Charné Vercueil on vercuilcc@ufs.ac.za or (051) 4017083.

I have received information on where I can access and download a copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____

**CONSENT TO PARTICIPATE IN THIS STUDY**

I, the undersigned,

_____ (*participant's full names to be included*), (the "**Participant**")

confirm that I voluntarily agree to participate in the research study referred to as the (the **"Study**") in relation to

*Perceived social support and sense of coherence as predictors of psychological well-being amongst students, during a pandemic.*

and which Study is being conducted by
*Diego Lamont Charltonio Rex*

I, the undersigned Participant, further confirm that–

1. the Researcher has explained the nature, procedure, potential benefits and anticipated inconvenience of my participation in the Study;
2. I have read (or had explained to me) and understood the Study as explained in the attached information sheet;
3. I have had sufficient opportunity to ask questions and am prepared to participate in the Study;
4. I understand that my participation in the Study is entirely voluntary and that I am free to withdraw at any time without penalty (if applicable);
5. I voluntarily provide the UFS and the Researcher with my personal information and consent to the UFS and the Researcher collecting, disclosing and processing my personal information in order to conduct the Study and any related activities in relation thereto;
6. I hereby acknowledge and confirm that I understand the purpose for which the UFS and the Researcher may collect, store, use, delete, destroy, outsource, transfer or otherwise process, as the context and circumstances may require and as contemplated in terms of POPIA, my personal information as set out herein;
7. I am aware that the findings of the Study will be anonymously processed into a research report, journal publications and/or conference proceedings and that my personal information will be aggregated and identified at such stage;
8. I also give the UFS permission to share, without notification, the collected data with other researchers at the UFS or other Higher Education Institutions. This permission is dependent on the same principles of ethical research practices, anonymity/confidentiality, safekeeping of information, and other issues listed above applying.

I, the Participant, agree to the recording of the biographical questionnaire and three self-report questionnaires that will be used to collect data

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____



**APPENDIX C**:

## BIOGRAPHICAL QUESTIONNAIRE

### BIOGRAPHICAL INFORMATION

Instructions:
Please insert an X in the appropriate box or enter your answer

***1. Gender***

Male ☐

Female ☐

Non-binary ☐

Other ☐

***2. Race***

Asian ☐

African ☐

Coloured ☐

Indian ☐

White ☐

Other ☐

***3. Age (in years)*** _____

***4. Year of Study***

First year ☐

Second year ☐

Third year ☐

Fourth year ☐

Honours ☐

Masters ☐

Faculty: _____

## APPENDIX D:

## MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT SCALE

Multidimensional Scale of Perceived Social Support (Zimet et al., 1988).

Instructions: Indicate how you feel about the following statements. Read each statement carefully, then indicate how you feel about each statement.

Mark the "1" if you **Very Strongly Disagree**

Mark the "2" if you **Strongly Disagree**

Mark the "3" if you **Mildly Disagree**

Mark the "4" if you are **Neutral**

Mark the "5" if you **Mildly Agree**

Mark the "6" if you **Strongly Agree**

Mark the "7" if you **Very Strongly Agree**

| | Very Strongly disagree | Strongly Disagree | Mildly Disagree | Neutral | Mildly Agree | Strongly Agree | Very Strongly Agree |
|---|---|---|---|---|---|---|---|
| 1. There is a special person who is around when I am in need. | | | | | | | |
| 2. There is a special person with whom I can share joys and sorrows | | | | | | | |
| 3. My family really tries to help me. | | | | | | | |
| 4. I get the emotional help & support I | | | | | | | |

| | | | | | | | |
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| need from my family. | | | | | | | |
| 5. I have a special person who is a real source of comfort to me. | | | | | | | |
| 6. My friends really try to help me. | | | | | | | |
| 7. I can count on my friends when things go wrong. | | | | | | | |
| 8. I can talk about my problems with my family. | | | | | | | |
| 9. I have friends with whom I can share my joys and sorrows. | | | | | | | |
| 10. There is a special person in my life who cares about my feelings. | | | | | | | |
| 11. My family is willing to help me make decisions. | | | | | | | |
| 12. I can talk about my problems with my friends. | | | | | | | |

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

## APPENDIX E:

## SENSE OF COHERENCE ORIENTATION TO LIFE QUESTIONNAIRE

ORIENTATION TO LIFE QUESTIONNAIRE (SOC- 29; Antonovsky, 1987).

Instructions: Indicate how you feel about the following statements. Read each statement carefully, then indicate how you feel about each statement, on a scale from 1 to 7.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Strongly disagree<br>1 | 2 | 3 | Neutral<br>4 | 5 | 6 | Strongly agree<br>7 |
| 1. When you talk to people, do you have the feeling that they don´t understand you? | Never have this feeling.<br>1 | 2 | 3 | 4 | 5 | 6 | Always have this feeling.<br>7 |
| 2. In the past, when you had to do something which depended upon cooperation with others, did you have the feeling that it: | Surely wouldn't get done.<br>1 | 2 | 3 | 4 | 5 | 6 | Surely would get done.<br>7 |
| 3. Think of the people with whom you come into contact daily, aside from the ones to whom you feel closest. How well do you know most of them? | You feel that they're strangers.<br>1 | 2 | 3 | 4 | 5 | 6 | You know them very well.<br>7 |
| 4. Do you have the feeling that you | Very seldom or never. | | | | | | Very often. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| don't really care about what goes on around you? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well? | Never Happened. 1 | 2 | 3 | 4 | 5 | 6 | Always Happened. 7 |
| 6. Has it happened that people whom you counted on disappointed you? | Never Happened. 1 | 2 | 3 | 4 | 5 | 6 | Always Happened. 7 |
| 7. Life is: | Full of Interest. 1 | 2 | 3 | 4 | 5 | 6 | Completely routine. 7 |
| 8. Until now your life has had: | No clear goals or purpose at all. 1 | 2 | 3 | 4 | 5 | 6 | Very clear goals and purpose. 7 |
| 9. Do you have the feeling that you're being treated unfairly? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |
| 10. In the past ten years your life has been: | Full of changes without your knowing what will happen next. 1 | 2 | 3 | 4 | 5 | 6 | Completely consistent and clear. 7 |
| 11. Most of the things you do in the future will probably be: | Completely Fascinating. 1 | 2 | 3 | 4 | 5 | 6 | Deadly boring. 7 |
| 12. Do you have the feeling that you are in an | Very often. | | | | | | Very seldom or never. |

| | | | | | | | |
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| unfamiliar situation and don't know what to do? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. What best describes how you see life: | One can always find a solution to painful things in life. 1 | 2 | 3 | 4 | 5 | 6 | There is no solution to painful things in life. 7 |
| 14. When you think about your life, you very often: | Feel how good it is to be alive. 1 | 2 | 3 | 4 | 5 | 6 | Ask yourself why you exist at all. 7 |
| 15. When you face a difficult problem, the choice of a solution is: | Always confusing and hard to find. 1 | 2 | 3 | 4 | 5 | 6 | Always completely clear. 7 |
| 16. Doing the things, you do every day is: | A source of deep pleasure and satisfaction 1 | 2 | 3 | 4 | 5 | 6 | A source of pain and boredom. 7 |
| 17. Your life in the future will probably be: | Full of changes without your knowing what will happen next. 1 | 2 | 3 | 4 | 5 | 6 | Completely consistent and clear. 7 |
| 18. When something unpleasant happened in the past your tendency was: | "To eat yourself up" about it. | | | | | | To say "ok that´s that, I must live with it" and go on. |

| | | | | | | | |
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| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Do you have very mixed-up feelings and ideas? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |
| 20. When you do something that gives you a good feeling: | It's certain that you'll go on feeling good. 1 | 2 | 3 | 4 | 5 | 6 | It's certain that something will happen to spoil the feeling. 7 |
| 21. Does it happen that you have feelings inside you would rather not feel? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |
| 22. You anticipate that your personal life in the future will be: | Totally without meaning or purpose. 1 | 2 | 3 | 4 | 5 | 6 | Full of meaning and purpose. 7 |
| 23. Do you think that there will always be people whom you'll be able to count on in the future? | You're certain there will be. 1 | 2 | 3 | 4 | 5 | 6 | You doubt there will be. 7 |
| 24. Does it happen that you have the feeling that you don't know exactly what's about to happen? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |
| 25. Many people - even those with a | Never. | | | | | | Very often. |

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| strong character - sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. When something happened, have you generally found that: | You overestimated or underestimated its importance. 1 | 2 | 3 | 4 | 5 | 6 | You saw things in the right proportion. 7 |
| 27. When you think of the difficulties you are likely to face in important aspects of your life, do you have the feeling that: | You will always succeed in overcoming the difficulties. 1 | 2 | 3 | 4 | 5 | 6 | You won't succeed in overcoming the difficulties. 7 |
| 28. How often do you have the feeling that there's little meaning in the things you do in your daily life? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |
| 29. How often do you have feelings that you're not sure you can keep under control? | Very often. 1 | 2 | 3 | 4 | 5 | 6 | Very seldom or never. 7 |

Permission to use the SOC-29 was obtained from Dr. Avishai Antonovsky, the son of Dr. Aaron Antonovsky. Furthermore, membership in the STARS (Salutogenesis Theory and Research Society) has provided me access to this scale, and its codification file.

Antonovsky, A. (1987). Sense of Coherence Scale [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t12396-000

**APPENDIX F**:

## RYFF'S SCALES OF PSYCHOLOGICAL WELL-BEING (SPWB)

PSYCHOLOGICAL WELL-BEING SCALE (Ryff & Keyes, 1995).

Instructions: Indicate how you feel about the following statements. Read each statement carefully, then indicate how you feel about each statement, on a scale from 1 to 7.

| | Very Strongly disagree 1 | | | | | Very Strongly Agree 6 |
|---|---|---|---|---|---|---|
| 1. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people | | | | | | |
| 2. In general, I feel I am in charge of the situation in which I live. | | | | | | |
| 3. I am not interested in activities that will | | | | | | |

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| expand my horizons. | | | | | | |
| 4. Most people see me as loving and affectionate. | | | | | | |
| 5. I live life one day at a time and don't really think about the future. | | | | | | |
| 6. When I look at the story of my life, I am pleased with how things have turned out. | | | | | | |
| 7. My decisions are not usually influenced by what everyone else is doing. | | | | | | |
| 8. The demands of everyday life often get me down. | | | | | | |
| 9. I think it is important to have new experience | | | | | | |

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| s that challenge how you think about yourself and the world. | | | | | | |
| 10. Maintaining close relationships has been difficult and frustrating for me. | | | | | | |
| 11. I have a sense of direction and purpose in life. | | | | | | |
| 12. In general, I feel confident and positive about myself. | | | | | | |
| 13. I tend to worry about what other people think of me. | | | | | | |
| 14. I do not fit very well with the people and the community around me. | | | | | | |
| 15. When I think | | | | | | |

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| about it, I haven't really improved much as a person over the years. | | | | | | |
| 16. I often feel lonely because I have few close friends with whom to share my concerns. | | | | | | |
| 17. My daily activities often seem trivial and unimportant to me. | | | | | | |
| 18. I feel like many of the people I know have gotten more out of life than I have. | | | | | | |
| 19. I tend to be influenced by people with strong opinions. | | | | | | |
| 20. I am quite good at managing the many | | | | | | |

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| responsibilities of my daily life. | | | | | | |
| 21. I have the sense that I have developed a lot as a person over time. | | | | | | |
| 22. I enjoy personal and mutual conversations with family members or friends. | | | | | | |
| 23. I don't have a good sense of what it is I'm trying to accomplish in life. | | | | | | |
| 24. I like most aspects of my personality. | | | | | | |
| 25. I have confidence in my opinions, even if they are contrary to the general consensus. | | | | | | |
| 26. I often feel overwhel | | | | | | |

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| med by my responsibilities. | | | | | | |
| 27. I do not enjoy being in new situations that require me to change my old familiar ways of doing things. | | | | | | |
| 28. People would describe me as a giving person, willing to share my time with others. | | | | | | |
| 29. I enjoy making plans for the future and working to make them a reality. | | | | | | |
| 30. In many ways, I feel disappointed about my achievements in life. | | | | | | |
| 31. It's difficult for me to | | | | | | |

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| voice my own opinions on controversial matters. | | | | | | |
| 32. I have difficulty arranging my life in a way that is satisfying to me. | | | | | | |
| 33. For me, life has been a continuous process of learning, changing, and growth. | | | | | | |
| 34. I have not experienced many warm and trusting relationships with others. | | | | | | |
| 35. Some people wander aimlessly through life, but I am not one of them. | | | | | | |
| 36. My attitude about myself is probably not as positive as most | | | | | | |

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| people feel about themselves . | | | | | | |
| 37. I judge myself by what I think is important, not by the values of what others think is important. | | | | | | |
| 38. I have been able to build a home and a lifestyle for myself that is much to my liking. | | | | | | |
| 39. I gave up trying to make big improvements or changes in my life a long time ago. | | | | | | |
| 40. I know that I can trust my friends, and they know that they can trust me. | | | | | | |
| 41. I sometimes feel as if I've done all there is | | | | | | |

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| to do in life. | | | | | | |
| 42. When I compare myself to friends and acquaintances, it makes me feel good about who I am. | | | | | | |

Ryff, C.D., & Keyes, C.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(1), 719-727.

# D Rex Masters Dissertation UFS 24 Final submission 23-02-24.docx

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