COPING, RESILIENCE, SELF-ESTEEM AND AGE AS PREDICTORS OF PSYCHOLOGICAL WELL-BEING AMONGST UNDERGRADUATE UNIVERSITY STUDENTS

by

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June 2021

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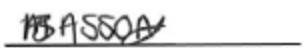

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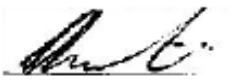

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Kind regards.

Dr. J. Jordaan
Supervisor

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ABSTRACT

Psychological Well-being is considered to be more than merely being free from stress and not having any psychological difficulties. It incorporates positive self-perception, positive relations with others, environmental mastery, autonomy, purpose in life, and emotions focused towards healthy development (Ryff, 1995; Ryff & Singer, 1998; Sosik et al., 2017). Stress is often used in the description of coping, as, without stress, there is no need to cope (Jurji et al., 2018). The coping style that university students adopt is often used as a predictor for PWB and their ease of settling into the university environment (Pluut et al., 2015). Additionally, individuals with high levels of resilience are more often able to maintain PWB in stressful and adverse situations (Shahdadi et al., 2017; Videlock et al., 2016). Moreover, high self-esteem contributes to greater PWB than low self-esteem overall (Swann & Bosson, 2010). PWB is beneficial for adults to live a healthy life, making it an important aspect of one's life in the university years, which can be chaotic and full of psychological stress (Molina-García et al., 2011).

This study aimed to investigate which variables or combination of variables (Coping, Resilience, Self-esteem, and Age) explain a significant percentage of the variance in Psychological Well-being (PWB) amongst undergraduate university students. In order to determine the correlations between the variables, a correlational design was central to the non-experimental, quantitative study. This research study made use of an existing set of data from a larger research project. A non-probability convenience sampling method was employed in the original research project to recruit 1191 registered undergraduate university students between the ages of 18 and 29 at the University of the Free State. The sample included participants from all ethnic groups, cultures, languages, genders, provinces, majors and religious backgrounds.

The measuring instruments included a biographical questionnaire, Ryff's *Scales of Psychological Well-Being* (SPWB), the *Resilience Scale* (RS), the *Coping Strategy Indicator* (CSI), and the *Rosenberg Self-esteem Scale* (RSES). A correlation analyses was conducted, followed by a hierarchical multiple regression analyses which was used to analyse the data. From this, the combination of the predictor variables (Coping, Resilience, Self-esteem, and Age) statistically significantly predicted PWB. In terms of the hierarchical multiple regression results there was one result that was statistically and practically significant. With Self-acceptance as the criterion variable, the hierarchical regression analyses found that the combination of the independent variables (coping, resilience, self-esteem, and age) accounted for 37.3% of the variance in the Self-acceptance scores of the sample indicating a statistically significant result on the 1% level. Practically, this indicates that 37.3% of the variance in the Self-acceptance scores of the university students can be explained by the combination of their coping skills, levels of resilience, their self-esteem, and age. From this, 11.5% of the variance in the Self-acceptance scores of the sample is accounted for by Self-esteem as a statistically significant predictor variable. The medium comparable effect size ($f^2 = 0.18$) suggests that this finding is of practical significance and the statistical significance is at the 1% level. In addition to the hierarchical multiple regression analysis, stepwise regression analyses was further conducted independently for each subscale of the criterion variable (Autonomy, Personal Growth, Positive Relations, Purpose in Life, and Self-acceptance). From the stepwise regression analyses, the discussion of the results focused mainly on self-esteem, which proved to significantly (both practically and statistically) account for the variance in the PWB dimensions. More research on PWB amongst university students in South Africa is required to validate these findings.

Keywords: Psychological Well-being, Coping, Resilience, Self-esteem, Age, Undergraduate University Students, Free State, Positive Psychology.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This South African research study focuses on psychological well-being (PWB) amongst undergraduate university students enrolled at the University of the Free State, Bloemfontein, South Africa. More specifically, this study aims to identify which predictor variable(s) account for a substantial percentage of the variance in PWB amongst university students. Therefore, the desired outcome of this investigation is to obtain a better understanding of PWB in South Africa, with a particular focus on university students. This chapter provides an overview and introduction of the proposed research, including the problem statement and background that informed the study. Also included are the research aims and research questions to highlight the research aims of the study. Furthermore, a brief discussion of the research methodology is included to provide a general overview of how the study was conducted. The research methodology consists of the research design, data collection procedures, and measuring instruments, as well as the statistical data analysis procedures followed within the study. This chapter also introduces the research participants (sample), sampling method, and the ethical considerations of the study. A brief discussion concerning the significance of the study, as well as definitions and clarifications of important terms used within the research, are provided. The chapter concludes with an overview of the chapters in the study and a summary of the current chapter.

1.2 Background of the study

Well-being is a complex and multifactorial construct. Measures of well-being can be divided into objective measures, mostly referring to 'standard of living' and subjective measures, which capture psychological, social, and spiritual aspects and are based on cognitive and affective judgements individuals make about their lives (Gao & McLellan, 2018; Trudel-Fitzgerald et al., 2019). When these measures concern psychological aspects (e.g., happiness), they are often referred to as measures of psychological well-being (PWB). While certain PWB dimensions such as life satisfaction are imbedded in 'quality of life' measures, this latter multidimensional construct is much broader and includes other aspects related to mental and physical health (e.g., perceived stress, functioning/disability status, and physical symptoms) (Salvador-Carulla et al., 2014; Smith & Yang, 2017). PWB can range on a continuum from the absence of well-being, identified as ill-health or even mental illness in some cases (Seligman, 2012), to optimal well-being, perhaps having attained the state of self-actualisation described by Abraham Maslow (1968). Many individuals will identify their PWB as being on the wellness side of the continuum (Liu et al., 2019; Ryff & Keyes, 1995). Striving towards one's psychological potential and toward balance in one's life and happiness might bring one closer to optimal PWB (Gardner, 2020; Rapuano, 2019).

Research on the well-being of diverse university students has mainly focused on adjustment processes specific to the university environment, such as university sense of belonging and social adjustment to university (Locks et al., 2008; Rahardjo, 2014; Wantur et al., 2020). However, PWB is relevant to life transitions in various contexts (Sharma & Tankha, 2014). For students from a variety of backgrounds, adjusting to the university environment presents a host of new challenges (Bowman, 2018). Many students are living away from home for the first time and must now depend on themselves more for managing academics, socialising, and other aspects of their lives (Gardner, 2020). Although university

transitions can be difficult for all students (Wantur et al., 2020), students of colour and students from lower socioeconomic backgrounds often have even greater difficulty adjusting to university life than the majority of students (Edwards et al., 2004; Gustems-Carnicer et al., 2019; Terenzini et al., 1994).

The education of a country's labour force directly impacts the economy (Spaull, 2013). Thriving at university holds the prospect of successful employment and significantly affects health, culture, standard of living, and social capital (Brynin, 2012; Yorke & Longden, 2005). Various studies conducted within the South African context indicate that university students experience numerous psychological challenges (e.g., anxiety, depression, posttraumatic stress), which can result in a withdrawal from their studies and leave them feeling hopeless and helpless, often resulting in academic failure (Booi et al., 2017; Flisher et al., 2002; Woods et al., 2018; Young, 2009). Although the gross enrolment ratio for universities in 2015 improved to 18.6% in individuals between the ages of 20 to 24 (Higher Education & Training, 2018), the success rates amongst these students are low (Beckmann & Minnaert, 2018; Cilliers & Flotman, 2014). Statistics indicate that undergraduate university students take more than five years to complete a three-year or four-year academic degree; only half of them complete their studies (Higher Education & Training, 2018). These statistics highlight the threat and concern thereof on South Africa's competent labour market (Cilliers & Flotman, 2014).

The experience of PWB leads to numerous outcomes pertaining to, for example, a student's mental health and academic performance (Rahman et al., 2017; Victor & Yang, 2012). When one, psychologically, is not in a state of well-being, then s/he will be overthinking the demands of life, including academic demands, which is one of the stressors of academic stress (Rahardjo, 2014). A study conducted by Rogers et al. (2012) found that a lack of PWB leads to increased academic stress amongst university students. Furthermore,

PWB seems to be related to better physical health and normal cognitive functioning. Thus, athletes with high and positive PWB tend to be active, resilient, and emotionally stable, ensuring a proper display of skills while in university (Nwankwo et al., 2015). The consequences of having low or negative PWB include negative self-evaluations and depression, leading to impaired concentration and a decline in academic motivation (Rahman et al., 2017). Students experiencing a lack of PWB are also less likely to complete their degree and more likely to withdraw from their studies (Harding et al., 2019; Liu et al., 2019).

1.3 Problem Statement and Purpose of the Study

Psychological research has generally focused on pathology, unhappiness, and human suffering (Diener & Seligman, 2002; Faeq, 2016; Ibrahim et al., 2013; Seligman & Chikczentmihalyi, 2000). As social sciences tried to better understand the human being, it became evident that positive aspects of psychological functioning were misunderstood and, perhaps most importantly, understudied (Akin, 2008; Akin & Akin, 2014). In order to empirically examine positive aspects of human functioning, an operational definition of PWB had to be established. This was a major undertaking as with most psychological constructs, PWB is multifaceted and encompasses multiple dimensions (Christopher, 1999; Punia & Malaviya, 2015). Part of the difficulty in grasping a profound understanding of the concept of PWB is the wide variety of concepts used interchangeably in the literature. For example, well-being, happiness (Bradburn, 1969), life satisfaction (Wood et al., 1969), quality of life, mental or emotional health, subjective well-being, and mood and affect (Kozma et al., 1991) have been used synonymously with PWB throughout the literature. Akin (2008), however, stated that even though these concepts are related, they are not identical.

Despite the difficulty in defining and describing well-being, researchers have described numerous variables that appear to be associated with the construct. Positive relations include satisfaction with family life, standard of living, and physical health (Campbell et al., 1976), racial identity (Martinez & Dukes, 1997), satisfaction with income (Braun, 1977), marriage (Andrews & Withey, 1976), love (Anderson, 1977), and education (Campbell, 1981). Many studies have also demonstrated the positive relationship between PWB and self-esteem (Betton, 2001; Doğan et al., 2013; Islam & Ara, 2017), as well as PWB and social support (Adyani et al., 2019; Turner & Noh, 1983). Furthermore, an extensive body of research suggests that several variables closely linked to the six dimensions of PWB favour the adoption of adaptive coping strategies in the academic context. Some of these variables include self-esteem (Cabanach et al., 2014), perceived control (Doron et al., 2009), quality of social support (Fernández-González et al., 2015), self-determination (Ryan & Deci, 2000), purpose in life (Freire et al., 2015), and pursuit of self-realisation (Miquelon & Vallerand, 2008). The transition to university and simply studying in Higher Education can affect stress in young people in many different ways. How a student responds to this stress is intrinsically linked with how they will perform academically and many other social and psychological factors such as their mental health (McPherson, 2012). One factor that has been shown to mediate this stress is 'resilience' (Robbins et al., 2018). Within the university environment, resilience has been viewed as an asset that supports university students' mental health requirements (Hartley, 2012). An overarching theme among university students is that resilience is a protective factor associated with fewer mental health problems and successful adjustment to university life (McGillivray & Pidgeon, 2015). Therefore, examining the attributes of resilient students may reveal important contributing factors of resilience that increase PWB (Konaszewski et al., 2019).

High rates of poor mental health had been reported multiple times among undergraduate students (Mackenzie et al., 2011). The rate of poor mental health is higher among undergraduates compared to the general population (Sarokhani et al., 2013). Higher education is required to produce quality graduates in accordance with the needs of the community. In this context, developing quality graduates has become one of the major challenges in a tertiary institution (Wantur et al., 2020). Academics are an integral part of all university students' lives, and without a healthy attitude toward academic goals, students can be plagued with crippling bouts of stress. While academics can be perceived as a positive challenge, potentially increasing learning capacity and competency, if viewed negatively, this stress can be detrimental to the student's mental health (Kumaraswamy, 2013). Turashvili and Japaridze (2012) found that PWB has a positive and significant influence on academic achievement. Young adults with higher levels of PWB are happier, healthier, more productive, and have satisfying interpersonal relationships (Ryff, 2014). Young adults with low PWB may encounter lower levels of happiness, satisfaction, and self-esteem while experiencing high levels of distress (Flouri & Buchanan, 2003; Lundqvist & Kentta, 2010; Nwankwo et al., 2015). Students with low PWB tend to form less than desirable self-evaluations, significantly affecting their happiness and satisfaction (Nwankwo et al., 2015).

Students react to university in a variety of ways. For some students, university is stressful because it is an abrupt change from high school, and separation from home is stressful. Although some source of stress is necessary for personal growth to occur, the amount of stress can overwhelm a student and affect their ability to cope (Kumarasamy, 2013). University students frequently experience more complex problems today than they did over a decade ago. The common stressors in university include greater academic demands, changes in family relations, changes in social life, exposure to new people, ideas and temptations. Some of the salient problems specific to university students are time pressure, fear of failure,

struggle to establish identity, the pressure of academic excellence and tough competence (Udhayakumar & Illango, 2018). PWB is therefore crucial to the successful transition from high school into university, for the effective coping in the stressful university environment, as well as the overall functioning of the young adult (Liu et al., 2019; Punia & Malaviya, 2015; Smith & Yang, 2017).

Furthermore, in South Africa, it was estimated that approximately 1 060 312 students would be enrolled in the 26 public universities in South Africa in 2018, with more or less 208 308 of these students being first-generation students (Africa Check, 2016). Clarity is, however, needed in terms of demographic variables such as gender, age, ethnicity, generation, religious affiliation, and religious practice, which could contribute to the development and maintenance of PWB. This is due to research focusing on PWB indicating very different results with regards to these demographic factors, not only in terms of whether they predict PWB but also in terms of the possible manner in which, as well as the extent to which, they contribute to the experience of PWB (Doğan et al., 2013; Frazier & Cowan, 2020; Gardner, 2020). An EBSCO Host search confirmed that there is limited research available regarding these demographic variables in university student populations, specifically, South African university student populations. Thus, this study aims to address the specific problem of PWB amongst South African university students, as well as the question of which predictor variables are responsible for the largest percentage of variance in the PWB scores amongst undergraduate university students at the University of the Free State.

1.4 Research aim

The overall aim of this research study was to identify the predictor (independent) variable(s) or combination of predictor variables (Coping, Resilience, Self-esteem, and Age) that explain a significant percentage of the variance in PWB amongst undergraduate university students.

1.5 Research Questions

In order to address the aim of this study, the following research questions were investigated:

- Can the combination of Coping, Resilience, Self-esteem, and Age explain a significant percentage of variance in the Psychological Well-being of undergraduate university students?
- Do any of the individual predictor variables being studied significantly contribute to the variance of Psychological Well-being in undergraduate students?

1.6 Research Methodology

1.6.1 Research Design

This study followed a quantitative methodological approach within a non-experimental research type and utilised a correlational research design (Stangor, 2011, 2015). This type of research design investigates the possible statistically significant correlations between selected measurable variables, which for this study included PWB, coping, resilience, and self-esteem. It also investigated the correlations between PWB and the biographical factor of age.

1.6.2 Research Participants and Sampling

The research sample included 1191 students registered at the University of the Free State, Bloemfontein campus enrolled for an undergraduate degree in the Faculty of the Humanities, aged between 18 and 30. This sample included participants from different cultures, religious backgrounds, ethnic groups, languages, sexes, provinces, and undergraduate academic majors in the South African context relevant to the sample.

1.6.3 Data Collection Procedure/Measuring Instruments

This research study was advertised during undergraduate lectures, inviting students to participate in the study voluntarily. Interested participants had to complete five questionnaires measuring different variables, namely PWB, coping, resilience, and self-esteem, as well as demographic variables. Participants could easily access the questionnaires (measuring instruments) through Blackboard, the online student support platform; they could complete the five different questionnaires at their own leisure. Following the data collection, a coding system was used to ensure the anonymity of the participants. The five measuring instruments employed to gather the data through this system included:

- A self-compiled biographical questionnaire was employed to gather the participants' demographic data (e.g., ethnicity, language, age, gender, religious affiliation, religious practice, provinces, majors, etc.).
- Ryff's *Scales of Psychological Well-being* (SPWB; Ryff, 1989) was used to measure the PWB of the participants. The SPWB is used to measure the core dimensions of eudaimonic well-being, which include (i) purpose in life, (ii) autonomy, (iii) environmental mastery, (iv) positive relations with others, (v) personal growth, and (vi) self-acceptance (Gao & McLellan, 2018). The measure consists of 42 self-descriptive statements based on a six-point Likert-type scale ranging from 1 =

"*strongly disagree*" to 6 = "*strongly agree*". Higher scores on these subscales represent higher levels of PWB (Ryff, 1989). The Cronbach alphas for the subscales have been identified as autonomy = 0.88, environmental mastery = 0.91, personal growth = 0.92, positive relations with others = 0.89, purpose in life = 0.91, and self-acceptance = 0.92 (Kállay & Rus, 2014).

- The *Coping Strategy Indicator* (CSI; Amirkhan, 1990) was utilised to gauge the coping strategies of the participants. The CSI has 33 items and three subscales assessing 11 items each. The three subscales are (a) problem-solving, (b) seeking social support, and (c) avoidance. The CSI illustrates superior internal consistency compared to other coping questionnaires, with Cronbach alphas ranging from 0.84 to 0.93 and displaying stable scores with test-retest correlations averaging 0.82 across four to eight week periods amongst large and diverse samples (Amirkhan, 1994a). Furthermore, higher scores on each subscale suggest a higher tendency to utilise the associated coping strategy (Amirkhan, 1994a; Lo, 2017). The CSI has been used successfully in previous South African studies (Spangenberg & Orpen-Lyall, 2000; Spangenberg & Theron, 1999, Wissing & Du Toit, 1994).
- The *Resilience Scale* (RS; Wagnild & Young, 1993) was used to measure the participants' resilience. The items of the scale are rated on a seven-point Likert-type scale ranging from (1) "*totally disagree*" to (7) "*totally agree*" (Oladipo & Idemudia, 2015). The total score ranges between 25 and 175 points, with higher scores indicating a higher degree of resilience and a lower score indicating a lower degree of resilience (Wagnild & Young, 1993). Studies that reported on the internal consistency of the Resilience Scale indicated Cronbach alphas ranging between 0.84 and 0.95 (Botha, 2014; Cronje, 2019; Dalenberg et al., 2011; De Villiers, 2009; Surzykiewicz et al., 2019).

- The *Rosenberg Self-esteem Scale* (RSES) (Rosenberg, 1965) was used to measure both positive and negative feelings that individuals experience about themselves to obtain an idea of their global self-worth. The scale consists of 10 items on a four-point Likert-type scale that range from "*strongly disagree*" (1) to "*strongly agree*" (4), while items 2, 5, 6, 8, 9 are reverse scored. A high score would indicate higher levels of self-esteem, while a low score would indicate the opposite. The RSES presented Cronbach alphas ranging between 0.72 to 0.87 in independent studies with varying samples, such as parents and high school students (Byrne & Shavelson, 1996; Dobson et al., 1979). In student population studies, the RSES presented with test-retest correlations ranging between 0.82 and 0.88, and Cronbach alpha coefficients ranging between 0.77 and 0.88 within these studies (Arshad et al., 2015; Robins et al., 2001; Van Tonder, 2020).

1.6.4 Statistical data analyses procedures

All data collected from the participants were analysed using the Statistical Package for the Social Sciences; SPSS version 27 (IBM Corporation, 2020). Furthermore, Cronbach alpha coefficients were calculated for the various measuring instruments (Aron et al., 2014; Tavakol & Dennick, 2011). In addition to this, a correlation analysis was also completed. Hierarchical regression analyses were used to investigate the contribution of the different combinations of independent (predictor) variables (coping, resilience, self-esteem, and age) to the percentage of variance in the dependent (criterion) variable, PWB, as well as the contribution of each of the individual independent variables (Stangor, 2011, 2015; Van der Westhuizen et al., 1989). In this study, the criterion variable is PWB, and the predictor variables included coping, resilience, self-esteem, and age. Hierarchical regression is a

method for evaluating the effect of a predictor variable after controlling for other variables. This is accomplished by calculating the adjustment in the R^2 at each step of the analysis, thus determining the increase in variance after each variable is entered into the regression equation (Lewis, 2007; Pedhazur, 1997).

Furthermore, stepwise multiple regression analyses were also conducted to further investigate the results. This entails that a particular order is not selected beforehand, but the variables first entered into the analyses are those that produce the biggest increase in the multiple R^2 (Aiken & West, 1991; Cohen & Cohen, 1983; Stangor, 2015). Therefore, theory is not considered; the statistical package, which is SPSS in this study, ultimately determines the variables that best predict the criterion variables according to the extent to which they increase the multiple R^2 (Stangor, 2015). Thus, stepwise multiple regression is a technique of regressing multiple variables while eliminating the insignificant ones (SPSS Stepwise Linear Regression, 2019).

1.6.5 Ethical Considerations

The General Human Research Ethics Committee (GHREC) of the Faculty of the Humanities at the University of the Free State granted ethical clearance for this research study, a secondary analysis of existing data (Ethics number: UFS-HSD2020/1400/0510). The present research study forms part of a bigger research project titled "Predictors of psychological well-being amongst undergraduate university students" (Ethics number: UFS-HSD2017/1313). Permission was also obtained from the Dean of Students to conduct the study. The purpose of this research study, as well as the voluntary and anonymous nature of participation, were explained to all the participants beforehand in the original project. Those interested in taking part in the study had to provide informed consent before participating in

the study. The safety and confidentiality of the data were secured by keeping the files on a password-protected computer; the researcher kept it in her possession only. An intervention was in place to assist participants with counselling services if they experienced any emotional distress due to the research. The research implementation was independent in nature; thus, the process did not rely on any external factors or impartial views.

1.7 Significance of the Study

This proposed study is significant in the South African context, as it will expectantly aid in advancing theory explicitly pertaining to the concept of PWB and the concept of PWB within a South African context, in particular. These results may be of value in an age where PWB is influenced by numerous possible factors and may aid in informing future research regarding PWB. Since the research focused on university students – a population requiring high levels of PWB – the research will provide benefits in terms of adding to the pool of knowledge regarding the specific factors contributing to their PWB. Therapeutic interventions, technology-based education, and digital educational programmes/platforms may benefit from this research, as the results of this research may contribute towards its development, implementation, and evaluation. In order to enable researchers to design an evidence-based programme for the enhancement of PWB in South African undergraduate university students, it could be beneficial to incorporate the impact of each predictor variable of PWB.

1.8 Clarification of Terminology

1.8.1 Psychological Well-Being

Psychological well-being (PWB) is defined as one's level of psychological happiness/health, encompassing life satisfaction and feelings of accomplishment (Ryff, 1989, 1995). PWB encompasses the person's perspective on life, including not only perceptions of physical health but also of self-esteem, self-efficacy, relationships with others, and satisfaction with life (Bowman, 2018; Trudel-Fitzgerald et al., 2019). Ryff (1989, 1995) considered various theories and definitions that exist and developed an original psychological well-being model. Ryff 's theory includes six basic dimensions of psychological well-being, namely autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff, 1989, 1995; Ryff & Essex, 1992; Ryff & Keyes, 1995; Ryff & Singer, 1998).

1.8.2 Coping

In an early attempt to define coping, Folkman et al. (1980) suggested that coping is all the cognitive and behavioural efforts to master, reduce, or tolerate demands. It makes no difference whether the demands are imposed from the outside (e.g., family, friend, job, school) or inside (e.g., struggling with an emotional conflict or setting impossibly high standards). Coping seeks in some way to soften the impact of demands (Baqutayan, 2015). Matheny et al. (1986) defined coping as "any effort, healthy or unhealthy, conscious or unconscious, to prevent, eliminate, or weaken stressors, or to tolerate their effects in the least hurtful manner" (p. 507).

1.8.3 Resilience

Fundamentally, resilience refers to positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity (Gardner, 2020; Herrman et al., 2011). There are, however, several different approaches when defining resilience—the first differences in definitions centre on conceptualising resilience as a personal trait compared to a dynamic process. A narrow definition considers resilience as a personal trait operating after a single short-lived trauma (Cicchetti, 2010). Subsequent researchers focused on the contribution of systems (families, services, groups, and communities) to assist people in coping with adversity. Accordingly, the definition of resilience and resilience interventions expanded to become "protective and vulnerability forces at multiple levels of influence – culture, community, family and the individual" (Hjemdal, 2006, p. 151).

1.8.4 Self-esteem

Rosenberg (1965), one of the pioneers in this domain, stated that self-esteem refers to an individual's overall positive evaluation of the self. He added that high self-esteem consists of an individual respecting himself and considering himself worthy. In a similar vein, Sedikides and Gress (2003) stated that self-esteem refers to an individual's perception or subjective appraisal of one's own self-worth, self-respect and self-confidence, including the extent to which the individual holds positive or negative views about self.

1.9 Outline of Chapters

This dissertation is divided into five chapters:

Chapter One introduced the research and orientated the reader regarding the background information pertaining to PWB in university students. The chapter also outlined the rationale

and purpose of the research. The research aim, as well as research questions, were introduced, followed by the research methodology used to achieve these research objectives. Furthermore, it included a discussion about the ethical considerations within the study, as well as the value of this specific study. Lastly, definitions of important concepts within the study were clarified to orientate the reader to the specific study.

Chapter Two focuses on the critical discussion and review of relevant literature pertaining to the study regarding PWB and its specific predictors and consequences in the general population, as well as the specific population of university students. It specifically discusses definitions and types of PWB. Also, it focuses on the developmental phase of the specific study population, including the relevance of PWB within the South African university context. Furthermore, the chosen predictor variables, namely coping, resilience, self-esteem, and the specific age of emerging adults, are delineated and discussed.

Chapter Three highlights the methodological aspect of the research used to meet the research objectives successfully. It, therefore, consists of the research approach and research design, including the research objectives and sampling methods. It also includes the various measuring instruments and the data gathering procedures. It furthermore reports on the statistical data analysis procedures used within the study and concludes with the ethical considerations of the specific study.

Chapter Four reports on the findings of this research study.

Chapter Five comprises a summary of the fundamental findings of the study. A summary of the results obtained will be presented. Also, the contribution and value of the study pertaining to the existing literature will be discussed, and the chapter concludes with the limitations of this study and provides suggestions and recommendations for future research studies.

1.10 Summary of Chapter

Chapter 1 introduced the concept of PWB, as well as the possible predictors thereof, through the background of the study. It also highlighted the research problem, which presented itself in light of relevant literature, namely the concept of PWB amongst university students, as well as what variables could predict PWB in the population group of undergraduate students while attending university. This study, therefore, aims to address the concept of PWB amongst university students to add to the limited pool of existent South African literature concerning this specific problem. In order to show how this research problem would be addressed, the research aim, research questions, and research methodology were briefly discussed. This included the research design, the selected participants, and the measuring instruments and statistical data analysis procedures used to conduct the research. The ethical considerations and significance of the specific study were also discussed. Lastly, this chapter clarified important terminology used within the study and provided an outline of the chapters within the dissertation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Well-being is a complex and multifactorial construct. Measures of well-being often include objective constructs such as one's standard of living, and subjective measures, which incorporate psychological, social, and spiritual aspects based on cognitive and affective judgements individuals make about their lives (Schulte et al., 2015). When these measures concern psychological aspects (e.g., happiness), they are often referred to as measures of psychological well-being (PWB). PWB on its own has been a central area of research in psychology for decades (Kobau et al., 2011; Trudel-Fitzgerald et al., 2019).

This chapter aims to contextualise and provide detailed descriptions of PWB, coping, resilience, self-esteem, and the developmental phase of undergraduate university students, in other words, the period of emerging adulthood. The chapter starts with a description of PWB and emphasises the contribution of Carol Ryff (1989, 1995). Thereafter the concepts of Coping, Resilience, and Self-Esteem are discussed as possible predictors of PWB. Following this, a discussion on the developmental phase of undergraduate university students, the effects of PWB on mental health, and the importance of PWB in a South African context. The chapter concludes with a summary of the discussion.

2.2 Psychological Well-Being (PWB)

In recent years there has been a tremendous focus on the positive aspects of individuals rather than the extent of their problems or difficulties (Gao & McLellan, 2018). The purpose of this positive psychological view is to inspire and initiate a change that focuses on

equipping individuals with positive qualities rather than focusing on challenging the negative aspects of life (Saricaoğlu & Arslan, 2013). One of these concepts or qualities is PWB. Ryff (1995) considered PWB to be more than merely being free from stress and not having any psychological difficulties. It incorporates positive self-perception, positive relations with others, environmental mastery, autonomy, purpose in life, and emotions focused towards healthy development (Ryff, 1995; Ryff & Singer, 1998; Sosik et al., 2017). There has been a clear increase in the attention that positive psychological states have received, which serve as protective factors of physical and mental health (Gao & McLellan, 2018; Vázquez et al., 2009). A study conducted by Salanova (2008) included literature reviews that were published over the past one hundred years (1907 to 2007), showing the publication of 77,614 articles on stress, 44,667 on depression, and 24,814 on anxiety, but only 6,434 on well-being. In this large and full production, the number of studies on happiness (1,159 papers) and on enjoyment (304 papers) is almost symbolic (Vázquez et al., 2009).

Myers et al. (2005) define intervention health plans and mental health as: "The emotional and spiritual resilience which allows us to enjoy life and to survive pain, disappointment and sadness. It is a positive sense of well-being and an underlying belief in our own and others' dignity and worth" (Vázquez et al., 2009, p. 16). It is further reiterated that the occurrence of good mental health does not only appear with the absence of a mental illness or disorder but in enjoying a series of resources and abilities and the ability to cope with adversities (Smith & Yang, 2017). Observers of the human condition have long held that positive states of mind may lead to a more profound sense of life and a healthier existence (Gao & McLellan, 2018). Theoretical literature informing the development of the construct PWB focused on the specific meaning of positive psychological functioning. These theoretical groundings include Maslow's (1968) conception of self-actualisation, Roger's (1961) view of the fully functioning person, Jung's (1933) formulation of individuation, and Allport's (1961)

conception of maturity. Also included is the perspective from the lifespan developmental theorist, which emphasises the challenges one faces during different life stages (Gao & McLellan, 2018). These perspectives include Erikson's (1959) Psychosocial Developmental Stage Theory, Buhler's (1968) basic life tendencies that work toward the fulfillment of life, and Neugarten's (1973) description of personality changes in adulthood and old age. Jahoda's (1958) positive criteria for mental health, which was created to replace the notion that well-being exists in the absence of illness, were also used to describe what it means to be in good psychological health (Rapuano, 2019; Ryff & Singer, 1998).

The study of PWB has further been guided by two primary conceptions of positive functioning (Liu et al., 2019; Ryff & Keyes, 1995). The first primary conception is based on the seminal work of Bradburn (1969), which distinguishes between positive and negative affect and describes how happiness is a balance between the two. With this, it was considered that the frequency, as opposed to intensity, of positive and negative affect is a better indicator of well-being because it can be measured and is more strongly related to long-term emotional well-being (Diener & Larsen, 1993; Ryff & Keyes, 1995). The second primary conception emphasises life satisfaction as a key component in well-being (Rapuano, 2019; Ryff & Keyes, 1995). In the perspective of a cognitive component, life satisfaction complemented happiness, which is considered the more affective dimension of positive functioning. Despite these well-informed theoretical perspectives, the question of what it means to be psychologically well still remained obscurely answered (Ryff & Keyes, 1995; Ryff et al., 1994). However, Waterman's (1993) distinction between eudaimonic and hedonic conceptions of happiness provided substantial theoretical substance. Although it would be considered relatively easy to subjectively identify one's own degree of well-being or happiness, reaching more general findings from a more rigorous approach has proved to be a more complex task (Ryan & Deci, 2001).

For this reason, the philosophical orientations of hedonism and eudaimonia (Braaten et al., 2019; Ryan & Deci, 2001; Ryan et al., 2008) are considered in the explanation of well-being. Hedonism has its roots in Greek philosophers, with Epicurus probably being its principal exponent (McMahon, 2006). The basic idea is that the objective of life is to experience the greatest possible amount of pleasure (although oriented towards enjoyment and noble activities). Happiness would be, in some sense, the sum of pleasurable moments (McMahon, 2006; Vázquez et al., 2009). The eudaimonic perspective considers well-being to not consist of maximising positive experiences and minimising negative ones but emphasises living fully and being open to the richest human potential possible (Ryan & Deci, 2001; Ryan et al., 2008). In his *Ethics to Nicomachus*, Aristotle urges men to live according to their *daimon*: the ideal or perfection criteria that one hopes for and gives sense to one's life. All the efforts to live according to that daimon and fulfill and reach one's full potential are thought to give rise to an optimal state, namely eudaimonia (Avia & Vázquez, 1998). The eudaimonic perspective establishes that well-being lies in the performance of actions coherent with deep values that imply a full commitment with which people feel alive and real (Waterman, 1993).

One of the crucial authors in the eudaimonic perspective considered the measurement of well-being to have historically suffered from a lack of a theoretical basis and have forgotten important issues of positive functioning (Peterson & Seligman, 2003). Ryff (1995) mentioned the importance of distinguishing between PWB and subjective well-being, which is considered a typical hedonistic concept. Ryff (1989, 1995) thus defined well-being as the development of a person's real potential. In this way, happiness or PWB is not the main motivation of a person but rather the result of a well-lived life (Ryff & Keyes, 1995; Ryff & Singer, 1998). Ryff's proposal consists of a multidimensional model of PWB linked to an instrument for measuring it (Ryff, 1995). This instrument represents six different aspects of optimal well-being at a psychological level. Each dimension of PWB suggests a different

challenge that people find in their efforts to function positively (Keyes et al., 2002; Ryff & Keyes, 1995). In this way, those people who manifest eudaimonic well-being are characterised as follows: (a) They have developed a strong sense of individuality and personal freedom (Autonomy); (b) They have a dynamic of life-long learning and continuous development of their abilities (Personal growth); (c) They have developed and kept close ties with others (Positive relations with others); (d) They have a sense of direction in life that unifies their efforts and challenges (Purpose in life); (e) They have a positive self-regard that includes awareness of personal limitations (Self-acceptance); and (f) They create a surrounding context to satisfy their needs and desires (Environmental mastery). Table 1 explains the definitions of theory-guided dimensions of PWB.

Table 1

Definitions of Theory-Guided Dimensions of PWB according to Ryff (1989, 1995).

Dimension of PWB	Indication of High/Low Scores	Meaning of High/Low Scores
Autonomy		
	High Scorer	Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behaviour from within; evaluates self by personal standards
	Low Scorer	Is concerned about the expectations and evaluations of others; relies on judgements of others to make important decisions; conforms to social pressure to think and act in certain ways
Personal growth		
	High Scorer	Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has a sense of realising his or her potential; sees improvement in self and behaviour over time; is changing in ways that reflect more self-knowledge and effectiveness
	Low Scorer	Has a sense of personal stagnation; lack a sense of improvement or extension over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviours
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, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others

Dimension of PWB	Indication of High/Low Scores	Meaning of High/Low Scores
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 a 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 towards 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 happened in past life; is troubled about certain personal qualities; wishes to be different than what he or she is
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 a sense of control over external world

Note: Adapted from Psychological Well-Being: Meaning, Measurement, and Implications for Psychotherapy Research by Ryff and Singer, 1998, *Psychotherapy and Psychosomatics, 65*, 14-23.

Ryff and Singer (1998) proposed that understanding who does and does not possess high well-being requires closer examination to the actual occurrence and depth of people's lives, in order words, their life experiences. They attempted to understand this by exploring two avenues: the study of particular life events or experiences and how they impact on well-being, as well as exploring complex life history analyses, and how they link with psychological vulnerability and resilience (Çankır & Şahin, 2018; Gustems-Carnicer et al., 2019; Ryff, 1995; Ryff & Singer, 1998). Subsequently, individuals' interpretations of their unique life experiences were investigated as key influences on psychological well-being. These experiences included having and raising children, growing up with alcoholic parents, health-related troubles, and relocations. The experiences are further varied by their location in the life course of the individuals, the nature of the challenge or troubles experiences, and the typicality thereof (Ozpolat et al., 2012; Panahi, 2016; Ryff et al., 1994). How Ryff and Singer (1998) formulated the interpretation of these experiences was informed by social construction

theories, including how people make sense of their life experiences by comparing themselves to others [social comparison processes (Festinger, 1954)], by evaluating the feedback they perceive from significant others [reflected appraisals (Sullivan, 1947)], by their understanding of the causes of their experiences [attributional processes (Harvey, 1989)], and through the importance they attach to such experiences [psychological centrality (Rosenberg, 1979)]. These studies and investigations collectively indicate that how individuals interpret their life experiences provides useful avenues for understanding variation in PWB (Gustems-Carnicer et al., 2019; Panahi, 2016; Ryff & Singer, 1998). As an example, the result on midlife parenting indicates that considerable variance in an adult's environmental mastery, purpose in life, self-acceptance, and depression is accounted for by a parent's perception of how their grown children have 'turned out' and how these children compare themselves to others (Panahi, 2016; Ryff & Singer, 1998). In later life, the physical health problems of ageing women, combined with their assessment of how they compare with other older women, explain substantial variations in reports of personal growth, positive relations with others, autonomy, depression, and anxiety. This longitudinal research indicates how central features of the self-concept can enhance PWB during a life transition (Ozpolat et al., 2012; Ryff et al., 1994). Therefore, it is clear that multiple experiences and diverse avenues for interpreting them account for the gains and losses in PWB over time (Panahi, 2016; Ryff & Singer, 1998).

Although the latter includes exploring complex life history analyses, it also focuses on particular life events or experiences and how they influence PWB (Gustems-Carnicer et al., 2019; Ryff & Singer, 1998). Individuals' lives are a composite of many events and experiences, which can be explored through the perspective of the limited differences theory (Cole & Singer, 1991; Conway et al., 2019). The limited differences theory emphasises the events individuals are exposed to during their lives and their reactions to those events. Over

short time intervals, events and reactions to these events produce small, or limited, differences in outcome measures. However, such small differences tend to accumulate, and over the life course, these cumulative effects can substantially influence mental health (Cole & Singer, 1991; Conway et al., 2019; Ryff & Singer, 1998). The examination of life histories of four specific mental health groups from the cross-classification of positive and negative well-being indicators resulted in differing outcomes. The *depressed/unwell* are those with prior episode(s) of major depression who also lack high PWB (across all six dimensions). The *healthy* are those with high levels of PWB and who have no history of depression. The *resilient* are individuals with a prior history of depression but who reported high current well-being. The *vulnerable* are those with no history of depression and who have low levels of PWB (Bordbar et al., 2011; Ryff & Singer, 1998).

Another area of research within PWB is the knowledge of positive mental health and how the mind and body are connected (Punia & Malaviya, 2015; Ryff & Singer, 1998). Studies indicate clear links between positive feelings and spontaneous remissions of cancer, intensive daily meditation and regression of metastatic sarcomas, positive life outlooks and wound healing, quality social relationships, and increased survival from cancer (Chow et al., 2018). Such investigations underscore the power of positive beliefs, emotions, and relationships in recovery from physical health challenges. Positive experiences further play a crucial role in protecting and enhancing the integrity of the mind and body connection within individuals (Punia & Malaviya, 2015). Optimal human functioning, embodied by individuals who lead purposeful lives, possess deeply felt and meaningful ties to others, exercise mastery over their environments, engage and realise their true capacities, has their own well-established benefits within the strength of this mind-body connection (Panchal et al., 2016; Ryff & Singer, 1998). Positive psychological functioning, exemplified by the acquisition of mastery over the environment, possession of quality relations with others, and utilisation of innate capabilities,

represents elaborated versions of complex adaptive behaviours required for survival. Quality ties to others, feelings of purpose, and self-realisations engender unique mind/body spirals; unlike those in the realm of stress, these move toward protecting and enhancing the individual (Panchal et al., 2016; Ryff & Singer, 1998).

A study such as this is of great significance as 18-25 years of age is a period of transition in which a person faces challenges and difficulties that may lead them to confusion and troubles (Punia & Malaviya, 2015). Understanding the well-being of young adults and the factors that contribute to it will help clarify and define ways to help them better prepare for their lives. Furthermore, an understanding of psychological predictors of some of the components of well-being can provide a framework for developing more effective interventions to cushion the components of wellness (Chow et al., 2018).

2.3 Coping

Lazarus (1993, 2000) maintains that how people cope with their daily challenges is believed to affect their health and psychological well-being. That is, those who effectively cope with daily challenges are more likely to experience higher levels of PWB than those who do not (Ukeh & Hassan, 2018). The greater the problem-focused coping abilities and the lower the levels of depression, anxiety and stress, the higher the levels of PWB of individuals (Hayat & Zafar, 2015).

Stress is often used in the description of coping, as, without stress, there is no need to cope (Jurji et al., 2018). Coping has broadly been defined as cognitive and behavioural efforts to manage specific external or internal demands and conflicts between them, which are evaluated as exhausting a person's resources (Amirkhan, 1990; Jurji et al., 2018). Occupational stress can be described as the adverse psychological and physical reactions that

occur in an individual due to the inability to cope with the demands made on them (Omolara, 2008). Therefore, stress can be described as the adverse psychological and physical reactions that occur in an individual because of their inability to cope with demands being made on them (Folkman & Lazarus, 1985; Jurji et al., 2018). Thus, coping seeks, in some way, to soften the impact of demands and stress (Baqutayan, 2015). Cohen and Lazarus (1979) defined coping as the action-orientated and intrapsychic efforts to manage environments and internal demands, and conflicts among them, which tax or exceed a person's resources. Later, Lazarus and Folkman (1984) revised this definition to be the constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as exhausting the person's resources. According to Hobfoll (1988), coping is one specific domain of activities for resisting stress fluctuations. Furthermore, in stress research, the term coping refers to the set of behaviours we use to manage stressful situations, regardless of whether such attempts are beneficial (Lazarus & Folkman, 1984).

The coping style that university students adopt is often used as a predictor for PWB and their ease of settling into the university environment (Pluut et al., 2015). Various authors have indicated that students who adopt approach strategies will be better adapted to university, feel more satisfied, and experience less stress (Gaudreau et al., 2012; Gustems-Carnicer & Calderón, 2013). On the other hand, higher levels of psychological stress are related to avoidance strategies (Chai & Low, 2015); avoidance rather than approach strategies tend to be associated with poor adjustment (Shepherd-McMullen et al., 2015).

Psychologists (Baqutayan, 2015; Pestonjee, 1992) have identified two major ways people cope with stress or demands. In the first approach, a person may decide to suffer or deny the experienced stress; this is the passive approach. Alternatively, a person may decide to face the realities of the experienced stress and clarify the problem through negotiations with other members. This is the active approach. Researchers have grouped the ways people cope with

stress and demands into four categories (Amirkhan, 1990; Hayat & Zafar, 2015; Ukeh & Hassan, 2018). First, they may decide to fight the realities of experienced stress; they try to struggle to achieve what they want. Second, they may decide to leave what makes them feel stressed. Third, they may reduce their stress through such activities (e.g., social support and religious gatherings). Finally, they may decide to accept their life as it is (Amirkhan, 1990; Hayat & Zafar, 2015; Ukeh & Hassan, 2018).

Folkman and Lazarus (1985) further considered two main coping strategies: problem-focused coping and emotion-focused coping. In problem-focused coping, efforts are made to change stressful situations through problem-solving, decision-making and/or direct action. In emotion-focused coping, attempts are made to regulate distressing emotions, sometimes by changing the meaning of the stressful situation cognitively without actually changing the situation (Baqutayan, 2015; Folkman & Lazarus, 1985). Folkman and Lazarus' theory defines two coping principles; the first category, problem-focused coping, refers to strategies employed to alter or manage sources of stress. The second category, emotion-focused coping, has to do with the strategies used to manage emotions (Folkman et al., 1980; Ukeh & Hassan, 2018). The method used by Lazarus and Folkman (1984) was based on specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce, or minimise stressful events. Their method clearly distinguished between the two general coping strategies, namely problem-solving strategies (efforts to do something active to alleviate stressful circumstances) and emotion-focused coping strategies (efforts to regulate the emotional consequences of stressful or potentially stressful events). Researchers thus conclude that coping has two major functions including, dealing with the problem that is causing the distress (problem-focused coping) and regulating emotion (emotion-focused coping) (Folkman & Lazarus, 1985; Gustems-Carnicer & Calderón, 2013). If university students applied the method of problem-focused coping for a task beyond their

accomplishment, for example, they would only frustrate themselves and become distressed (Hayat & Zafar, 2015). According to Buettner (1995), coping is a process that changes over time. A person may use an emotion-focused strategy and then shift to a problem-focused strategy or vice versa. Given such an impossible task, they would do better to joke about it or discuss their feelings with a friend. Conversely, if a task can be accomplished, but they are uncertain and joke and party with friends, they are employing emotion-focused coping when they should be engaging in activities to get the task done (Gaudreau et al., 2012). In addition to coping mechanisms provided by Lazarus et al. (1986), Carver et al. (1989) mentioned additional defense mechanisms for both problem-focused coping and emotion-focused coping, with the inclusion of dysfunctional coping.

Table 2

Examples of Coping Mechanisms used by Lazarus et al. (1986) and Carver et al. (1989).

Problem-focused Coping	**Emotion-focused Coping**
Confrontative Coping	Self-Control
Seeking Social Support	Seeking Social Support
Plan full Problem-solving	Distancing
	Positive Appraisal
	Accepting Responsibility
	Escape/Avoidance

Problem-focused Coping	**Emotion-focused Coping**	**Dysfunctional Coping**
Active coping	Seeking social support for	Focus on and venting of emotions
Planning	emotional reasons	Behavioural disengagement
Suppression of competing	Positive reinforcement and growth	Mental disengagement
activities	Acceptance	Alcohol-drug use
Restraint coping	Turning to religion	Denial
Seeking social support for	Humour	
instrumental reasons		

Note: Adapted from Stress and Coping Mechanisms: A Historical Overview by Baqutayan, 2015, *Mediterranean Journal of Social Sciences, 6*(2), 478-488.

There are an array of emotions such as anger, contempt, enthusiasm, envy, fear, frustration, disappointment, embarrassment, disgust, happiness, hate, hope, jealousy, joy, love, pride, surprise, and sadness, among many others (Hume, 2012). Emotions are considered effective experiences of short duration, intense, with a calm or troubled unfolding, having a well-determined orientation to various objects, persons, situations, or contexts

(Andries, 2009). Furthermore, emotions have their origin in informational processing, both at the conscious and the unconscious level. Awareness degrees of emotions differ significantly from one individual to another, although, generally, people can describe their emotions and ascribe them to some objects or specific causes. The emotions are classified into two categories: positive and negative emotions (Jurji et al., 2018). According to Watson and Clark (1988), two dimensions of emotional experience exist: positive affectively (emotional comfort and the tendency to experience pleasant feelings/emotions) and negative affectively (emotional discomfort and the tendency to experience unpleasant feelings/emotions).

Emotional-approach coping is described as actively identifying, processing, and expressing one's emotions, thus providing information about one's goal status (Baker & Berenbaum, 2007). The emotion-focused category includes items that describe cognitive and behavioural efforts directed at reducing or managing emotional distress. Furthermore, emotion-focused strategies address the thoughts or feelings that result from stress but do not attempt to alter their environmental causes (Jurji et al., 2018). It is doubtful that emotion-focused coping is ineffective even though most of the data indicated this (Britt et al., 2016; Karekla & Panayiotou, 2011). Firstly, some emotion-focused strategies encourage avoidance, whereas others promote a directive approach (Britt et al., 2016; Jurji et al., 2018). Secondly, according to Herman and Tetrick (2009), many items on emotion-focused coping scales, such as "*I get upset and let my emotions out*", appear to confound coping efforts with distress. However, Jurji et al. (2018) hypothesised that emotional-approach coping would be the most effective for individuals who are less attentive to their emotions, ambivalent about their emotions, not clear about their emotions, and have difficulty describing their emotions. They also hypothesised that problem-focused coping would be most effective for people who are attentive to their emotions, clear and not ambivalent about their emotions. Other researchers also suggested that individuals who lack mood awareness and are less emotionally open

benefit more from expressive writing than people who are more attentive and clear about their emotions. It is important to examine the context or situation to determine coping effectiveness (Baker & Berenbaum, 2007; Jurji et al., 2018). The previous research has found that emotional-approach coping did not predict depression in achievement situations, as in interpersonal situations (Herman & Tetrick, 2009).

Herman and Tetrick (2009) stated that problem-focused coping is present if an individuals' relationship with the environment is changed by coping actions, thus potentially also changing the conditions of psychological stress for the better (Folkman & Moskowitz, 2000). It tends to be used more in situations where there is personal control over an outcome and less in situations in which personal control is absent (Jurji et al., 2018; Karekla & Panayiotou, 2011). Therefore, problem-focused coping is usually considered maladaptive when there is no personal control. Problem-focused behaviours, such as working long hours and seeking information, positively related to work satisfaction, but working long hours was negatively related to PWB (Baker & Berenbaum, 2007; Jurji et al., 2018). Research using the problem- versus emotion-focused distinction typically finds positive and negative relations between problem- and emotion-focused strategies and individual well-being.

In addition, seeking social support is another basic response to stress, which according to Table 2, is used both as a means of emotion-focused coping and problem-focused coping. When natural disasters happen, people gather to discuss how to restore their homeland. Gladding (2012) suggested that it is natural for individuals to gather to resolve matters difficult for an individual to handle. Similarly, Mortenson (2006) reported that when university students face academic difficulties, they are likely to seek social support to cope with stressful situations. Also, research suggests that getting emotional support from trusted people is an effective approach to coping with stress (Burleson & Goldsmith, 1998). Stress and social support-seeking were found to be positively correlated (Felsten, 1998). In general,

those who have higher stress levels are more likely than their low-stress counterparts to seek social support.

An extensive body of research suggests that several variables closely linked to the six dimensions of PWB favour adaptive coping strategies in the academic context. Some of these variables are self-esteem (Cabanach et al., 2014), perceived control (Doron et al., 2009), quality of social support (Fernández-González et al., 2015), self-determination (Deci & Ryan, 2017; Ryan & Deci, 2001), purpose in life (Freire et al., 2015), and pursuit of self-realisation (Miquelon & Vallerand, 2008). However, very few studies have explored the possible role of PWB or considered it a global construct and a personal resource that could favour adaptive coping to academic demands. Based on this consideration, significant differences in coping strategies have been observed in students according to their level (high vs. low) of PWB (Figueroa et al., 2005; González-Torres & Artuch, 2014). Higher levels of PWB led to the adoption of adaptive strategies such as commitment, positive reappraisal, or seeking instrumental and emotional support. Conversely, students with lower levels of PWB used dysfunctional coping strategies such as ignoring the problem, blaming themselves about the situation, or taking refuge in fantastic thoughts (Freire et al., 2015).

Amirkhan (1990, 1994b, 1998), creator of the Coping Strategy Indicator (CSI), considered research on coping to be guided by the belief that some middle ground between deductive and inductive approaches should be investigated, making it possible to identify those coping dimensions that constitute the common denominators of human dealings with stress. This investigation led to developing a measure tapping these dimensions, having both wide applicability and sensitivity to individual variations in response (Amirkhan, 1990, 1994b, 1998). From this, exploratory and confirmatory factor analyses, performed on this and subsequent community-based data (final $\underline{n}$ = 952), identified three major strategies to

characterise coping and helped eliminate extraneous items. The resulting CSI (Amirkhan, 1990, 1998) is 33 items long, with three scales of 11 items each.

The first scale assesses Problem-solving, an instrumental approach involving the planning and implementation of steps to remediate the problem (e.g., "Brainstormed all possible solutions before deciding what to do") (Amirkhan, 1990, 1994a). The Seeking Social Support scale measures attempts at human contact, not necessarily for help in resolving the problem, but simply for the comfort such contact provides (e.g., "Confided your fears and worries to a friend or relative"). The last scale, Avoidance, reflects tendencies to escape the problem, both through physical and psychological withdrawal (e.g., "Avoided being with people…" and "Buried yourself in a hobby…") (Amirkhan, 1990, 1994a). These scales tap the 'common denominators of coping' as identified by Amirkhan (1990, 1998), strategies common to a wide diversity of people dealing with a broad range of problems.

Research by the CSI's author, Amirkhan (1990, 1994a, 1998), has focused mainly on identifying person-related factors that predict coping styles. In early work (Amirkhan, 1994a, 1994b), the CSI was used to identify demographic predictors. Gender was found to predict Support-Seeking tendencies, while resources (such as income and education) predicted more problem-directed responses (Amirkhan & Auyeung, 2007). Personality characteristics have also shown utility in predicting coping responses, with the trait of extraversion proving a strong determinant of Seeking Social Support, for example (Amirkhan et al., 1995). Subsequent work focused on more cognitive variables, such as causal attributions (Amirkhan, 1998) and Sense of Coherence beliefs (Amirkhan, 2003). These studies also considered pathology, rather than just coping behaviour, as outcome variables. Causal modeling revealed complex pathways, with cognitive factors impacting physical and psychiatric symptoms both directly and indirectly by predisposing people to coping strategies of differing degrees of efficacy (Amirkhan & Auyeung, 2007).

2.4 Resilience

Resilience refers to positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity (Wald et al., 2006). Definitions have evolved as scientific knowledge has increased despite no consensus on an operational definition of resilience (Harding et al., 2019; Herrman et al., 2011). Resilience is studied by researchers from diverse disciplines, including psychology, psychiatry, sociology, and more recently, biological disciplines such as genetics, epigenetics, endocrinology, and neuroscience (Smith & Yang, 2017; Videlock et al., 2016). Accordingly, the definition of resilience and resilience interventions expanded to become "protective and vulnerability forces at multiple levels of influence - culture, community, family and the individual" (Cicchetti, 2010, p. 151). Other investigators defined resilience more broadly, "the protective factors and processes or mechanisms that contribute to a good outcome, despite experiences with stressors shown to carry significant risk for developing psychopathology" (Hjemdal et al., 2006, p. 94) or "an interactive concept that refers to relative resistance to environmental risks or overcoming stress or adversity" (Rutter, 2006, p. 1) or "a dynamic process of positive adaptation in the context of significant adversity" (Luthar & Cicchetti, 2002, p. 858) or a "multi-dimensional characteristic that varies with context, time, age, gender and cultural origin, as well as within an individual subject to different life circumstances" (Connor & Davidson, 2003, p. 76). Atkinson et al. (2009, p. 137) additionally contributed a definition of resilience as the "capacity to recover from extremes of trauma, deprivation, or threat of stress". These definitions together acknowledge two crucial points: (a) various factors and systems contribute as an interactive dynamic process that increases resilience relative to adversity; and (b) resilience may be context- and time-specific and may not be present across all life domains (Herrman et al., 2011).

Stress is a reality in our daily lives. At some point, most people will be exposed to one (or more) potentially life-threatening traumatic experiences that can influence their mental health (Smith & Yang, 2017). These severe adversities include exposure to interpersonal violence, the trauma of war, death of a loved one, natural disasters, serious industrial or other accidents, and other life-altering transitions (American Psychological Association, 2013; Dimitry, 2012; Eisenberg & Silver, 2011; Furr et al., 2010; Masten & Narayan, 2012; Masten & Osofsky, 2010; Osofsky & Osofsky, 2013; Tol et al., 2013). Protection factors are known as individual factors activated following stressors to protect the individual from the adverse effects of stress, which comprises the internal factor, resilience (Harding et al., 2019; Smith & Yang, 2017). Several stressors are ongoing, such as the stress of exposure to bullying, harassing workplace environments, dysfunctional or challenging relationships, the grinding stress of poverty, and even the impact of environmental stressors such as extreme weather conditions and global warming (Arnold et al., 2014; Evans et al., 2013; Lundberg & Wuermli, 2012). When stress exposure is unusually intense, chronic, uncontrollable, and overwhelming, it can give rise to (or exacerbate) burnout, depression, anxiety, and numerous physical conditions, such as inflammatory, cardiovascular, or other medical illnesses (Karatoreos & McEwen, 2013; Russo et al., 2012; Southwick & Charney, 2012; Southwick et al., 2011). However, individuals with high levels of resilience can maintain PWB in stressful and adverse situations (Shahdadi et al., 2017; Videlock et al., 2016).

Several sources of resilience include personal factors, biological factors, and environmental-systemic factors (Herrman et al., 2011; Southwick et al., 2014; Windle, 2010). In terms of personal factors: personality traits (openness, extraversion, and agree-ableness), internal locus of control, mastery, self-efficacy, self-esteem, cognitive appraisal (positive interpretation of events and cohesive integration of adversity into self-narrative), and optimism all contribute to resilience (Herrman et al., 2011; Windle, 2010). The findings of

pioneering investigators indicate that intellectual functioning, cognitive flexibility, social attachment, positive self-concepts, emotional regulation, positive emotions, spirituality, active coping, hardiness, optimism, hope, resourcefulness, and adaptability are further associated with resilience (Joseph & Linley, 2006). Demographic factors (age, sex, gender, race, and ethnicity), social relationships, and population characteristics relate variably with resilience, depending on study methods and resilience definition. Some factors that increase resilience may be life stage-specific, and others may operate across the lifespan (Herrman et al., 2011).

Furthermore, research on biological and genetic factors in resilience (Cicchetti, 2010) indicates that harsh early environments can affect developing brain structure, function and neurobiological systems (Cicchetti, 2010). Changes may occur in brain size, neural networks, the sensitivity of receptors, and the synthesis and reuptake of neurotransmitters (Cicchetti & Curtis, 2006). These physical changes in the brain can substantially exacerbate or reduce vulnerability to future psychopathology. Brain changes and other biological processes can thus affect the capacity to moderate negative emotions, affecting resilience to adversities (Smith & Yang, 2017).

In terms of environmental-systemic factors, considering a microenvironmental level, social support, including relationships with family and peers, positively correlate with resilience (Herrman et al., 2011; Southwick et al., 2014; Windle, 2010). Secure attachment to mothers, family stability, secure relationship with a non-abusive parent, good parenting skills, and absence of maternal depression or substance abuse are associated with fewer behavioural problems and better PWB in maltreated young adults (Cicchetti, 2010). Social support can come from positive peers, supportive teachers, and other adults, as well as immediate family (Cicchetti & Curtis, 2006). On a macro-systemic level, community factors, such as good schools, community services, sports and artistic opportunities, cultural factors, spirituality

and religion, and lack of exposure to violence, effectively contribute to resilience (Shahdadi et al., 2017; Windle, 2010).

In order to develop effective interventions to enhance resilience, it is critical to understand that humans are embedded in families, families in organisations and communities, and communities in societies and cultures (Southwick et al., 2014). Interventions targeted at any one of these levels will impact functioning at other levels. Sometimes the most effective strategy to enhance resilience at a specific level may involve intervening on a different level. Resilience in the individual is therefore highly dependent on multiple layers of society (Ager et al., 2013).

It is also important to understand that determinants of resilience in one community may differ from those in another community (e.g., urban vs. rural communities) and that some skills needed to successfully deal with one stressor/trauma may differ from those needed to cope with a separate traumatic situation (e.g., terrorist attack vs. cancer diagnosis) (Bonanno, 2012). Therefore, to improve the odds for healthy development and resilience, it may be necessary to provide various resources to families, schools, and communities (Panter-Brick, 2014; Southwick et al., 2014).

In addition to the several sources of resilience, Wagnild and Young (Wagnild, 2014: Wagnild & Young, 1990) identified five personality characteristics that comprise resilience, namely, equanimity, meaningfulness, perseverance, self-reliance, and existential aloneness. Equanimity is a balanced perspective of life and experiences and might be viewed as sitting loose and taking what comes, thus moderating the extreme responses to adversity. Meaningfulness is the realisation that life has a purpose and the recognition that there is something to live for. Perseverance is the ability to keep going despite setbacks. Those who are self-reliant believe in themselves; they recognise and rely on their personal strengths and

capabilities and draw upon past successes to support and perhaps guide their actions. And finally, existential aloneness is the realisation that each person is unique and that while some experiences can be shared, others must be faced alone (Konaszewski et al., 2019; Wagnild & Young, 1990, 1993).

University students are a population who experiences increased levels of academic stress and psychological distress, resulting in many students leaving university without completing their chosen studies (Andrew et al., 2008). University students have been identified at the National Summit on Mental Health of Tertiary Students as a group who would benefit from resilience training in order to build mental health in a proactive way (Young et al., 2013). Research suggests that university students are not flourishing but feeling burnt out, overloaded, depressed and struggle to find sufficient time for friends and family (Slavin et al., 2011). Seligman (2011) defines flourishing as an individual's state of well-being exemplified by positive emotions, relationships, and achievements. In addition to the positive correlation indicated between resilience and flourishing (Slavin et al., 2011), resilience has also been positively correlated with effective coping styles, while negatively correlated with psychological distress amongst various studies (Klohenen et al., 1996; Swanson et al., 2011).

Within the university environment, resilience has been viewed as an asset that supports university students' mental health requirements (Hartley, 2012). An overarching theme among university students is that resilience is a protective factor associated with fewer mental health problems and successful adjustment to university life (Argyros, 2019; Hu et al., 2015; Khawaja & Stallman, 2011). Therefore, examining the attributes of resilient university students may reveal important contributing factors of resilience that reduce psychological distress. With the growing research in positive psychology, resilience has gained momentum and recognition as a framework to examine the differences between students who flourish

within the university environment and those who struggle to cope (Pidgeon et al., 2014; Seligman et al., 2009; Stallman, 2011).

2.5 Self-Esteem

Self-esteem is the negative or positive attitude that individuals have of themselves (Rosenberg, 1979). The study of self-esteem has persisted for at least 40 years since many are convinced that high self-esteem produces productive outcomes, whereas low self-esteem is at the root of personal and social problems (Abdel-Khalek, 2016). Sedikides and Gress (2003) stated that self-esteem refers to an individual's perception or subjective appraisal of one's own self-worth, self-respect and self-confidence, and the extent to which the individual holds positive or negative views about the self. Perhaps the simplest definition of self-esteem is found in Webster's dictionary, stating that "self-esteem is satisfaction with oneself"' (Merriam-Webster, 2021). In another edition of the same dictionary, self-esteem means "one's good opinion of one's dignity or worth" (Merriam-Webster, 2021). Theorists have made many distinctions concerning different types of self-esteem, for example, contingent vs. non-contingent; explicit vs. implicit; authentic vs. false; stable vs. unstable; global vs. domain-specific (Anusic & Schimmack, 2016; Donnellan et al., 2015; Orth & Robins, 2019; Ryan & Deci, 2001). Regarding the dimensionality of self-esteem, some authors conceptualised it as a unitary global trait, and others as a multidimensional trait with independent subcomponents, including performance, social, and physical self-esteem (Chung et al., 2017). Ryan and Deci (2001) distinguished between contingent and true (non-contingent) self-esteem. Contingent self-esteem refers to feelings about oneself that result from, and is dependent on, matching some standards of excellence or living up to some interpersonal or intrapsychic expectations (Wissing et al., 2020). It is a kind of

aggrandisement of oneself associated with being ego-involved in some types of outcomes and dutifully achieving them (Orth & Robins, 2019; Tetzner et al., 2016). It often involves social comparison and tends to be associated with a kind of narcissism. In contrast, true (non-contingent) self-esteem is more stable and based on a solid and secure sense of self (Ryan & Deci, 2001; Wissing et al., 2020). Their worth would be an integrated aspect of oneself and reflected in agency, proactivity, and vitality (Orth & Robins, 2019). In assessing self-esteem, some authors distinguish between explicit self-esteem (questionnaires) and implicit self-esteem, such as the introspectively unidentified (or inaccurately identified) effect of the self-attitude on evaluation of self-associated and self-dissociated object (Bleidorn et al., 2016; Wagner et al., 2016).

According to Stets and Burke (2014), self-esteem consists of three dimensions: *self-worth, self-efficacy*, and *authenticity*. This structure can be deduced from two important theoretical developments in the social-psychological literature (Ahmed et al., 2017; Luciano & Orth, 2016). First, in both sociology and psychology, researchers have identified three motivational aspects of the self that give direction to the individual, and when satisfied, make oneself feel good. These aspects include the motive to feel worthwhile and accepted, the motive to see oneself as efficacious or agentic, and the motive to find meaning, validity, and coherence in one's life (Luciano & Orth, 2016; Swann & Bosson 2010). These motives correspond to the three dimensions of self-esteem that have been identified.

Second, we can better understand self-esteem by placing it within the context of identity theory (Harris et al., 2017). In identity theory, the verification of different bases of identities is linked to different self-esteem outcomes (Burke & Stets, 2009). The verification of social/group identities provides a general sense of being found worthy and valuable, the verification of role identities provides a sense of efficacy or competency, and the verification of person identities generates the feeling that one is being one's true self. These two

theoretical lines suggest that if people feel good for satisfying different motives or verifying different identities, these positive feelings should have multiple dimensions, corresponding to the motives and/or identities that have been satisfied (Peixoto & Almeida, 2010; Stets & Burke, 2014).

Self-esteem research generally focused on *global self-esteem* (one's feelings of *self-worth*). Self-worth is the degree to which individuals feel positive about themselves; they feel they are good and valuable (Ahmed et al., 2017; Donnellan et al., 2015). It is self-acceptance or self-respect (Rosenberg et al., 1995). Self-worth is rooted in the idea that individuals desire to see themselves favourably, and they act in a way that maintains and enhances this positive self-view. This desire has been referred to as the self-esteem motive or the self-enhancement motive (Leary, 2007; Twenge et al., 2017).

Recently, it has been argued that positive self-evaluations are preferred, in part, because they indicate our *social worth* (they satisfy our desire for communion and interpersonal connectedness with others) (Bleidorn et al., 2016; Swann & Bosson, 2010). The communion motive emphasises people's acceptance and belongingness. It is consistent with the sociometer theory of esteem, where esteem acts as an interpersonal monitor (sociometer), warning individuals when they are at risk of being excluded by others (Orth & Luciano, 2015). When belongingness in a group is threatened, the sociometer evokes emotional distress as an alarm signal; this alarm motivates individuals to behave in a way that gains and maintains acceptance from others. The need for communion prompts what has been labelled the self-liking component of self-esteem (Orth & Robins, 2019; Swann & Bosson, 2010). People's judgment of their personal worth becomes internalised from the responses of others (Bleidorn et al., 2016).

There is a second self-motive, namely the desire for human agency. This has been labelled the *self-efficacy motive* (Gecas, 1991) or the *agency motive* (Swann & Bosson, 2010). This is connected to the second dimension of self-esteem. Self-efficacy is the degree to which people perceive that they can affect the environment (Gecas, 1991; Orth et al., 2015). It is an assessment of what they are capable of doing in situations. Efficacy is a general expectation rather than a specific expectation tied to a particular task, as conceived by Albert Bandura (1977). In this way, as a general orientation, efficacy is similar to the idea of mastery or being in control of the forces that affect one's life (Stets & Burke, 2014).

More generally, efficacy-based esteem is analogous to the *self-competence* component of self-esteem (Abdel-Khalek, 2016; Anusic & Schimmack, 2016). Self-competence is the degree to which one can bring about desired outcomes in situations compared with self-liking, reflecting the internalised sense of positive regard from others (Chung et al., 2014; Orth & Robins, 2014). Overall, efficacy-based esteem is about what "one can do" in a situation compared with worth-based esteem that emphasises "who one is."

Conceptualising self-esteem as comprised of two dimensions, a sense of self-worth and a sense of self-efficacy, is not uncommon (Luciano & Orth, 2016; Stets & Burke, 2014; Swann & Bosson, 2010). Rosenberg (Rosenberg et al., 1995) viewed self-efficacy as contributing to self-worth, but he did not feel it was the same as self-worth. One could accomplish things that might cultivate the belief that one was valuable but feeling valuable could emerge independent of one's accomplishments. Self-worth could be derived from one's own self-assessment (Anusic & Schimmack, 2016).

A third dimension of self-esteem is a sense of *authenticity* rooted in the third self-motive discussed in the literature, namely *the authenticity* (Gecas, 1991; Orth & Robins, 2019) or *coherence motive* (Swann & Bosson, 2010). This motive reflects individual strivings for

meaning, coherence, and understandings of the self. Meanings for which the individual strives take the form of identities; some identities reflect more of who one "really is" compared with other identities. In Ralph H. Turner's (Turner, 1976; Turner & Gordon, 1981) classic examination of the "authentic," "real," or "true" self, individuals have a vague understanding of what feelings and actions represent their real self, and for some, the real self is lodged in an institutional locus of conformity to norms, values, and roles and the personal quality of self-control, whereas for others, the real self is lodged in an impulsive locus of discovery, spontaneity, and lowered inhibitions. Others have defined authenticity as: (1) the positive feeling associated with fulfilling one's personal expectations or commitments (Erickson, 1995); (2) "the unobstructed operation of one's core or true self in one's daily life" (Kernis & Goldman 2006, p. 294); and (3) "expressing oneself in ways that are consistent with inner thoughts and feelings" (Harter, 2002, p. 382). Thus, authenticity involves one's internal or personal standards regarding who one really is (Erickson, 1995). It ties to the third self-motive and serves as the basis of self-evaluation about what is "real" and what is "false" about the self that is not captured in self-evaluations of worthiness and efficacy.

While researchers provide a dim portrait of people with low self-esteem (Baumeister 1993; Wagner et al., 2016), the positive outcomes associated with high self-esteem should not be overstated; it may have a dark side as evidenced in aggressive tendencies (Baumeister et al., 1996; Twenge et al., 2017) and narcissism (Abdel-Khalek, 2016; Zeigler-Hill, 2013). It is easy to understand why modern parents and educators are often uncertain about what constitutes healthy self-esteem (Zeigler-Hill, 2013). Low self-esteem is not optimal; it has been found to contribute to several maladaptive outcomes, including lower life satisfaction, depressive symptoms, and suicidal impulses (Orth & Robins, 2019; Orth et al., 2015). High self-esteem has also come under increased scrutiny since there has been considerable recent debate about whether high self-esteem causes many of the positive outcomes it was once

believed to produce, including academic achievement, occupational success, and popularity (Anusic & Schimmack, 2016; Chung et al., 2017). Even more troubling for advocates of the virtues of high self-esteem is the fact that positive attitudes about the self have been associated with aggression and violence (Baumeister et al., 1996; Wagner et al., 2016), discrimination (Tetznet et al., 2016), and pervasive self-serving biases (Harris et al., 2017).

High self-esteem contributes to greater PWB than low self-esteem overall, but the extent of its benefits depends on its psychological character (Swann & Bosson, 2010; Wissing et al., 2020). There is accumulating evidence that the label "high self-esteem" reflects a heterogeneous mix of individuals (Donnellan et al., 2015; Orth et al., 2015; Swann & Bosson, 2010). An influential distinction is the difference between secure and fragile high self-esteem (see Kernis & Goldman, 2006). Secure high self-esteem is conceptualised as a well-anchored sense of self-worth based on realistic self-views that are not easily challenged. This view of high self-esteem has its roots in humanistic psychology (Rogers, 1961). Individuals with secure self-esteem recognise their weaknesses and are disappointed by their failures, but they do not view these experiences as questioning their overall sense of self-worth (Luciano & Orth, 2016). In contrast, fragile high self-esteem is conceptualised as feelings of self-worth that are unrealistic, vulnerable to threat, and require constant validation. Individuals with fragile high self-esteem are preoccupied with protecting and enhancing their self-esteem, which is often accomplished at the expense of other people (Orth & Luciano, 2015; Orth et al., 2015; Wissing et al., 2020).

For many years, the literature suggested that one's self-esteem does not show normative changes in any developmental period from childhood to old age (Wylie, 1979). One study that significantly challenged this notion was based on analyses of cross-sectional data from more than 320,000 individuals who had completed a self-esteem questionnaire on the Internet (Robins et al., 2002). The findings suggested that, on average, self-esteem decreases from

childhood to adolescence, recovers slightly in young adulthood, increases during middle adulthood, reaches a peak at about age 65 years, and declines sharply in old age. However, as is true for all cross-sectional analyses, the findings provide only a snapshot of age differences at a given point in time. Orth et al. (2017) conducted a meta-analysis of all longitudinal studies to date (Orth et al., 2015; Orth et al., 2012; Orth et al., 2010) and found no support for the hypothesis that self-esteem declines during childhood. Orth et al. (2017) found that mean levels of self-esteem increase slightly from the preschool years to middle childhood, are stable (but do not decline) during early and middle adolescence, and start to increase around age 15 and continue to increase into adulthood; this pattern did not differ by gender. Orth and Robins (2019) considered why self-esteem shows a steady uptrend from late adolescence to middle age, but, to date, no theories that focus specifically on the development of self-esteem during adulthood have been proposed (Orth & Robins, 2019; Orth et al., 2015; Orth et al., 2012). However, important background is provided by theory from the broader context of personality development (Specht et al., 2014). In particular, the neo-socioanalytic theory suggests that adults typically develop in the direction of mature personality traits, especially during young adulthood (Orth et al., 2015; Orth et al., 2012). The reason is that adult individuals assume many social roles, such as relationship partner, parent, and employee, and that social roles involve expectations about appropriate behaviour. For most social roles, these expectations include agreeableness, conscientiousness, assertiveness, and emotional stability (i.e., mature personality traits).

Given that people are typically committed to satisfying these expectations, many adults gradually improve on these traits. Especially in young adulthood, individuals transition into many of these social roles by entering into working life, committing to a stable romantic relationship, having a baby, and taking over additional social roles in the community (Hutteman et al., 2014). Since mature personality traits are positively correlated with higher

self-esteem (Orth & Robins, 2014; Wagner et al., 2016), neo-socioanalytic theory suggests that adults gradually improve their self-esteem, especially during young adulthood.

Many studies examine the relationships between happiness and self-esteem, which is one of the psychological signifiers of happiness (Doğan, 2011; Doğan & Çötok, 2011). These studies suggest that self-esteem is an important precursor of happiness and has a positive relationship with happiness (DeNeve & Cooper, 1998; Diener & Diener, 1995; Lyubomirsky & Lepper, 2006).

Rosenberg (1965) derived his definition and understanding of self-esteem from the structure of the self-image, which is largely revealed by the classification of individuals in terms of several universal dimensions, including that it may differ in content, in direction, in intensity, in importance, in salience, in consistency, in stability, and clarity. In relation to self-esteem: if one can learn what the individual sees when he/she looks at themselves (social status, roles, physical characteristics, skills, traits, and other facets of content); whether one has a favourable or unfavourable opinion of themselves (direction); how strongly one feels about ones self-attitudes (intensity); how important the self is, relative to other objects (importance); whether one spends a great deal of time thinking about what they like - whether they are constantly conscious of what they are saying or doing – or whether they are involved in other tasks or objects (salience); whether the elements of their self-picture are consistent or contradictory (consistency); whether they have a self-attitude which varies of shifts from day to day or moment to moment, or whether on the contrary, they have a firm, stable self-attitude (stability); and whether one has a firm, definite picture of what they like or a vague, hazy, blurred picture (clarity) – if one can characterise an individual's self-picture in terms of each of these dimensions, one would have a significant description of the structure of one's self-image, and thus one's self-esteem (Rosenberg, 1965).

University is the time when most students are developing their sense of identity. For many, it is the first time away from home, and some students are the first member of the family to ever attend university (Maheswari & Maheswari, 2016). Prioritising and responsibility are brought to a new level as students are in charge of their new world, which can be overwhelming. In addition to all of this, students try to make friends and be 'accepted' by peers (Parimal, 2020; Sarkova et al., 2014). This is the time when self-esteem is very much needed. Self-esteem is important to everyone and all need positive self-esteem to feel good about themselves (Maheswari & Maheswari, 2016; Parmar, 2014). Positive (high) self-esteem is feeling good about who we are, liking ourselves regardless of successes or failures (Malinauskas & Dumciene, 2017; Sarkova et al., 2014).

Positive self-esteem means that we do not judge ourselves based on what others think or say or how much we can accomplish (Parimal, 2020). Low self-esteem is when one feels bad about oneself and who one really is. Having low self-esteem can have intense emotional effects on an individual. It can make one feel as if one has little confidence or control over one's life (Mondal & Kumar, 2018). Low self-esteem can affect one's relationships with significant others (Maheswari & Maheswari, 2016). If a person does not like him-/herself, it is difficult to truly like others and share oneself with others. The negativity that low self-esteem brings can damage a relationship because it is also very difficult to accept love and affection from other people if one does not love oneself first (Parimal, 2020). One's work and school success can also be affected. With low self-esteem, one may lack the motivation and confidence to succeed in university (Malinauskas & Dumciene, 2017; Parimal, 2020). Others are angry and isolated and can take their mood out on others around them. The real truth is that these individuals are most likely to have significantly poor PWB and need support and encouragement to change these destructive ways (Mondal & Kumar, 2018; Parimal, 2020).

Furthermore, findings indicated significance between self-esteem and university commitment (Kharsah & Latada, 2016). Successful universities must retain many students every year (Davis, 2014). Research has indicated university commitment may be one of the strongest predictors of student retention (Zeigler-Hill, 2013). Several empirical investigations show the relationship between the levels of self-esteem and people's attitudes (Komarraju & Nadler, 2013). The findings showed a significant and positive relationship between self-esteem and commitment. They showed that individuals with high levels of self-esteem are more committed to their university than those with low self-esteem. Similarly, when universities recognise their students, they would endeavour to meet their needs for approval, esteem, and affiliation to the university (Uçar & Ötken, 2010). Pierce and Gardner (2004) found that people with higher levels of self-esteem were more tending to have positive attitudes toward their university and do better than others who have lower levels of self-esteem. People are expected to enhance their commitment to the university when psychological satisfaction is associated with university support. When the university improves the student' self-esteem, students will believe that they are significant, worthy and valuable to the university (Malinauskas & Dumciene, 2017; Poorgharib et al., 2013).

2.6 Age and PWB

Emerging adulthood has been described as a two-faced developmental phase with regard to psychological well-being. Some emerging adults experience high levels of PWB, whereas others experience more distress. These diverse consequences are linked to increased possibilities and worries regarding one's future (Schwartz, 2016). That is, the proliferation of life trajectories can be both a blessing and a curse. With the transition into tertiary education as well as the developmental transition into adulthood, this period of life can be viewed as a

crucial and vulnerable turning point in development vis-à-vis PWB (Conley et al., 2014). Furthermore, PWB has generally been found to drop during the transition into higher education. Even though levels of well-being fluctuate and generally increase during the university years, they remain typically below pre-university levels (Conley et al., 2014).

Within Self-determination theory (Ryan & Deci, 2001), PWB is linked to the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. These needs are related to autonomous motivation through, for example, volitional and social activities associated with a sense of choice, abilities to handle challenges, and a feeling of belongingness and connectedness with others, thus mediating the link to PWB (Ozer & Schwartz, 2020). On the other hand, controlled motivation is not clearly associated with PWB (Ryan et al., 2008). Within tertiary education, it has been noted that the extent to which behaviour is self-determined or autonomous is most important vis-à-vis educational consequences. Findings have been inconclusive among students regarding links between motivation and PWB.

2.7 Developmental Phase of Undergraduate University Students

The first few years of studying at university constitute a substantial transition from adolescence to young adulthood (Bowman, 2018). There have been significantly high rates of mental distress reported among undergraduate university students, more so than when compared to the general population (Udhayakumar & Illango, 2018). Undergraduate students greatly vary in their ability to cope with and adjust to these new transition-related challenges (Çankır & Şahin, 2018). The state of their well-being not only determines their academic achievement in university but also predicts their adaptability to the workplace and society in the future (Gustems-Carnicer et al., 2019; Liu et al., 2019). Furthermore, the challenges that

university students face have become more evident in the aftermath of the 2015-2016 student protests (Prinsloo, 2016).

PWB is beneficial for adults to live a healthy life, making it an important aspect of one's life in the university years, which can be chaotic and full of psychological stress (Molina-García et al., 2011). According to Chao (2012), a significant increase in university students' stress occurred over the past decade. It is, therefore, important to understand factors that influence university students' PWB. PWB amongst undergraduate university students is vital in their ability to face adversity, deal with failures and successes, and prepare them for future ventures (Chow et al., 2018; Liu et al., 2019).

The transition from high school to university is a life experience many find stressful (Hicks & Heastie, 2008). During this transition, many emerging adults face unique challenges associated with being away from home for the first time. This can be extremely difficult to deal with, especially when considering other novel, yet stressful phenomena associated with university life, including peer pressure, financial issues, frustration with academics, and coping with new demands and responsibilities (Hamaideh, 2009). In addition, many university students have high expectations that may lead to higher self-demands and higher levels of stress (Conley & Lehman, 2012). Such stressors may precipitate several physical and mental health difficulties for university students. For instance, evidence shows that 33 % of university students experience a lack of sleep, including eating and mental health issues such as anxiety and depression due to stress associated with academic performance (Hartley, 2012). Recent analyses examining university students have also suggested that university students reported experiencing traumatic events. More specifically, 66% of university students reported some exposure to adverse life events such as sexual assault and community violence; meeting the criteria for The Diagnostic and Statistical Manual of Mental Disorders,

fifth edition, text revision (DSM-V TR) diagnosis of a traumatic event (Galatzer-Levy et al., 2012).

It seems that difficulties with transitions associated with university are important factors in the onset of these mental health conditions. For example, in a National Institute of Mental Health (NIMH) survey, 75% of individuals who reported a history of depression indicated that symptoms began around the age of 20 (Emmons, 2007), a common age of many first- or second-year university students. Depressive symptoms among university students appear relatively common, with estimates up to 25% having reported significant difficulties associated with mood regulation (Hamaideh, 2009). Past research demonstrates that students with mental health issues have a high risk of university dropout. For instance, a national survey found 86% of students with mental health issues drop out (Hartley, 2012). Considering these trends, university officials and counsellors must identify and promote factors that help buffer against the development of such mental health issues.

University students must cultivate and exhibit traits associated with coping, resilience, and self-esteem to protect themselves against the onset of mental health difficulties (McGillivray & Pidgeon, 2015). This is especially true given the number of novel stressors university students encounter daily.

2.8 The Effects of PWB on Mental Health

The World Health Organisation (WHO) defines mental health as a state of well-being in which every individual, from child, adolescent, student to adult, realises their own potential, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to their community (Galderisi et al., 2015).

Furthermore, the concept that mental health is not merely the absence of mental illness (World Health Organisation, 2005) was unanimously endorsed, while the equivalence between mental health and well-being/functioning was not, and subsequently, a definition encompassing a variety of emotional states and "imperfect functioning" was drafted.

The proposed definition stated (Galderisi et al., 2015, p 231-232):

> Mental health is a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of society. Basic cognitive and social skills; ability to recognise, express and modulate one's own emotions, as well as empathise with others; flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represent important components of mental health, which contribute, to varying degrees, to the state of internal equilibrium.

The American Psychiatric Association (2013) asserts that when someone's mental health is compromised, they could have a mental disorder that meets the Diagnostic and Statistical Criteria of Mental Disorders (DSM-V). A mental disorder is conceptualised by the American Psychiatric Association (2013) as:

> A syndrome characterised by clinically significant disturbance in an individual's cognition, emotion regulation or behaviour that reflects a dysfunction in the psychological, biological or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational or other important activities…". (American Psychiatric Association, 2013, p. 11).

People in good mental health are often sad, unwell, angry or unhappy, which is part of a fully lived life for a human being (Waterman, 1993). Despite this, mental health has been

often conceptualised as a purely positive affect, marked by feelings of happiness and a sense of mastery over the environment (Diener et al., 1999; Lamers et al., 2011).

Concepts used in several papers on mental health include both key aspects of the WHO definition, namely positive emotions and positive functioning. Keyes (2006, 2014) identifies three components of mental health: *emotional well-being, PWB* and *social well-being*. *Emotional well-being* includes happiness, interest in life, and satisfaction; *PWB* includes liking most parts of one's own personality, being good at managing the responsibilities of daily life, having good relationships with others, and being satisfied with one's own life; *social well-being* refers to positive functioning and involves having something to contribute to society (social contribution), feeling part of a community (social integration), believing that society is becoming a better place for all people (social actualisation) and that the way society works makes sense to them (social coherence) (Keyes, 2006, 2014).

In the past few years, mental healthcare and prevention have shifted from solely treating or preventing mental health complaints to enhancing positive aspects of mental health. A new goal in mental healthcare is to promote well-being (Barry & Jenkins, 2007; Keyes, 2007; Seligman & Csikszentmihalyi, 2000; WHO, 2005).

PWB is about lives going well, evident in the combination of feeling good and functioning effectively (Lamers et al., 2011). Sustainable well-being does not require individuals to feel good all the time; the experience of painful emotions (e.g., disappointment, failure, grief) is a normal part of life, and being able to manage these negative or painful emotions is essential for long-term well-being. PWB is, however, compromised when negative emotions are extreme or very long-lasting and interfere with a person’s ability to function in daily life (Keyes, 2014). The concept of feeling good incorporates not only the positive emotions of happiness and contentment but also emotions such as interest, engagement, confidence, and

affection. The concept of functioning effectively (in a psychological sense) involves the development of one's potential, having some control over one's life, having a sense of purpose (e.g., working towards valued goals), and experiencing positive relationships (Keyes, 2014).

As mentioned, recent years have witnessed an exhilarating shift in the research literature from an emphasis on disorder and dysfunction to a focus on well-being and positive mental health. Huppert (2009) asked an important question: "What percentage are mentally flourishing, that is enjoying a high level of psychological well-being?" (p. 151). According to Keyes (2002), "flourishing individuals have enthusiasm for life and are actively and productively engaged with others and in social institutions" (p. 262). Data from the US suggest that only around 17% of adults are flourishing, while 11% are "languishing" (Keyes, 2002; Westerhof & Keyes, 2009). The term languishing refers to a condition in which a person's life seems empty or stagnant, "a life of quiet despair", although they do not have a mental illness (Keyes, 2002, p. 210). Keyes (Keyes, 2004; Westerhof & Keyes, 2009) has shown that "languishers" are at a significantly increased risk of depression and physical disorders, including cardiovascular disease. He has suggested that languishing may be highly prevalent among young people, many of whom are seeking ways to fill the void in their lives. Sex, drugs, and alcohol are often used in this way, but these only deepen the void, making the person more dysfunctional (Huppert, 2009). This links to the already tumultuous time that university students are facing (Keyes, 2014), highlighting the importance of PWB in this transition period.

2.9 The Importance of PWB in a South African Context

The assessment of PWB in South Africa is pertinent at this time (Arends & Petersen, 2018). The PWB of young adults and students, in particular, is of special significance given their expected concerns in this regard (Edwards et al., 2004). South Africa's population comprises more than 56 million people, with 26 universities across the country (Butler-Adam, 2018). Higher Education South Africa (HESA, 2017) reported in 2017 that a deplorable 45% of enrolled students fail to bring their studies to completion and 25% of students withdraw after their first year of study (Mabelebele, 2012). Students struggle to complete three-year degrees in time, and their degree completion range between four to six years, resulting in a decrease in the universities' capacity to accommodate new students in the system (Arends & Petersen, 2018). It has been estimated that one out of five students who enter higher education nationally will end their studies during their first year (Arends & Petersen, 2018). Furthermore, the Council on Higher Education (2013) reports that many undergraduate university students are under-prepared for the educational demands that are currently offered in South Africa. Also, the council asserts that institutions are equally underprepared for the students. The low student success rate (particularly at first-year level) demonstrates that the South African educational system is not yet acquainted with the learning essentials and needs of the majority of the student bodies in universities (Council on Higher Education, 2013). The perturbing educational context in South Africa demands an emphasis on the importance to build on factors relating to student success, not only to increase the number of new entries in tertiary educational institutions, but also for the preservation and successful completion of such entries for an effective labour market (Görgens-Ekermans et al., 2015).

Research has reported heightened levels of psychological distress within the university student population. Both UK (e.g., Roberts et al., 2000; Stewart-Brown et al., 2000) and

international (e.g., Adlaf et al., 2001) students report higher levels of distress when compared to their non-student peers (Bewick, 2010). Furthermore, South African university students are frequently overwhelmed by an enormous amount of stressors, both academically (Chambel & Curral, 2005; Chow et al., 2018; Mayer, 2011; Ross et al., 2006) and personally (Brougham et al., 2009; Perry et al., 2007), resulting in a loss of focus during their academics, leading to derailment or withdrawal.

Therefore, it is plausible to assume that PWB is relevant and of utmost importance in the everyday life of South African undergraduate university students, not merely for academic performance but also for the development of a holistic well-being individual across all developmental stages and spheres (Gilar-Corbi, 2018).

2.10 Considering a South African Perspective

It is evident that most of the research conducted in positive psychology and reported in mainstream journals are from a Western perspective, focused on individuals, assumed individualistic cultural orientation and value systems, and neglected contextual influences (Bermant et al., 2011; Christopher & Hickinbottom, 2008; Jarden, 2012). Some studies indicated the important role of culture and cultural differences in the understanding and expression of well-being (Christopher, 1999; Diener & Suh, 2000; Iwasaki, 2008; Oishi, 2010), while others highlighted the differences between collectivist East Asian and individualistic Western expressions of well-being (Schimmack et al., 2002; Suh et al., 1998; Uchida, 2011). However, very little is known about well-being in a more collectivistic African and multicultural South African context (Deacon, 2010).

Eastern and African collectivism cannot be assumed to be the same because the expression of well-being seems to be more ‘sunny’ in the African context, whereas Eastern expressions

are more tempered (Wissing, 2013; Wissing & Temane, 2008). Studies conducted in East Asia and Africa have often focused on the evaluation of Western concepts and theories of well-being within these specific contexts, and only recently have more developed indigenous concepts of what well-being entails, how it is expressed, and how it can be enhanced come into focus (Deacon, 2010; Wissing, 2013). The unreflective exportation of Western notions of well-being to all contexts disregards and undermines other cultural traditions and meaning-making systems, as already indicated several years ago by researchers such as Gergen et al. (1996). They argued strongly for a multicultural psychology that considers the rich multiplicity of indigenous conceptualisations along with the use of a variety of methods. This also applies to knowledge generation and application in positive psychology (Wissing, 2013). The multicultural South African context provides, in this regard, many opportunities and challenges. If language is an indicator of culture, it can be said that a richness of cultures co-exist within South Africa. South Africa has 11 official languages, as the following percentages of language groupings in the 2001 census data indicate: Zulu = 23.8 %; Xhosa = 17.6 %; Afrikaans = 13.3 %; Northern Sotho = 9.4 %; Tswana = 8.2, English = 8.2; Sotho = 7.9 %; Tsonga = 4.4 %; Swati = 2.7 %; Venda = 2.3 %; Ndebele = 1.6 %; other languages = 0.5 % (Wissing, 2013). This multilingual, multicultural context poses a wonderful opportunity to explore the meaning and manifestations of well-being in a great variety of cultural contexts (which share many other potentially confounding socioeconomic and environmental variables) to understand similarities and differences, but also the opportunity to explore what well-being means in a multicultural context (which is different from comparing understandings and manifestations across specific cultures) (Govender et al., 2018; Wissing, 2013). Of course, language is not the sole criteria for culture, which can also be conceptualised in terms of patterns of associations over time and place, shared experiences and values, religious practices, residential habits, and broader socioeconomic and global

dynamics (Deacon, 2010; Wissing, 2013). The role of culture in mental illness and pathology has long been explored in an African and South African context (Aina & Morakinyo, 2011; Ngubane, 1977; Swartz, 1998), but studies on well-being and optimal functioning has been lacking. Initial research on well-being and quality of life in South Africa developed simultaneously, with little integration (Govender et al., 2018; Wissing, 2013). Spearheading research on the quality of life was conducted by Møller and colleagues (Møller, 1997, 1998; Schlemmer & Møller, 1997), who focused strongly on sociodemographic and contextual variables. Early work in South Africa that specifically focused on psychosocial well-being and optimal functioning started in the 1980s and 1990s and linked to the views of Rogers (1961) on optimal functioning, Antonovsky's (1984) conceptualisation of sense of coherence, and various other perspectives in humanistic psychology (Strümpfer, 2005; Wissing, 2000; Wissing & Van Eeden, 1997, 2002). Initial empirical studies were conducted among others in the work domain (Cilliers & Wissing, 1993; Strümpfer & Mlonzi, 2001) and on the link between facets of neuropsychological functioning and optimal psychological health (Wissing, 2000). The emerging scientific field was then named Psychofortology (i.e., the science of psychological strengths; forté = strength (Wissing & Van Eeden, 1997) and was viewed as a new subdiscipline in psychology. Positive psychology was first termed in Seligman's famous presidential speech at the APA in 1998, where he announced his vision for research focused on what is well with people rather than what is wrong with them. Further research in South Africa in psychofortology/positive psychology focused, to a great extent, on the clarification of the nature and patterns of PWB, the validation of well-being measures, the prevalence of levels of well-being, and the enhancement of psychosocial well-being in a South African context, as well as on coping and resilience, optimal functioning in a work context, and diversity and culturally contextual factors, and finally, on well-being's dynamics and biological correlates (Higgs, 2007; Neff, 2007). In more recent years, some integration

between research on the quality of life and psychosocial well-being developed (Govender et al., 2018; Wissing, 2013).

More specifically, in South Africa, research on young people and well-being is appropriate given that almost 37% of the population falls between the ages of 10 and 24 (Statistics South Africa, 2012). Most of these young people face health and socio-economic problems associated with poverty, as well as normative age-related challenges (Coovadia et al., 2009). Because the promotion of a strengths and assets-based approach in young people is central to building long-term resilience and establishing a positive developmental trajectory, it is important to understand how the term well-being is utilised in the scientific community (Govender et al., 2018).

2.11 Summary

There has been significant research conducted on PWB and the predictors thereof. However, regardless of the possible predictors of and factors influencing PWB, it is important to assess these various factors in a South African context to establish a comparison between the different contexts and variables presented in the literature (Arends & Petersen, 2018; Bewick, 2010; Punia & Malaviya, 2015). This is especially important since PWB has been labelled a global phenomenon with serious consequences and effects on a range of individuals' functioning if not cared for.

The pursuit of happiness or PWB is central to human existence. Students face various responsibilities and challenges during their academic career, which could be the main reason and primary source of their stress and anxiety (Conway et al., 2019). In the majority of cases, students can handle the difficulties they face; however, in several cases, these challenges may have a serious impact on the young person's PWB. Students should be in a psychologically

healthy condition to achieve their life goals and obtain academic success. A stressful atmosphere may create and/or elevate psychological distress and reduce their academic performance (Dwyer & Cummings, 2001).

Researching student well-being can be useful for universities to understand the degree to which their students are self-accepting, pursuing meaningful goals with a sense of purpose in life, have established quality ties with others, are autonomous in thought and action, can manage complex environments to suit personal needs and values, and continue to grow and develop (Panchal et al., 2016). These are important issues to consider and combat in the specific population of university students whose PWB is crucial to maintain. In the next chapter, the methodology pertaining to this specific study is discussed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

Within this chapter, the research methodology used to gather and analyse the information regarding Resilience, Coping, Self-esteem, and Age as predictors of Psychological Well-being (PWB) amongst undergraduate university students at the University of the Free State, Bloemfontein, South Africa, is discussed. Firstly, the study's aim and research objectives will be explored, including the research design and methodology utilised. Secondly, the research sample, data collection and measuring instruments will be discussed. The measuring instruments include a demographic questionnaire, Ryff's Scales of Psychological Well-Being, the Resilience Scale, the Coping Strategy Indicator, and the Rosenberg Self-Esteem Scale. Lastly, the statistical procedures followed in order to analyse the data are also discussed, and the ethical considerations relevant to this study are presented. The chapter concludes with a summary of the research methodology.

3.2. Aim of the Study

This research study aimed to identify the predictor (independent) variable(s) or combination of predictor variables that explain a significant percentage of the variance in PWB amongst undergraduate university students. The predictor (independent) variable(s) were Coping, Resilience, Self-esteem and Age. In order to address the aim of this study, the following research questions were investigated:

- Can the combination of Coping, Resilience, Self-esteem, and Age explain a significant percentage of variance in the Psychological Well-being of undergraduate university students?
- Do any of the individual predictor variables being studied significantly contribute to the variance of Psychological Well-being in undergraduate students?

3.3. Research Objectives and Questions

The research problem explored was the concept of PWB amongst university students and what predictor variables could predict PWB the best in the population group of undergraduate university students. Therefore, in this study, PWB served as the criterion (dependent) variable, while the university students' Coping, Resilience, Self-esteem, and Age were the predictor (independent) variables.

3.4. Research Design and Methods

A quantitative approach, along with a non-experimental type of research, was used to conduct this study. Following the overarching goal of this research study, which is to determine correlations between variables, a correlational design (Stangor, 2015) was used. Quantitative research is descriptive research that utilises formal measures of behaviour. These formal measures of behaviour include questionnaires and systematic observation of behaviour, which are designed to be subjected to statistical analysis. One strength of descriptive research is that it describes the density of everyday behaviour (McLeod, 2018; Nestor & Schutt, 2019). Consequently, it is utilised to present a relatively inclusive understanding of current happenings. However, although descriptive research provides an idea of what is presently happening, it is inadequate in providing static pictures (Stangor,

2015). Quantitative research can be classified into four main research types: experimental research, quasi-experimental research, pre-experimental research, and non-experimental research. This study used a non-experimental research design, namely the correlational research design, which is primarily utilised in descriptive research, as the units selected to participate in the study are measured on all significant variables at a certain point in time, and no manipulation occurs (Belli, 2009; Maree, 2007).

Correlational research includes measuring two or more variables and assessing the relationship among or between these variables. The aim of correlation research is to reveal variables that display systematic relationships with one another. The Pearson Product Moment Correlation coefficient is the most common measure of relationships between variables (McLeod, 2018; Nestor & Schutt, 2019). A strength of correlational research is that it can be utilised to assess everyday behaviour as it occurs, although it cannot be utilised to identify causal relationships between variables. Furthermore, the possibility exists that neither of the variables caused the other and that some alternative variables accounted for the observed variables to be correlated (McLeod, 2018).

3.5. Research Sample

This research study formed part of a larger research project, titled "Predictors of psychological well-being amongst undergraduate university students" (Ethics number: UFS-HSD2017/1313). The sample utilised for this study consisted of 1191 undergraduate university students aged between 18 and 29 at the University of the Free State. Students from different ages, genders, ethnic groups, years of study, and relationship statuses, at university, participated in the project. Participants who did not pertain to the inclusion criteria and did not fall within the specific age group of emerging adults were excluded from the sample.

Non-probability, convenience sampling was used in the larger project to recruit the participants (Stangor, 2015). Convenience sampling is considered the most commonly used sampling method. The sample is chosen based on the convenience of the investigator or due to the respondents being selected because they are at the right place at the right time (Etikan et al., 2016). The advantages are that convenience sampling is most commonly used, less expensive, and there is no need to list all the population elements (Vehovar et al., 2016). However, they are not without limitations; the foremost being variability and bias cannot be measured or controlled. Secondly, results from the data cannot be generalised beyond the sample (Stangor, 2015).

3.6. Data Collection Procedures and Measuring Instruments

The advertisement of the study occurred during undergraduate lectures, inviting students to participate in the study. This was conducted on a voluntary basis. Students could access the questionnaires aimed to gather data on Psychological Well-being, Coping, Resilience, Self-esteem and various demographic details via the Blackboard Learn platform. Blackboard Learn is a virtual learning environment and learning management system developed by Blackboard Inc. It is Web-based server software, featuring course management, customisable open architecture, and scalable design, allowing integration with student information systems and authentication protocols (Bradford et al., 2007). Blackboard Learn is utilised by the University of the Free State for both staff and students, and for staff to provide, among others, access to students to their academic modules. After the collection of data, a coding system was utilised to ensure the anonymity of the participants. The five questioning instruments used to gather the necessary data included:

- A self-compiled demographic questionnaire

- Ryff's Scales of Psychological Well-Being (SPWB)
- The Resilience Scale (RS)
- The Coping Strategy Indicator (CSI)
- The Rosenberg Self-esteem Scale (RSES)

3.6.1. Demographic Questionnaire

The self-compiled demographic questionnaire was used to collect biographical information such as gender, age, language, ethnicity, and relationship status.

3.6.2. Ryff's Scales of Psychological Well-Being

Carol Ryff investigated psychological well-being in relation to development and growth and developed a model consisting of six core dimensions of psychological well-being (Ryff, 1989; Van Dierendonck, 2004). A measuring instrument, containing a 42-item scale, termed the Ryff's Scales of Psychological Well-being (SPWB; Ryff, 1989), was developed to measure these core dimensions of eudaimonic well-being. These six subscales of eudaimonic well-being include (i) purpose in life, (ii) autonomy, (iii) environmental mastery, (iv) positive relations with others, (v) personal growth, and (vi) self-acceptance (Gao & McLellan, 2018). Within this study, participants had to specify their level of agreement with 42 self-descriptive statements based on a six-point Likert-type scale ranging from 1 = "*strongly disagree*" to 6 = "*strongly agree*". Higher scores on these subscales represent higher levels of PWB (Ryff, 1989). The Cronbach alpha for the subscales has been identified as autonomy = 0.88, environmental mastery = 0.91, personal growth = 0.92, positive relations with others = 0.89, purpose in life = 0.91, and self-acceptance = 0.92 (Kállay & Rus, 2014).

Ryff (1989) criticised the common scales of well-being (e.g., measures by Fordyce, 2005). These scales only measure what is now called hedonic well-being (Braaten et al., 2019; Kumar, 2014; Li et al., 2015). This issue is related to the construct validity of the SPWB, namely that it measures both similar and different aspects of well-being. Only a few studies used second-order factor analyses with different well-being and mental health measures to investigate possible underlying dimensions (Compton, 1998; Compton et al., 1996; Kafka & Kozma, 2002; Ryff, 1989; Shryock & Meeks, 2018). In these studies, subjective well-being and self-actualisation or personal growth are suggested as two separate but related, underlying constructs. Regarding the SPWB, these studies show that Self-acceptance is most strongly related to subjective well-being scales. However, studies into the factorial validity of the SPWB have been scarce. A good factorial validity is one way to establish the construct validity of a scale. Although earlier studies confirmed the proposed structure (Ryff, 1989; Ryff & Keyes, 1995), Kafka and Kozma (2002) found that the factorial validity is not unambiguous (Henn et al., 2016).

3.6.3. Resilience Scale

The Resilience Scale (RS), developed by Wagnild and Young (1993), is a 50-item self-report questionnaire to identify the degree of individual resilience. The RS has been found a reliable and valid tool to measure resilience (Wagnild, 2009; Wagnild & Young, 1993). It has been used with a wide range of study populations and has been regarded as the best assessment method to evaluate resilience in the young adult population due to good psychometric properties and applications in a variety of age groups (for reviews, see Ahern et al., 2006; Wagnild, 2009). The RS items were drawn from interviews with persons who characterised the generally accepted definitions of resilience. Thus, the RS has been argued to

have a priori content validity (Wagnild & Young, 1993). According to previous studies, resilience measured by the RS has a positive correlation with life satisfaction, self-esteem, self-rated health, self-actualisation, stress management and social support, and a negative correlation with depressive symptoms and anxiety (Abiola & Udofia, 2011; Heilemann et al., 2003; Humphreys, 2003; Nishi et al., 2010; Wagnild, 2009; Wagnild & Young, 1993).

The RS initially comprised 50 items but was reduced through factor analysis to a scale of 25 items. These items are rated on a seven-point Likert-type scale ranging from (1) "*totally disagree*" to (7) "*totally agree*" (Oladipo & Idemudia, 2015). The Cronbach alpha for this scale has been identified as between 0.87 and 0.95 (Botha, 2014; Cronje, 2019; De Villiers, 2009; Oladipo & Idemudia, 2015). The total score varies between a minimum of 25 to a maximum of 175 points, with higher scores indicating a higher degree of resilience (Wagnild & Young, 1993). The internal consistency of the RS as found by Wagnild and Young (1993) ($\alpha = 0.91$), Wagnild (2010) ($\alpha = 0.93$), and Cronje (2019) ($\alpha = 0.95$) have been reported to be excellent. The RS has been translated into various languages and the internal consistency of the Russian (Aroian et al., 1997), Spanish (Heilemann et al., 2003), Swedish (Nygren et al., 2005), Japanese (Nishi et al., 2010) and Nigerian (Abiola & Udofia, 2011) versions also reported as acceptable (α between 0.83 and 0.93).

3.6.4. Coping Strategy Indicator

The Coping Strategy Indicator (CSI; Amirkhan, 1990) was used to measure the coping strategies of the participants. The CSI consists of 33 items and three subscales assessing 11 items each. These subscales include (a) Problem-solving; (b) Seeking Social Support and (c) Avoidance. By refining the item pool indicating coping strategy through assessment of coping behaviour in a series of sample populations, Amirkhan sought to produce an

inductively derived instrument with significant generality across surveyed populations (Amirkhan 1990). The CSI assesses responses to real-world event-like stressors, rather than tapping beliefs about typical coping or anticipated reactions to hypothetical situations (e.g., the Miller Behavioral Style Scale, Miller, 1987).

The original validation studies of Amirkhan indicated that the CSI offers valid and reliable measures of discrete coping strategies (on the scales Problem-solving, Seeking Social Support and Avoidance) within a range of Californian populations. A high score on each subscale indicates a higher tendency to utilise the associated coping strategy (Amirkhan, 1994a). The Cronbach alpha for the subscales has been identified as ranging from 0.68-0.90 for Problem-solving, 0.72–0.86 for Seeking Social Support, and 0.62–0.72 for Avoidance (Amirkhan, 1990, 1994b; Jordaan, 2014). CSI subscales prove to have high internal consistency and test-retest reliability coefficients (4- to 8-week intervals) and to be nearly perfectly orthogonal (Duquette et al., 2005; Kim et al., 2003). Furthermore, Amirkhan (1994a) provided very promising criterion-related validation evidence. Finally, the CSI is a very practical instrument. It is a brief measure, requiring only 15 minutes to complete. Scoring and interpretation are facilitated because all subscales have the same number of items (Bijttebier & Vertommen, 1997).

3.6.5. Rosenberg Self-Esteem Scale

The Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965), which has been used in many fields and has demonstrated comparable stability in many cultures, was used to measure the participants' self-esteem. The RSES measures global Self-esteem, thereby providing a good indication of general rather than specific views of the self (Bagley et al., 1997; Baumeister et al., 2003). Schmitt and Allik (2005) studied the use of the Rosenberg Self-Esteem Scale,

which was translated into 28 languages, in 53 countries and confirmed that it could be universally used in multiple cultures despite differences in some cultural characteristics. In the standard text on psychological measurements, Blascovich and Tomaka (1991) observed:

> The Rosenberg SES has enjoyed widespread use and utility as a unidimensional measure of self-esteem. In fact, the SES is the standard against which new measures are evaluated. Its ease of administration, scoring, and brevity underlie our recommendation for the use of the SES as a straightforward estimate of positive or negative feelings about the self. (p. 123)

The scale consists of 10 items on a four-point Likert-type scale that range from "*strongly agree*" (4) to "*strongly disagree*" (1), while items 2, 5, 6, 8, 9 are reverse scored. The higher the score, the higher the level of Self-esteem. The Cronbach alpha for this scale has been identified as between 0.77 and 0.88 (Arshad et al., 2015; Robins et al., 2001; Van Tonder, 2020).

3.8. Statistical Procedures and Data Analysis

Data collected from the participants were analysed using the Statistical Package for the Social Sciences; SPSS version 27 (IBM Corporation, 2020). SPSS uses univariate and multivariate modelling techniques to reach accurate conclusions and gain deeper insight into complex relationships within data, as well as between numerous variables (IBM Corporation, 2020). Furthermore, descriptive statistics for all scales were calculated by means of this system within the study, as well as the biographical characteristics of the sample of university students. Cronbach's Alpha Coefficient was calculated to determine the internal reliability of the questionnaires (see Table 2). Descriptive statistics were thus calculated, and correlations between the variables were also investigated. In addition, multiple regression analyses in the

form of hierarchical regression analyses were used, as this type of analysis is often used to investigate the relationship between one dependent (criterion) variable and many independent variables or predictors (Aron et al., 2014; Petrocelli, 2003). A hierarchical multiple regression analysis was thus used to determine which predictor variable(s) (Coping, Resilience, Self-esteem, or Age) or combination of variables would explain a significant percentage of the variance of PWB amongst undergraduate university students. With this, several variables can be analysed in the context of the relationship between a dependent (criterion) variable (in this case, PWB) and numerous independent (predictor) variables, while also accounting for the increment of variance of each variable which is entered into the analysis (Bürkner & Vuorre, 2019). Hierarchical regression allows for control of variables to analyse the effect of a specific predictor variable by calculating the change in the adjusted R^2 at each step of the analysis (Lewis, 2007; Pedhazur, 1997). Furthermore, the variance in the criterion variable was also investigated by evaluating the effect size of the contribution made by a specific predictor or set of predictors. Through this, the proportion of residual variance in the full model (all predictors included) with regards to the contribution to R^2 can be illustrated.

However, because the hierarchical regression analyses did not deliver many practically significant results for the independent variables, a decision was made to conduct stepwise regression analyses. Stepwise regression involves developing a sequence of linear models that, according to Snyder (1991, p. 99),

> can be viewed as a variation of the forward selection method since predictor variables are entered one at a time, but true stepwise entry differs from forward entry in that at each step of a stepwise analysis the removal of each entered predictor is also considered; entered predictors are deleted in subsequent steps if they no longer contribute appreciable unique predictive power to the regression when considered in combination with newly entered predictors.

A stepwise regression thus refers to a regression analysis in which no specific order for the variables is selected before entering them into the regression model (Aiken & West, 1991; Lewis, 2007; Stangor, 2015). A stepwise multiple linear regression has proved to be a useful computational technique in data analysis problems (Breaux, 1967; SPSS Stepwise Linear Regression, 2019). Stepwise methods are used in research to evaluate the order of importance of variables and to select useful subsets of variables (Huberty, 1989; Thompson, 1995). Several limitations exist for using stepwise regression (Lewis, 2007; Thompson, 1995). A specific challenge with stepwise regression is that some real descriptive variables that have a causal impact on the dependent variable may appear to not be statistically significant, while nuisance variables may be unpredictably significant. Due to this, the model may fit the data well in the sample but ultimately does not fit well out-of-sample (Lewis, 2007). Within this study, a stepwise regression analysis was thus used to determine the following:

- Which one of these six independent variables explained the most variance of each of the criterion variables;
- Whether this independent variable explained a significant percentage of the variance of the criterion variable;
- If any of the remaining independent variables also explained a significant percentage of the variance of the criterion variable;
- If more than one independent variable was added to the regression equation and whether the combined set of independent variables explained a significant percentage of the variance.

3.9. Ethical Considerations

This study forms part of a larger research project titled “Predictors of psychological well-being amongst undergraduate university students” and thus used an existing set of data. Ethical clearance from the General Human Research Ethics Committee of the Faculty of the Humanities (GHREC) at the University of the Free State, including permission from the Dean of Students, had been obtained (Ethics number: UFS-HSD2017/1313) for the larger project. Permission for the secondary analyses of the data for this study was further granted by the GHREC (Ethics number: UFS-HSD2020/1400/0510). The vital principles of confidentiality, beneficence and non-maleficence (Allan, 2016) was strictly adhered to as a means of avoiding possible harm to participants. An informed consent form was provided to the participants to comprehensively brief the participants on the anonymous and voluntary nature of the study, along with the permission to report and store their data anonymously. The primary purpose of this research study was also explained to the participants before they agreed to participate. The participants were thoroughly informed regarding the research through an informed consent document (see Appendix), which willing participants also signed to indicate their voluntary participation within the research. This document also informed participants of the anonymous and voluntary nature of the study and served to obtain permission to report and store their data anonymously. Following the data collection procedure, the anonymity of the participants was ensured by using a coding system; all data were kept safe and secure on a password-protected computer to which only the researcher had access. If complications occurred, participants were free to withdraw from the study and referred to the Student Counselling and Development Services at the University of the Free State. Finally, this study does not rely on any external factors – whether it includes analysis, views from other researchers – and therefore holds true to the principles of independent research implementation.

3.10. Summary

This chapter included a discussion regarding the research methodology utilised in this study. The discussion consisted of an explanation of the research project that forms part of a larger research project, as well as contextualising the research. Furthermore, the research problem, aims and objectives were stated, and research questions formulated against these objectives. The quantitative, non-experimental, correlational research design was also further discussed. This was followed by explaining the non-probability, convenience sampling method, and how this method was applied to participants in a manner that respondents could take part in the research in an online manner. The specific research sample pertaining to this study was also discussed, as well as an in-depth discussion of the participants' demographic details based on the biographical questionnaire which respondents completed. The manner in which data was collected for this research project was also discussed by exploring the five respective questionnaires, which respondents were required to complete. A discussion of the data analysis methods in terms of correlation, including an additional stepwise regression analysis, was also discussed in detail. The chapter concluded with a brief discussion of the ethical considerations. In the next chapter, the results obtained from the data analysis will be presented.

CHAPTER 4

RESULTS

4.1 Introduction

In this chapter, the results of the statistical analyses are described. Firstly, a discussion on the descriptive statistics, followed by the means, standard deviations, skewness, kurtosis and internal consistencies of the various measuring instruments, will be provided. The results of the correlation analysis will also be presented, followed by the results of the hierarchical regression analyses conducted independently for each subscale of the criterion variable (Autonomy, Personal Growth, Positive Relations, Purpose in Life, and Self-acceptance). Finally, a stepwise regression analysis is conducted independently for each subscale of the criterion variable (Autonomy, Personal Growth, Positive Relations, Purpose in Life, and Self-acceptance). Only medium to large effect sizes obtained will be elaborated on.

Regarding correlations, Steyn (2005) stated that an effect size of 0.1 is small, an effect size of 0.3 is medium, and a large effect size is 0.5. The hierarchical regression analyses conducted for the criterion variable (Psychological Well-being) will subsequently be explored in detail. Results examined and reported on will only include those that indicate at least a medium effect size and are statistically significant. According to Cohen (1992), an effect size of 0.02 is small, an effect size of 0.15 is medium, and an effect size of 0.35 is large. The 1% and 5%-levels of significance were jointly used in the analyses of the data.

4.2 Descriptive Statistics

As mentioned in Chapter 3, the sample utilised for this study consisted of 1191 undergraduate university students aged between 18 and 29 at the University of the Free State. The students that participated were from different ages, sex, ethnic groups, years of study, and relationship statuses, among other inclusion criteria.

The frequencies for the research sample, as illustrated in Table 3, are calculated in terms of their sex, age, ethnicity, year of study, relationship status, and happiness at university.

Table 3

Frequency distribution of participants according to demographic variables

Demographic Variable	N	%
Sex		
Male	268	22.5
Female	923	77.5
Age		
18 years	15	1.3
19 years	98	8.2
20 years	218	18.3
21 years	264	22.2
22 years	217	18.2
23 years	133	11.2
24 years	80	6.7
25 years	47	3.9
26 years	21	1.8
27 years	20	1.7
28 years	15	1.3
29 years	11	0.9
Other	52	4.4
Ethnicity		
Black	961	80.7
Coloured	49	4.1
White	153	12.8
Asian	1	0.1
Indian	4	0.3
Other	2	1.9
Year of Study		
First-year	29	2.4
Second-year	596	50.0
Third-year	439	36.9
Fourth-year	72	6.0
Other	55	4.6
Relationship Status		
Single	587	49.3
In a relationship	536	45.0
Married	16	1.3

Demographic Variable	N	%
Divorced	3	0.3
Separated	6	0.5
Other	43	3.6
Happiness at university		
I am enthusiastic about it	342	28.7
I like it	496	41.6
I am more or less neutral about it	317	26.6
I do not like it	36	3.0

From Table 3, it is evident that this sample was primarily female (N = 923; 77.5%), with only 22.5% of the sample being male (N = 268). Furthermore, the data of the participants' age was continuous, with the average age being 22.12 years (SD = 2.65). In terms of ethnicity, 80.7% (N = 961) of the sample identified as Black, 12.8% (N = 153) identified as White, 4.1% as Coloured (N = 49) and 0.3% identified as Indian (N = 4). Only 0.1% of the sample identified as Asian (N = 1) and 1.9% (N = 23) of participants were of other ethnicities. Most (N = 1035; 86.9%) participants were enrolled in their second or third year of university. More specifically, 50% of the participants were enrolled in their second year of study (N = 596) and 36.9% in their third year of university (N = 439). Only 6% (N = 72) were enrolled in their fourth year of study and 2.4% in their first year of study (N = 29). Lastly, 4.6% (N = 55) were enrolled in years other than those mentioned.

Pertaining to relationship status, the students were also more or less evenly dispersed, with 49.3% of students being involved in a relationship (N = 587), while 45% identified as single (N = 536). Lastly, in terms of happiness at university, the majority of the sample (N = 838; 70.3%) indicated feeling enthusiastic about university (N = 342; 28.7%) or enjoying their university experience (N = 496; 41.6%), while 26.6% (N = 317) of the sample mentioned feeling neutral about it, and only 3% (N = 36) stating not liking university.

4.3 Means, standard deviations, skewness, kurtosis and internal consistencies of the various measuring instruments

The means, standard deviations, skewness, kurtosis, as well as the internal consistencies of the various subscales of the measuring instruments are reported in Table 4 for the total group of participants. Cronbach's alpha coefficient (α) was calculated as an indication of the internal consistency of the subscales.

Table 4

Descriptive statistics and reliability coefficients for the SPWB subscales, RS, CSI subscales, and RSES

Measures	1191	M	SD	α	Skewness	Kurtosis
SPWB						
Autonomy	1191	29.63	5.398	0.60	-0.058	-0.152
Environmental Mastery	1191	27.38	4.668	0.40	-0.089	0.041
Personal Growth	1191	32.41	5.242	0.61	-0.234	-.0777
Positive Relations	1191	30.17	5.867	0.63	-0.095	-0.463
Purpose in Life	1191	30.77	5.259	0.60	-0.368	-0.124
Self-Acceptance	1191	29.97	6.270	0.71	-.0383	-0.051
RS	1191	132.28	24.231	0.95	-0.440	-0.372
CSI						
Problem-solving	1191	27.16	4.072	0.86	-0.399	-0.504
Social Support	1191	24.08	4.824	0.88	-0.225	-0.182
Avoidance	1191	23.64	3.907	0.73	-0.095	-0.108
RSES	1191	28.92	4.820	0.82	0.004	0.215

Table 4 indicates that the Cronbach's alpha coefficients for the SPWB subscales, RS, CSI subscales, and RSES range from 0.400 to 0.95. The majority of these scales displayed acceptable levels of internal consistency (Vogt, 2005) and were thus included in the subsequent analyses. However, the Environmental Mastery subscale has been excluded from further statistical analysis in this study, as it had an unacceptable level of internal consistency (0.40). As part of the descriptive statistics in this table, the researcher investigated whether the data is normally distributed by calculating the skewness and kurtosis values of the different subscales. According to Kahane (2008), the cut-off point for skewness is > |2| and

kurtosis > |4|. Thus, it is clear from Table 4 that the scores on all the subscales are within these cut-off points and do not deviate substantially from normality.

4.4 Correlations between Variables

The Pearson Product Moment correlation coefficients were premediated for the independent (predictor) variables, namely Coping, Resilience, Self-Esteem and Age, as well as the dependent (outcome) variable, namely Psychological Well-Being, prior to conducting the regression analyses. All the assumptions of correlational analyses were met. Table 5 illustrates the correlation coefficients.

Table 5

Correlations between the SPWB subscales and Age, RS, CSI subscales, and RSES (N=1191)

	1	2	3	4	5	6	7	8	9	10	11
1. Age	-	-.030	-.131**	-.095**	-.032	-.087**	-.036	-.064*	-.012	-.082**	-.099**
2. Au		-	.439**	.379**	.395**	.493**	.124**	.312**	-.145**	.369**	.325**
3. PG			-	.487**	.505**	.496**	.142**	.373**	-.198**	.442**	.390**
4. PR				-	.459**	.522**	.311**	.307**	-.256**	.410**	.305**
5. PiL					-	.612**	.243**	.418**	-.125**	.435**	.415**
6. SA						-	.252**	.354**	-.251**	.576**	.391**
7. SSS							-	.393**	-.097**	.193**	.176**
8. PS								-	.009	.395**	.478**
9. AV									-	-.299**	-.063*
10. SE										-	.563**
11. RE											-

Key: AU = Autonomy, PG = Personal Growth, PR = Positive Relations, PiL = Purpose in Life, SA = Self-Acceptance, SSS = Seeking Social Support, PS = Problem-solving, AV = Avoidance, SE = Self-Esteem, RE = Resilience

* $p \leq 0.05$ ** $p \leq 0.01$

Table 5 indicates that Autonomy has a statistically significant positive correlation with Problem-solving. This correlation is statistically significant at the 1% level with a medium effect size of 0.31. This finding suggests that students with higher levels of autonomy tend to use problem-solving as a coping strategy. This finding may also suggest that students that tend to use problem-solving as a coping strategy tend to have higher levels of autonomy. Autonomy also has a statistically significant positive correlation with Self-esteem. This

correlation is statistically significant at the 1% level with a medium effect size of 0.37. This finding suggests that students with higher levels of autonomy tend to have higher levels of self-esteem. This finding may also indicate that students with higher levels of self-esteem tend to have higher levels of autonomy. Table 5 further shows that Autonomy has a statistically significant positive correlation with Resilience. This correlation is statistically significant at the 1% level with a medium effect size of 0.33. This finding suggests that students with higher levels of autonomy tend to have higher levels of resilience. This finding may also indicate that students with higher levels of resilience have higher levels of autonomy.

Furthermore, Table 5 indicates that Personal Growth has a statistically significant positive correlation with Problem-solving. This correlation is statistically significant at the 1% level, with a medium effect size of 0.37. Therefore, it could be attributed that if a student experiences a sense of personal growth, they will also exhibit the coping strategy of problem-solving. Additionally, the findings could also be that those who exhibit the coping strategy of problem-solving will have a higher sense of personal growth. Table 5 further shows that Personal Growth has a statistically significant positive correlation with Self-esteem. This correlation is statistically significant at the 1% level, with a medium effect size of 0.44. These findings could indicate that if a student has a higher sense of personal growth, they will also have higher levels of self-esteem. This finding may also suggest that students with higher levels of self-esteem tend to have higher levels of personal growth.

Furthermore, Personal Growth has a statistically significant positive correlation with Resilience. This finding is statistically significant at the 1% level, with a medium effect size of 0.39. These findings could suggest that a student who experiences higher levels of personal growth will also have higher levels of resilience. Additionally, this could also indicate that

having higher levels of resilience could mean that students will have higher levels of personal growth.

Table 5 also depicts that Personal Relations has a statistically significant positive correlation with Seeking Social Support. This correlation is statistically significant at the 1% level, with a medium effect size of 0.31. This finding indicates that if a student experiences positive relations with others, they tend to seek more social support as a coping strategy. This could also suggest that if students use social support as a coping strategy, they tend to have more positive relations with others. Furthermore, Table 5 indicates that Personal Relations has a statistically significant positive correlation with Problem-solving. This finding is statistically significant at the 1% level, with a medium effect size of 0.31. Thus, it seems that students who experience positive relations with others tend to use problem-solving as a coping strategy. It might also suggest that if students use problem-solving as a coping strategy, they tend to experience positive relations with others. Table 5 further indicates that there is a statistically significant positive correlation between Personal Relations and Self-esteem. This finding is statistically significant at the 1% level, with a medium effect size of 0.41. Therefore, if students experience positive relations with others, they tend to have higher levels of self-esteem. These findings could also indicate that students with higher levels of self-esteem tend to have more positive relations with others. Table 5 further depicts that Personal Relations has a statistically significant positive correlation with Resilience. This correlation is statistically significant at the 1% level, with a medium effect size of 0.31. This finding suggests that students who experience more positive relations with others tend to have higher levels of resilience. The findings could also indicate that students with higher levels of resilience tend to experience more positive relations with others.

Table 5 further indicates that Purpose in Life has a statistically significant positive correlation with Problem-solving. This correlation is statistically significant at the 1% level,

with a medium effect size of 0.42. This finding indicates that having a purpose in life could mean using problem-solving more as a coping strategy. This finding could also indicate that students who tend to use problem-solving as a coping strategy tend to have a higher sense of purpose in life. Furthermore, Table 5 shows that Purpose in Life has a statistically significant positive correlation with Self-esteem. This correlation is statistically significant at the 1% level, with a medium effect size of 0.44. This finding indicates that students who tend to experience more purpose in life tend to have higher levels of self-esteem. Alternatively, this finding might suggest that students who have higher levels of self-esteem tend to experience a higher sense of purpose in life.

Table 5 also indicates that Purpose in Life has a statistically significant positive correlation with Resilience. This correlation is statistically significant at the 1% level, with a medium effect size of 0.42. This finding suggests that students who have a higher sense of purpose in life tend to have higher levels of resilience. This finding could also indicate that students who have higher levels of resilience tend to experience more purpose in life.

Table 5 further shows that Self-Acceptance has a statistically significant positive correlation with Problem-solving. This correlation is statistically significant at the 1% level, with a medium effect size of 0.35. This finding seems to indicate that students who show more self-acceptance tend to make more use of problem-solving as a coping strategy. This finding could also indicate that students who use problem-solving as a coping strategy tend to have more self-acceptance. Furthermore, Self-Acceptance has a statistically significant positive correlation with Self-esteem. This correlation indicates a large effect size of 0.58 at the 1% level of statistical significance. This finding seems to indicate that students who experience more self-acceptance tend to have higher levels of self-esteem. In turn, the correlation could also indicate that if students have higher self-esteem levels, they tend to have increased levels of self-acceptance. Table 5 also shows that Self-Acceptance has a

statistically significant positive correlation with Resilience. This correlation is statistically significant at the 1% level, with a medium effect size of 0.39. Therefore, this finding suggests that if students experience more self-acceptance, they tend to have higher levels of resilience. Alternatively, the finding could also suggest that if students have higher resilience levels, they tend to experience greater self-acceptance.

Finally, according to Table 5, age demonstrates very weak correlations with all the SPWB subscales. These findings, excluding Autonomy and Purpose in Life, are statistically significant at the 1% level. However, all these correlations have small effect sizes. Thus, no detailed discussion will follow with regard to these specific results.

4.5 Hierarchical Regression Analyses

The segment of the variance in Psychological Well-Being is explained by the independent (predictor) variables, namely Coping, Resilience, Self-Esteem and Age, and are subsequently investigated. Hierarchical regression analyses were employed to explore the contribution of the different sets of variables (Age, Coping, Resilience, Self-Esteem) to the percentage of variance in Psychological Well-Being, as well as the contribution of each of the individual independent variables. All the assumptions of regression analyses were met.

4.5.1 Hierarchical regression analyses with Autonomy as criterion variable

The results of the hierarchical regression analyses with Autonomy as the criterion variable are reported in Table 6.

Table 6

Contributions of Age, Coping, Self-Esteem, and Resilience to R2 with Autonomy as Criterion Variable

Variables in equation	R^2	*Contribution to R^2: full minus reduced model*	*F*	f^2
1. [Age] + [SSS + PS + A] + [SE] + [R]	0.182	1-2=0.009	13.207**	0.01
2. [Age] + [SSS + PS + A] + [SE]	0.173	-	-	-
3. [Age] + [SSS + PS + A] + [R] + [SE]	0.182	3-4=0.027	39.081**	0.03
4. [Age] + [SSS + PS + A] + [R]	0.155	-	-	-
5. [Age] + [SE] + [R] + [SSS + PS + A]	0.182	5-9=0.025	12.062**	0.03
6. [Age] + [SE] + [R] + SSS	0.158	6-9=0.001	1.409	-
7. [Age] + [SE] + [R] + PS	0.177	7-9=0.02	28.821**	0.02
8. [Age] + [SE] + [R] + A	0.160	8-9=0.003	4.236*	-
9. [Age] + [SE] + [R]	0.157			
10. [SE] + [R] + [SSS + PS + A] + [Age]	0.182	10-11=0.00	-	-
11. [SE] + [R] + [SSS + PS + A]	0.182			

Key: SSS = Seeking Social Support, PS = Problem-solving, A = Avoidance, SE = Self-Esteem, R = Resilience

**p≤0.01, *p≤0.05

It is evident from Table 6 that the combination of the independent variables contributes to 18.2% ($F_{6;1184} = 43.878$; $p \leq 0.01$) of the variance in the Autonomy scores of the sample. Resilience is responsible for 0.9% of the variance in the Autonomy scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.01$) suggests that it is of little practical significance. The corresponding effect size is thus small, and therefore the results will not be discussed in any further detail. Table 6 further indicates that Self-esteem accounts for 2.7% of the variance in the Autonomy scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.03$) suggests that it is of little practical significance. Though both Resilience and Self-esteem contribute statistically significantly to the variance of the Autonomy scores, the corresponding effect sizes are small, and the results will not be discussed in any further detail.

In Table 6, the CSI subscales (Problem-solving, Seeking Social Support and Avoidance) as a set of predictors account for 2.5% of the variance in the Autonomy scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size (f^2 = 0.03) indicates that it is of little practical significance. Therefore, the results will not be discussed further. Although Problem-solving and Avoidance contribute statistically significantly to the variance of the Autonomy scores, the corresponding effect sizes are small, and no discussion of the results will follow. Age, as a demographic variable, as displayed in Table 6, accounted for 0.0% of the variance in the Autonomy subscale scores of the sample.

4.5.2 Hierarchical regression analyses with Personal Growth as criterion variable

The results of the hierarchical regression analyses with Personal Growth as the criterion variable are reported in Table 7.

Table 7

Contributions of Age, Coping, Self-Esteem, and Resilience to R2 with Personal Growth as Criterion Variable

Variables in equation	R^2	*Contribution to R^2: full minus reduced model*	*F*	f^2
1. [Age] + [SSS + PS + A] + [SE] + [R]	0.273	1-2=0.011	17.915**	0.02
2. [Age] + [SSS + PS + A] + [SE]	0.262	-	-	-
3. [Age] + [SSS + PS + A] + [R] + [SE]	0.273	3-4=0.033	53.744**	0.05
4. [Age] + [SSS + PS + A] + [R]	0.240	-	-	-
5. [Age] + [SE] + [R] + [SSS + PS + A]	0.273	5-9=0.041	22.258**	0.06
6. [Age] + [SE] + [R] + SSS	0.234	6-9=0.002	3.097	-
7. [Age] + [SE] + [R] + PS	0.260	7-9=0.028	44.876**	0.04
8. [Age] + [SE] + [R] + A	0.241	8-9=0.009	14.063**	0.01
9. [Age] + [SE] + [R]	0.232	-	-	-
10. [SE] + [R] + [SSS + PS + A] + [Age]	0.273	10-11=0.007	11.400**	0.01
11. [SE] + [R] + [SSS + PS + A]	0.266	-	-	-

Key: SSS = Seeking Social Support, PS = Problem-solving, A = Avoidance, SE = Self-Esteem, R = Resilience

**p≤0.01, *p≤0.05

In accordance with Table 7, it is evident that the combination of the independent variables contributes to 27.3% ($F_{6;1184} = 74.286$; $p \leq 0.01$) of the variance in the Personal Growth scores of the sample. Resilience is responsible for 1.1% of the variance in the Personal Growth scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.02$) suggests that it is of little practical significance. The corresponding effect size is thus small, and therefore the results will not be discussed in any further detail. Table 7 also indicates that Self-esteem accounts for 3.3% of the variance in the Personal Growth scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.05$) suggests that it is of little practical significance.

In Table 7, the CSI subscales (Problem-solving, Seeking Social Support and Avoidance) as a set of predictors account for 4.1% of the variance in the Personal Growth scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.06$) indicates that it is of little practical significance. Therefore, the results will not be discussed further. Although Problem-solving and Avoidance contribute statistically significantly to the variance of the Personal Growth scores, the corresponding effect sizes are small, and the results will not be discussed. Age, as a demographic variable, as displayed in Table 7, accounted for 0.7% of the variance in the Personal Growth scores of the sample. Although Age contributes statistically significantly to the variance of the Personal Growth scores, the corresponding effect size is small, and the results will not be discussed in any further detail.

4.5.3 Hierarchical regression analyses with Positive Relations as criterion variable

The results of the hierarchical regression analyses with Positive Relations as the criterion variable are reported in Table 8.

Table 8

Contributions of Age, Coping, Self-Esteem, and Resilience to R2 with Positive Relations as Criterion Variable

Variables in equation	R^2	*Contribution to R^2: full minus reduced model*	*F*	f^2
1. [Age] + [SSS + PS + A] + [SE] + [R]	0.258	1-2=0.003	4.678**	-
2. [Age] + [SSS + PS + A] + [SE]	0.255	-	-	-
3. [Age] + [SSS + PS + A] + [R] + [SE]	0.258	3-4=0.033	52.678**	0.04
4. [Age] + [SSS + PS + A] + [R]	0.225	-	-	-
5. [Age] + [SE] + [R] + [SSS + PS + A]	0.258	5-9=0.079	42.020**	0.11
6. [Age] + [SE] + [R] + SSS	0.232	6-9=0.053	81.847**	0.07
7. [Age] + [SE] + [R] + PS	0.197	7-9=0.018	26.585**	0.02
8. [Age] + [SE] + [R] + A	0.203	8-9=0.024	35.714**	0.03
9. [Age] + [SE] + [R]	0.179			
10. [SE] + [R] + [SSS + PS + A] + [Age]	0.258	10-11=0.003	4.787**	-
11. [SE] + [R] + [SSS + PS + A]	0.255	-	-	-

Key: SSS = Seeking Social Support, PS = Problem-solving, A = Avoidance, SE = Self-Esteem, R = Resilience

**p≤0.01, *p≤0.05

With Table 8, it is indicated that the combination of the independent variables contributes to 25.8% ($F_{6;1184} = 68.708$; $p \leq 0.01$) of the variance in the Positive Relations scores of the sample. Resilience is responsible for 0.3% of the variance in the Positive Relations scores of the sample. This finding is statistically significant at the 1% level with no practical significance. Table 8 further indicates that Self-esteem accounts for 3.3% of the variance in the Positive Relations scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.04$) suggests that it is of little practical significance.

In Table 8, the CSI scales (Problem-solving, Seeking Social Support and Avoidance) as a set of predictors account for 7.9% of the variance in the Positive Relations scores of the sample. This finding is statistically significant at the 1% level with a small corresponding effect size ($f^2 = 0.11$). Although Problem-solving, Seeking Social Support and Avoidance contributes statistically significantly to the variance of the Positive relations scores, the

corresponding effect sizes are small. Thus, no discussion of the results will be included. Age, as a demographic variable, as displayed in Table 8, accounted for 0.3% of the variance in the Positive Relations scores of the sample. Although Age contributes statistically significantly to the variance of the Personal Growth scores, the corresponding effect size is small, and the results will not be discussed in any further detail.

4.5.4 Hierarchical regression analyses with Purpose in Life as criterion variable

The results of the hierarchical regression analyses with Purpose in Life as the criterion variable are reported in Table 9.

Table 9

Contributions of Age, Coping, Self-Esteem, and Resilience to R2 with Purpose in Life as Criterion Variable

Variables in equation	R^2	*Contribution to R^2: full minus reduced model*	*F*	f^2
1. [Age] + [SSS + PS + A] + [SE] + [R]	0.284	1-2=0.017	28.112**	0.02
2. [Age] + [SSS + PS + A] + [SE]	0.267	-	-	-
3. [Age] + [SSS + PS + A] + [R] + [SE]	0.284	3-4=0.031	51.263**	0.04
4. [Age] + [SSS + PS + A] + [R]	0.253	-	-	-
5. [Age] + [SE] + [R] + [SSS + PS + A]	0.284	5-9=0.052	28.663**	0.07
6. [Age] + [SE] + [R] + SSS	0.253	6-9=0.021	33.341**	0.03
7. [Age] + [SE] + [R] + PS	0.276	7-9=0.044	72.077**	0.06
8. [Age] + [SE] + [R] + A	0.232	8-9=0.000	-	-
9. [Age] + [SE] + [R]	0.232	-	-	-
10. [SE] + [R] + [SSS + PS + A] + [Age]	0.284	10-11=0.001	1.654	-
11. [SE] + [R] + [SSS + PS + A]	0.283	-	-	-

Key: SSS = Seeking Social Support, PS = Problem-solving, A = Avoidance, SE = Self-Esteem, R = Resilience

**p≤0.01, *p≤0.05

From Table 9, it is evident that the combination of the independent variables contributes to 28.4% ($F_{6;1184}$ = 78.229; p≤0.01) of the variance in the Purpose in Life scores of the sample. Resilience is responsible for 1.7% of the variance in the Purpose in Life scores of the sample.

This finding is statistically significant at the 1% level with a small corresponding effect size (f^2 = 0.02). Table 9 further indicates that Self-Esteem accounts for 3.1% of the variance in the Purpose in Life scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size (f^2 = 0.04) suggests that it is of little practical significance.

In Table 9, the CSI subscales (Problem-solving, Seeking Social Support and Avoidance) as a set of predictors account for 5.2% of the variance in the Purpose in Life scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size (f^2 = 0.07) indicates that it is of little practical significance. The results will not be discussed in any further detail. Although Problem-solving and Seeking Social Support contribute statistically significantly to the variance of the Purpose in Life scores, the corresponding effect sizes are small, and no discussion thereof will be included. Age, as a demographic variable, as displayed in Table 9, accounted for 0.1% of the variance in the Purpose in Life scores of the sample. No detailed discussion will follow due to the statistical insignificance of this finding.

4.5.5 Hierarchical regression analyses with Self-Acceptance as criterion variable

The results of the hierarchical regression analyses with Self-Acceptance as the criterion variable are reported in Table 10.

Table 10

Contributions of Age, Coping, Self-Esteem, and Resilience to R2 with Self-Acceptance as Criterion Variable

Variables in equation	R^2	*Contribution to R^2: full minus reduced model*	*F*	f^2
1. [Age] + [SSS + PS + A] + [SE] + [R]	0.373	1-2=0.002	3.777**	-
2. [Age] + [SSS + PS + A] + [SE]	0.371	-	-	-
3. [Age] + [SSS + PS + A] + [R] + [SE]	0.373	3-4=0.115	217.161**	0.18
4. [Age] + [SSS + PS + A] + [R]	0.258	-	-	-
5. [Age] + [SE] + [R] + [SSS + PS + A]	0.373	5-9=0.034	21.401**	0.05
6. [Age] + [SE] + [R] + SSS	0.358	6-9=0.019	35.100**	0.03
7. [Age] + [SE] + [R] + PS	0.353	7-9=0.014	25.663**	0.02
8. [Age] + [SE] + [R] + A	0.348	8-9=0.009	16.371**	0.01
9. [Age] + [SE] + [R]	0.339	-	-	-
10. [SE] + [R] + [SSS + PS + A] + [Age]	0.373	10-11=0.001	1.888	-
11. [SE] + [R] + [SSS + PS + A]	0.372	-	-	-

Key: SSS = Seeking Social Support, PS = Problem-solving, A = Avoidance, SE = Self-Esteem, R = Resilience

**p≤0.01, *p≤0.05

From Table 10, it is evident that the combination of the independent variables contributes to 37.3% ($F_{6;1184}$ = 117.527; p≤0.01) of the variance in the Self-Acceptance scores of the sample, indicating a statistically significant result on the 1% level. Resilience is responsible for 0.2% of the variance in the Self-Acceptance scores of the sample. This finding is statistically significant at the 1% level with no practical significance. Table 8 illustrates that 11.5% of the variance in the Self-acceptance scores of the sample is accounted for by Self-Esteem as a statistically significant predictor variable. The medium comparable effect size (f^2 = 0.18) suggests that this finding is of practical significance and the statistical significance is at the 1% level. Furthermore, Table 3 indicates a strong statistically significant positive correlation on the 1% level for Self-Esteem and Self-Acceptance.

In Table 8, the CSI subscales (Problem-solving, Seeking Social Support and Avoidance) as a set of predictors account for 3.4% of the variance in the Self-Acceptance scores of the sample. This finding is statistically significant at the 1% level with a small corresponding

effect size (f^2 = 0.05). Although Problem-solving, Seeking Social Support and Avoidance individually contribute statistically significantly to the variance of the Self-Acceptance scores, the corresponding effect sizes are small. Therefore, the results will not be discussed in any further detail. Age, as a demographic variable, as displayed in Table 8, accounted for 0.1% of the variance in the Self-Acceptance scores of the sample. No detailed discussion will follow due to the statistical insignificance of this finding.

However, due to the limited statistical and practical significant results obtained from the hierarchical regression analyses, a decision was made to conduct a stepwise regression analysis. Stepwise regression analysis was thus used to determine:

- Which one of these six independent variables explained the most variance of each of the criterion variables;
- Whether this independent variable explained a significant percentage of the variance of the criterion variable;
- If any of the remaining independent variables also explained a significant percentage of the variance of the criterion variable;
- If more than one independent variable was added to the regression equation and whether the combined set of independent variables explained a significant percentage of the variance.

4.6 Stepwise Regression Analyses

In order to interpret the statistical results in terms of effect sizes for stepwise regression analyses, Steyn (2005) recommended that the following guidelines be used to interpret the proportional variance explained by the different independent variables: p^2 = 0.01 (small); p^2 = 0.1 (medium) and p^2 = 0.25 (large) effect. The 1% and 5% level of significance was used.

The analyses were performed for the five criterion variables (Autonomy, Personal Growth, Positive Relations, Purpose in Life, and Self-acceptance) independently.

The stepwise regression analysis with Autonomy as criterion variable will be discussed next.

4.6.1 Stepwise Regression Analysis with Autonomy as criterion variable

The results of the stepwise regression analysis with Autonomy as the criterion variable are reported in Table 11.

Table 11

Stepwise Regression Analysis with Autonomy as Criterion Variable

				Change statistics		
Step	Variable entered N = 1191	Partial R^2	Model R^2	F-value	Direction of relationships with Internal Adjustment	Pr > F
1	Self-esteem	0.136	0.136	187.649	Positive	0.000**
2	Problem-solving	0.033	0.169	46.895	Positive	0.000**
3	Resilience	0.007	0.177	10.649	Positive	0.001**
4	Avoidance	0.005	0.179	7.408	Negative	0.007**

* p≤0.05**p≤0.01

All six predictor variables resulted in an explanation of a combined 18.2% ($F_{6;1184}$ = 43.878; $p \leq 0.01$) of the variance in the Autonomy scores of the sample.

In Step 1 of the stepwise regression analysis, the independent variable, Self-esteem, was first entered into the regression equation and found to be significant on the 1% level of significance. Self-esteem accounted for 13.6% of the variance of Autonomy (F = 187.649, $p \leq 0.01$). A positive correlation between Self-esteem and Autonomy was found. This finding implies that those participants with higher levels of self-esteem will seemingly have higher levels of autonomy. The corresponding effect size ($\rho^2 = 0.16$) indicates that the result is of medium practical significance.

In Step 2, the independent variable, Problem-solving, was added to the regression equation. Problem-solving contributed an additional 3.3% to the variance of Autonomy on the 1% level of significance ($F = 46.895$, $p \leq 0.01$). The corresponding effect size ($\wp^2 = 0.03$) for the partial R^2 indicates that the contribution of Problem-solving is not of practical importance. Combined, these two independent variables, Self-esteem and Problem-solving, accounted for 16.9% ($p \leq 0.01$) of the variance in the students' Autonomy. Thus, the corresponding effect size ($\wp^2 = 0.20$) indicates that the contribution of these two independent variables in combination is of medium practical importance. A positive correlation was found between Problem-solving and Autonomy, which implies that when participants use problem-solving as a coping strategy, their Autonomy increased.

In Step 3, the independent variable, Resilience, was added to the regression equation. Resilience contributed an additional 0.7% ($F = 10.649$, $p \leq 0.01$) to the variance of Autonomy of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Resilience is not of practical importance. In Step 3, these three independent variables, Self-esteem, Problem-solving, and Resilience, explained 17.7% ($p \leq 0.01$) of the variance in the Autonomy of students. Therefore, the corresponding effect size ($\wp^2 = 0.14$) indicates that the contribution of these three independent variables in combination is of medium practical importance. The correlation between Resilience and Autonomy is positive, which suggests that participants who tend to have higher levels of Resilience seem to have increased Autonomy.

In the last step (Step 4), the independent variable, Avoidance, was added to the regression equation. Avoidance contributed an additional 0.5% ($F = 7.408$, $p \leq 0.01$) to the variance of Autonomy of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Avoidance is not of practical importance. In Step 4, these

four independent variables, Self-esteem, Problem-solving, Resilience, and Avoidance, explained 17.9% ($p \leq 0.01$) of the variance in the Autonomy of students. Therefore, the corresponding effect size ($\rho^2 = 0.22$) indicates that the contribution of these four independent variables in combination is of medium practical importance. The correlation between Avoidance and Autonomy is negative, which suggests that participants who tend to use Avoidance as a coping strategy seem to have decreased Autonomy.

The discussion shows that these **four** independent variables succeeded in explaining 17.9% of the total variance in Autonomy, while the remaining two variables (18.2%-17.9%=0.3%) in combination only explained an additional 0.3% to the variance in Autonomy.

The stepwise regression analysis with Personal Growth as criterion variable will be discussed next.

4.6.2 Stepwise Regression Analysis with Personal Growth as criterion variable

The results of the stepwise regression analysis with Personal Growth as the criterion variable are reported in Table 12.

Table 12

Stepwise Regression Analysis with Personal Growth as Criterion Variable

				Change statistics		
Step	Variable entered N = 1191	Partial R^2	Model R^2	*F*-value	Direction of relationships with Internal Adjustment	Pr > *F*
1	Self-esteem	0.195	0.195	288.260	Positive	0.000**
2	Problem-solving	0.047	0.242	73.081	Positive	0.000**
3	Resilience	0.011	0.253	17.466	Positive	0.000**
4	Avoidance	0.012	0.265	20.086	Negative	0.000**
5	Age	0.007	0.273	11.949	Negative	0.001**

* p≤0.05**p≤0.01

All six predictor variables resulted in an explanation of a combined 27.3% ($F_{6;1184}$ = 74.286; $p \leq 0.01$) of the variance in the Personal Growth scores of the sample.

In Step 1 of the stepwise regression analysis, the independent variable, Self-esteem, was first entered into the regression equation and found to be significant on the 1% level of significance. Self-esteem accounted for 19.5% of the variance of Personal Growth (F = 288.260, $p \leq 0.01$). A positive correlation between Self-esteem and Personal Growth was found. This finding implies that those participants with higher levels of self-esteem will seemingly have higher levels of Personal Growth. The corresponding effect size ($\rho^2 = 0.24$) indicates that the result is of medium practical significance.

In Step 2, the independent variable, Problem-solving, was added to the regression equation. Problem-solving contributed an additional 4.7% to the variance of Personal Growth on the 1% level of significance (F = 73.081, $p \leq 0.01$). The corresponding effect size (ρ^2 = 0.05) for the partial R^2 indicates that the contribution of Problem-solving is not of practical importance. Combined, these two independent variables, Self-esteem and Problem-solving, accounted for 24.2% ($p \leq 0.01$) of the variance in the students' Personal Growth. Thus, the corresponding effect size ($\rho^2 = 0.32$) indicates that the contribution of these two independent variables in combination is of large practical importance. A positive correlation was found between Problem-solving and Personal Growth, which implies that when participants use problem-solving as coping strategy, their Personal Growth increased.

In Step 3, the independent variable, Resilience, was added to the regression equation. Resilience contributed an additional 1.1% (F = 17.466, $p \leq 0.01$) to the variance of Personal Growth of the participants. The corresponding effect size ($\rho^2 = 0.01$) for the partial R^2 indicates that the contribution of Resilience is not of practical importance. In Step 3, these three independent variables, Self-esteem, Problem-solving, and Resilience, explained 25.3%

($p \leq 0.01$) of the variance in the Autonomy of students. Therefore, the corresponding effect size ($\wp^2 = 0.34$) indicates that the contribution of these three independent variables in combination is of large practical importance. The correlation between Resilience and Personal Growth is positive, which suggests that participants who tend to have higher levels of Resilience seem to have increased Personal Growth.

In Step 4, the independent variable, Avoidance, was added to the regression equation. Avoidance contributed an additional 1.2% ($F = 20.086$, $p \leq 0.01$) to the variance of Personal Growth of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Avoidance is not of practical importance. In Step 4, these four independent variables, Self-esteem, Problem-solving, Resilience, and Avoidance, explained 26.5% ($p \leq 0.01$) of the variance in the Personal Growth of students. Therefore, the corresponding effect size ($\wp^2 = 0.36$) indicates that the contribution of these four independent variables in combination is of large practical importance. The correlation between Avoidance and Personal Growth is negative, suggesting that participants who use Avoidance as a coping strategy seem to have decreased Personal Growth.

In the last step (Step 5), the independent variable, Age, was added to the regression equation. Age contributed an additional 0.7% ($F = 11949$, $p \leq 0.01$) to the variance of Personal Growth of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Age is not of practical importance. In Step 5, these five independent variables, Self-esteem, Problem-solving, Resilience, Avoidance, and Age, explained 27.3% ($p \leq 0.01$) of the variance in the Personal Growth of students. Therefore, the corresponding effect size ($\wp^2 = 0.38$) indicates that the contribution of these five independent variables in combination is of large practical importance. The correlation between Age and

Personal Growth is negative, which suggests that older participants tend to have decreased Personal Growth.

These **five** independent variables succeeded in explaining 27.3% of the total variance in Personal Growth, while the remaining one variable (27.3%-27.3%=0%) did not contribute to the explanation of the variance in Personal Growth.

The stepwise regression analysis with Positive Relations as criterion variable will be discussed next.

4.6.3 Stepwise Regression Analysis with Positive Relations as criterion variable

The results of the stepwise regression analysis with Positive Relations as the criterion variable are reported in Table 13.

Table 13

Stepwise Regression Analysis with Positive Relations as Criterion Variable

				Change statistics		
Step	Variable entered N = 1191	Partial R^2	Model R^2	F-value	Direction of relationships with Internal Adjustment	Pr > F
1	Self-esteem	0.168	0.168	240.101	Positive	0.000**
2	Seeking Social Support	0.056	0.224	85.781	Positive	0.000**
3	Avoidance	0.017	0.241	26.321	Negative	0.000**
4	Problem-solving	0.011	0.252	16.858	Positive	0.000**
5	Resilience	0.004	0.255	5.669	Positive	0.017*
6.	Age	0.003	0.258	5.085	Negative	0.024*

* p≤0.05**p≤0.01

All six predictor variables resulted in an explanation of a combined 25.8% ($F_{6;1184}$ = 68.708; p≤0.01) of the variance in the Positive Relations scores of the sample.

In Step 1 of the stepwise regression analysis, the independent variable, Self-esteem, was first entered into the regression equation and found to be significant on the 1% level of significance. Self-esteem accounted for 16.8% of the variance of Positive Relations (F =

240.101, $p \leq 0.01$). A positive correlation between Self-esteem and Positive Relations was found. This finding implies that those participants with higher levels of self-esteem will seemingly have higher levels of positive relations. The corresponding effect size ($\wp^2 = 0.20$) indicates that the result is of medium practical significance.

In Step 2, the independent variable, Seeking Social Support, was added to the regression equation. Seeking Social Support contributed an additional 5.6% to the variance of Positive Relations on the 1% level of significance ($F = 85.781$, $p \leq 0.01$). The corresponding effect size ($\wp^2 = 0.06$) for the partial R^2 indicates that the contribution of Seeking Social Support is not of practical importance. Combined, these two independent variables, Self-esteem and Seeking Social Support, accounted for 22.4% ($p \leq 0.01$) of the variance in the students' Positive Relations. Thus, the corresponding effect size ($\wp^2 = 0.29$) indicates that the contribution of these two independent variables in combination is of large practical importance. A positive correlation was found between Seeking Social Support and Positive Relations, implying that participants' positive relations increased when seeking social support increased.

In Step 3, the independent variable, Avoidance, was added to the regression equation. Avoidance contributed an additional 1.7% ($F = 26.321$, $p \leq 0.01$) to the variance of Positive Relations of the participants. The corresponding effect size ($\wp^2 = 0.02$) for the partial R^2 indicates that the contribution of Avoidance is not of practical importance. In Step 3, these three independent variables, Self-esteem, Seeking Social Support, and Avoidance, explained 24.1% ($p \leq 0.01$) of the variance in the Positive Relations of students. Therefore, the corresponding effect size ($\wp^2 = 0.32$) indicates that the contribution of these three independent variables in combination is of large practical importance. The correlation between Avoidance and Positive Relations is negative, which suggests that participants who use avoidance as a coping strategy seem to have decreased Positive Relations.

In Step 4, the independent variable, Problem-solving, was added to the regression equation. Problem-solving contributed an additional 1.1% ($F = 16.858$, $p \leq 0.01$) to the variance of Positive Relations of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Problem-solving is not of practical importance. In Step 4, these four independent variables, Self-esteem, Seeking Social Support, Avoidance, and Problem-solving, explained 25.2% ($p \leq 0.01$) of the variance in the Positive Relations of students. Therefore, the corresponding effect size ($\wp^2 = 0.34$) indicates that the contribution of these four independent variables in combination is of large practical importance. The correlation between Problem-solving and Positive Relations is positive, suggesting that participants who use problem-solving as a coping strategy seem to have increased Positive Relations.

In Step 5, the independent variable, Resilience, was added to the regression equation. Resilience contributed an additional 0.4% ($F = 5.669$, $p \leq 0.05$) to the variance of Positive Relations of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Resilience is not of practical importance. In Step 5, these five independent variables, Self-esteem, Seeking Social Support, Avoidance, Problem-solving, and Resilience, explained 25.5% ($p \leq 0.05$) of the variance in the Positive Relations of students. Therefore, the corresponding effect size ($\wp^2 = 0.34$) indicates that the contribution of these five independent variables in combination is of large practical importance. The correlation between Resilience and Positive Relations is positive, which suggests that participants with higher levels of resilience tend to have increased Positive Relations.

In the last step (Step 6), the independent variable, Age, was added to the regression equation. Age contributed an additional 0.3% ($F = 5.085$, $p \leq 0.05$) to the variance of Positive Relations of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2

indicates that the contribution of Age is not of practical importance. In Step 6, these six independent variables, Self-esteem, Seeking Social Support, Avoidance, Problem-solving, Resilience, and Age, explained 25.8% ($p \leq 0.05$) of the variance in the Positive Relations of students. Therefore, the corresponding effect size ($\rho^2 = 0.35$) indicates that the contribution of these six independent variables in combination is of large practical importance. The correlation between Age and Positive Relations is negative, which suggests that as participants become older, they tend to have decreased Positive Relations.

The stepwise regression analysis with Purpose in Life as criterion variable will be discussed next.

4.6.4 Stepwise Regression Analysis with Purpose in Life as criterion variable

The results of the stepwise regression analysis with Purpose in Life as the criterion variable are reported in Table 14.

Table 14

Stepwise Regression Analysis with Purpose in Life as Criterion Variable

				Change statistics		
Step	Variable entered N = 1191	Partial R^2	Model R^2	F-value	Direction of relationships with Internal Adjustment	Pr > F
1	Self-esteem	0.189	0.189	277.115	Positive	0.000**
2	Problem-solving	0.072	0.261	115.269	Positive	0.000**
3	Resilience	0.015	0.276	25.038	Positive	0.001**
4	Seeking Social Support	0.006	0.282	10.018	Positive	0.002**

* p≤0.05**p≤0.01

All six predictor variables resulted in an explanation of a combined 28.4% ($F_{6;1184} = 78.229$; $p \leq 0.01$) of the variance in the Purpose in Life scores of the sample.

In Step 1 of the stepwise regression analysis, the independent variable, Self-esteem, was first entered into the regression equation and found to be significant on the 1% level of

significance. Self-esteem accounted for 18.9% of the variance of Autonomy ($F = 277.115$, $p \leq 0.01$). A positive correlation between Self-esteem and Purpose in Life was found. This finding implies that those participants with higher levels of self-esteem will seemingly have higher levels of purpose in life. The corresponding effect size ($\wp^2 = 0.23$) indicates that the result is of medium practical significance.

In Step 2, the independent variable, Problem-solving, was added to the regression equation. Problem-solving contributed an additional 7.2% to the variance of Purpose in Life on the 1% level of significance ($F = 115.269$, $p \leq 0.01$). The corresponding effect size ($\wp^2 = 0.08$) for the partial R^2 indicates that the contribution of Problem-solving is not of practical importance. Combined, these two independent variables, Self-esteem and Problem-solving, accounted for 26.1% ($p \leq 0.01$) of the variance in the students' Purpose in Life. Thus, the corresponding effect size ($\wp^2 = 0.35$) indicates that the contribution of these two independent variables in combination is of large practical importance. A positive correlation was found between Problem-solving and Purpose in Life, which implies that when participants use problem-solving as a coping strategy, their Purpose in Life increased.

In Step 3, the independent variable, Resilience, was added to the regression equation. Resilience contributed an additional 1.5% ($F = 25.038$, $p \leq 0.01$) to the variance of Purpose in Life of the participants. The corresponding effect size ($\wp^2 = 0.02$) for the partial R^2 indicates that the contribution of Resilience is not of practical importance. In Step 3, these three independent variables, Self-esteem, Problem-solving, and Resilience, explained 27.6% ($p \leq 0.01$) of the variance in the Purpose in Life of students. Therefore, the corresponding effect size ($\wp^2 = 0.38$) indicates that the contribution of these three independent variables in combination is of large practical importance. The correlation between Resilience and Purpose

in Life is positive, which suggests that participants who have higher levels of Resilience seem to have increased Purpose in Life.

In the last step (Step 4), the independent variable, Seeking Social Support, was added to the regression equation. Seeking Social Support contributed an additional 0.6% ($F = 10.018$, $p \leq 0.01$) to the variance of Purpose in Life of the participants. The corresponding effect size ($\rho^2 = 0.01$) for the partial R^2 indicates that the contribution of Avoidance is not of practical importance. In Step 4, these four independent variables, Self-esteem, Problem-solving, Resilience, and Seeking Social Support, explained 28.2% ($p \leq 0.01$) of the variance in the Purpose in Life of students. Therefore, the corresponding effect size ($\rho^2 = 0.39$) indicates that the contribution of these four independent variables in combination is of large practical importance. The correlation between Seeking Social Support and Purpose in Life is positive, suggesting that participants who seek social support seem to have increased Purpose in Life.

These **four** independent variables succeeded in explaining 28.2% of the total variance in Purpose in Life, while the remaining two variables (28.4%-28.2%=0.2%) in combination only explained an additional 0.2% to the variance in Purpose in Life.

The stepwise regression analysis with Self-acceptance as criterion variable will be discussed next.

4.6.5 Stepwise Regression Analysis with Self-acceptance as criterion variable

The results of the stepwise regression analysis with Self-acceptance as the criterion variable are reported in Table 15.

Table 15

Stepwise Regression Analysis with Self-acceptance as Criterion Variable

				Change statistics		
Step	Variable entered N = 1191	Partial R^2	Model R^2	F-value	Direction of relationships with Internal Adjustment	Pr > F
1	Self-esteem	0.331	0.331	588.897	Positive	0.000**
2	Seeking Social Support	0.021	0.352	38.087	Positive	0.000**
3	Problem-solving	0.009	0.361	16.040	Positive	0.000**
4	Avoidance	0.009	0.370	16.664	Negative	0.000**
5	Resilience	0.003	0.372	4.753	Positive	0.029*

* p≤0.05**p≤0.01

All six predictor variables resulted in an explanation of a combined 37.3% ($F_{6;1184}$ = 117.527; p≤0.01) of the variance in the Self-acceptance scores of the sample.

In Step 1 of the stepwise regression analysis, the independent variable, Self-esteem, was first entered into the regression equation and found to be significant on the 1% level of significance. Self-esteem accounted for 33.1% of the variance of Self-acceptance (F = 588.897, p≤0.01). A positive correlation between Self-esteem and Self-acceptance was found. This finding implies that those participants with higher levels of self-esteem will seemingly have higher levels of self-acceptance. The corresponding effect size ($\wp^2$ = 0.50) indicates that the result is of large practical significance.

In Step 2, the independent variable, Seeking Social Support, was added to the regression equation. Seeking Social Support contributed an additional 2.1% to the variance of Self-acceptance on the 1% level of significance (F = 38.087, p≤0.01). The corresponding effect size ($\wp^2$ = 0.02) for the partial R^2 indicates that the contribution of Seeking Social Support is not of practical importance. Combined, these two independent variables, Self-esteem and Seeking Social Support accounted for 35.2% (p≤0.01) of the variance in the students' Self-acceptance. Thus, the corresponding effect size ($\wp^2$ = 0.54) indicates that the contribution of these two independent variables in combination is of large practical importance. A positive

correlation was found between Seeking Social Support and Self-acceptance, which implies that when participants seek social support, their Self-acceptance increased.

In Step 3, the independent variable, Problem-solving, was added to the regression equation. Problem-solving contributed an additional 0.9% ($F = 16.040$, $p \leq 0.01$) to the variance of Self-acceptance of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Problem-solving is not of practical importance. In Step 3, these three independent variables, Self-esteem, Seeking Social Support, and Problem-solving, explained 36.1% ($p \leq 0.01$) of the variance in the Self-acceptance of students. Therefore, the corresponding effect size ($\wp^2 = 0.57$) indicates that the contribution of these three independent variables in combination is of large practical importance. The correlation between Problem-solving and Self-acceptance is positive, suggesting that participants who use problem-solving as a coping strategy seem to have increased Self-acceptance.

In Step 4, the independent variable, Avoidance, was added to the regression equation. Avoidance contributed an additional 0.9% ($F = 16.664$, $p \leq 0.01$) to the variance of Self-acceptance of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Avoidance is not of practical importance. In Step 4, these four independent variables, Self-esteem, Seeking Social Support, Problem-solving, and Avoidance, explained 37.0% ($p \leq 0.01$) of the variance in the Self-acceptance of students. Therefore, the corresponding effect size ($\wp^2 = 0.59$) indicates that the contribution of these four independent variables in combination is of large practical importance. The correlation between Avoidance and Self-acceptance is negative. This suggests that participants who use Avoidance as a coping strategy seem to have decreased Self-acceptance.

In the last step (Step 5), the independent variable, Resilience, was added to the regression equation. Resilience contributed an additional 0.3% ($F = 4.753$, $p \leq 0.05$) to the variance of Self-acceptance of the participants. The corresponding effect size ($\wp^2 = 0.01$) for the partial R^2 indicates that the contribution of Resilience is not of practical importance. In Step 5, these five independent variables, Self-esteem, Seeking Social Support, Problem-solving, Avoidance, and Resilience, explained 37.2% ($p \leq 0.01$) of the variance in the Self-acceptance of students. Therefore, the corresponding effect size ($\wp^2 = 0.59$) indicates that the contribution of these five independent variables in combination is of large practical importance. The correlation between Resilience and Self-acceptance is positive, suggesting that participants with higher levels of resilience have increased Self-acceptance.

The discussion shows that these **five** independent variables succeeded in explaining 37.2% of the total variance in Self-acceptance, while the remaining one variable (37.3%-37.2%=0%) only explained an additional 0.1% to the variance in Self-acceptance.

4.7 Summary

This chapter encompassed an extensive discussion on the results of the statistical analyses. The results of the correlations were presented, followed by the hierarchical regression analyses in relation to each subscale of the criterion variable (Autonomy, Personal Growth, Positive Relations, Purpose in Life, Self-acceptance). Furthermore, a stepwise regression analysis was conducted and the results presented.

According to the results from the hierarchical regression analyses, the combination of the predictor variables (Coping, Resilience, Self-esteem, and Age) statistically significantly predicted all subscales of the SPWB (Autonomy, Personal Growth, Positive Relations, Purpose in Life, Self-acceptance). However, the contribution to the variance of each of the

five subscales of the criterion variable by the sets of predictor variables or individual predictor variables delivered no practical significance, except for the variance in the Self-acceptance subscale scores of the sample accounted for by Self-esteem as a significant predictor variable. The small comparable effect size ($f^2 = 0.18$) suggests that this finding is of practical significance and the statistical significance is at the 1% level. Due to these findings, a stepwise regression analysis was also conducted to further explore which predictor variables explain the highest variance in each of the criterion variables. The self-esteem predictor variable explained the most variance in each of the subscales of the criterion variable; Autonomy (13.6%), Personal Growth (19.5%), Positive Relations (16.8%), Purpose in Life (18.9%), and Self-acceptance (33.1%). For each subscale of the criterion variable, the corresponding effect size was indicated as medium, with the exclusion of Self-acceptance, which indicated a result of a large practical significance ($P^2 = 0.50$). In Chapter Five, the results reported here will be discussed within the context of the relevant literature.

CHAPTER 5

INTERPRETATION OF FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1. Introduction

The central aim of this research study was to investigate which predictor (independent) variable(s) or combination of predictor variables explained the highest variance in PWB amongst undergraduate university students. In this chapter, the study's core findings will be discussed in relation to various literature sources. Furthermore, the measuring instruments used in the study will also be briefly discussed in terms of their internal consistency. Also, the research questions posed to guide the research project will be explored by discussing the correlations, hierarchical regression analyses, and the stepwise regression analysis of variance in the context of the results obtained. The limitations of the study will also be addressed while providing recommendations for future research. Chapter Five concludes with a summary of the research, emphasising the pertinent pointers valuable during this research process.

5.2. Discussion of the Measuring Instruments Used in this Study

The results of this study were determined by using several measuring instruments. These measuring instruments included Ryff's *Scales of Psychological Well-being* (SPWB; Ryff, 1989), the *Resilience Scale* (RS; Wagnild & Young, 1993), the *Coping Strategy Indicator* (CSI; Amirkhan, 1990), and *Rosenberg's Self-esteem Scale* (RSES; Rosenberg, 1965). Table 4 (see page 77) indicated that the Cronbach alpha coefficients for the SPWB subscales, RS,

CSI subscales, and RSES ranged from 0.400 to 0.95. The majority of these scales displayed acceptable levels of internal consistency (Vogt, 2005), except for the Environmental Mastery subscale of the SPWB that had an unacceptable level of internal consistency of 0.40. The Environmental Mastery subscale was excluded from further statistical analyses in this study. Regarding the SPWB, the Cronbach alpha coefficients indicated adequate internal consistencies for the remainder of the subscales, with internal consistencies ranging from 0.60 for Autonomy; 0.60 for Purpose in Life; 0.61 for Personal Growth; 0.63 for Positive Relations, to 0.71 for Self-Acceptance. The study of Gao and McLellan (2018) demonstrated alphas ranging from 0.60 to 0.78, which is similar to this study. Previous studies (Chan et al., 2017; Li, 2014) confirm the alphas this study obtained with alphas on the subscales ranging from 0.60 to 0.88.

The Resilience Scale (RS) had an exceptional Cronbach alpha of 0.95. This finding confirms those found in previous studies (Botha, 2014; De Villiers, 2009; Oladipo & Idemudia, 2015), who reported reliability co-efficient between 0.91 – 0.96 for the RS. Additional studies have supported these findings with Cronbach alphas ranging from 0.85 to 0.94 (Black & Ford-Gilboe, 2004; Smith & Yang, 2017; Yang et al., 2015).

The internal consistency reliability of each subscale of the CSI has been identified as 0.86 for the Problem-solving subscale, 0.88 for the Seeking Social Support subscale and 0.73 for the Avoidance subscale. This is in line with previous findings (Desmond et al., 2006; Jordaan, 2014; Jordaan & Hesselink, 2021; Jordaan et al., 2018; Pretorius, 2019; Rogers, 2019; Soderstrom et al., 2001; Sullivan et al., 2010) that also displayed Cronbach alphas ranging between 0.68 and 0.98 for Problem-solving; 0.72 to 0.98 for Seeking Social Support; and 0.62 to 0.96 for Avoidance.

Furthermore, the RSES displayed an acceptable level of internal consistency, with a Cronbach alpha of 0.82. This is in line with previous studies, where internal consistencies between 0.77 and 0.88 were found within studies pertaining specifically to university students (Arshad et al., 2015; Baumeister et al., 2003; Gilmore, 2014; Robins et al., 2001; Van Tonder, 2020).

5.3. Discussion of the correlation results

In this study, the correlations between the predictor (independent) variables (i.e., coping, resilience, self-esteem, and age) and the outcome (dependent) variables (Autonomy, Personal Growth, Purpose in Life, Personal Relations, and Self-Acceptance) were investigated. A limited number of correlations displayed both statistical and practical significance. Various studies indicate literature findings regarding correlations and associations between the chosen predictor (independent) variables, including resilience, coping, self-esteem, and age, respectively, and PWB amongst undergraduate university students.

According to the life-span perspective, the relationship between PWB and resilience is one of the most interesting topics in educational positive psychology in different domains of human development (Ryff et al., 1994; Sagone & De Caroli, 2014). Sagone and De Caroli (2014) recently found that the more individuals experienced higher levels of resilience, the more they felt able to cope with novelty in various domains of human functioning and, especially in the academic context, reducing the possible risk of maladaptive outcomes. Furthermore, Picardi and his colleagues (2012) found that PWB appeared positively correlated with dispositional resilience, except for the dimension of autonomy. In a sample of medical Iranian university students, Souri and Hasanirad (2011) discovered that resilience was a predictor of PWB, and optimism played a mediating role in the relationship between

resilience and PWB. As reported by Fredrickson (2001), the main assumption is that resilience is effective in improving individuals' PWB.

Coping strategies, including problem-solving, seeking social support, and avoidance, play a crucial role in people's health (Kraag et al., 2006), with relevant implications for subjective well-being (Parsons et al., 1996; Sheldon & Lyubomirsky, 2006; Viñas et al., 2015) and psychological well-being (Bryden et al., 2015; Loukzadeh & Bafrooi, 2013; Mayordomo et al., 2015; Portocarrero & Bernardes, 2013). According to several findings (Freire et al., 2015; Freire et al., 2016), the most adaptive strategies for addressing academic demands are planning, seeking social support, self-support (encouraging oneself), and commitment to the tasks. However, according to the researchers, experiencing cognitive confusion, and hiding the problems from people who are close to them (e.g., avoidance), constitute dysfunctional strategies for students, given that they hinder the completion of the task and even increase emotional distress (Freire et al., 2016). These findings seem to correlate with this study as all the subscales of the SPWB indicated statistically significant correlations with problem-solving, which include planning, seeking social support, self-support (encouraging oneself), and commitment to the tasks. Additionally, as with the subscale of Positive Relations, which had a statistically significant correlation with seeking social support, the findings from Freire et al. (2016) substantiate this correlation.

5.3.1. Autonomy

This study found that autonomy had a positive statistically and practically significant correlation with resilience. This could indicate that higher levels of resilience could lead to higher levels of autonomy. It could also indicate that higher levels of autonomy could lead to

higher levels of resilience. In support of these findings, Harding et al. (2019) found that students with higher levels of resilience reported greater levels of autonomy.

However, Gustems-Carnicer et al. (2019) found that autonomy was one of the aspects of PWB that university students gave the lowest scores. According to Ryff (1989), autonomy reflects the capacity to maintain our individuality in different contexts and feel free from social pressures and stress. The great importance that young people attribute to maintaining successful social relationships means that, to a certain extent, they subordinate their own beliefs and convictions to those of the majority and avoid rejection. Students who are subjected to more controlling methodological approaches (e.g., whose opinions are not valued, not given opportunities to make decisions, or not allowed to assume responsibility for their own learning processes), and who therefore perceive that they have less autonomy in their academic activity, show lower levels of engagement (Reeve et al., 2004) and autoregulation (Black & Deci, 2000). In turn, this affects students' perceptions of their studies (Diseth & Samdal, 2014; Gustems-Carnicer et al., 2019).

Furthermore, Gao and McLellan (2018) attested to these findings as university students are going through a transitional period, thus being more likely to experience conflicts between their increasing need for autonomy and the restrains from other adults (e.g., parents and teachers). Cross-cultural scholars suggested that these conflicts may be especially prevalent in a collectivistic society, such as African cultures, where interdependence and obedience are highly valued (Kagitcibasi, 2013; Rudy et al., 2007). However, Abualkibash and Lera (2017) demonstrated that satisfying basic psychological needs, such as autonomy, positively affect resilience.

Coping was measured according to the three subscales of the CSI (Amirkhan, 1990), namely Problem-solving, Seeking Social Support, and Avoidance. This study found that

autonomy had a positive statistically and practically significant correlation with problem-solving. Thus, those university students who use problem-solving as a coping strategy tend to experience higher levels of autonomy or those university students with higher levels of autonomy tend to be more inclined to use problem-solving as a coping strategy. Soares and Dias (2007) found that university students perceived a low level of autonomy when they faced a lack of options to fend against a specific problem. Autonomy also impacts students' coping strategies, as they are less likely to be isolated in the face of many problems but rather seek support (Gustems-Carnicer et al., 2019; Ryan & Deci, 2000).

The study further found that autonomy has a positive statistically and practically significant correlation with self-esteem. Thus, those university students who tend to have higher levels of self-esteem seem to have higher levels of autonomy. This could also indicate that those university students with higher levels of autonomy tend to have higher levels of self-esteem. These results are supported by previous research, which has indicated that self-esteem and resilience are more amenable to change than any other personality traits (Anusic & Schimmack, 2016; Gardner, 2020). Tulviste (2010) found that individuals with lower self-esteem were more likely to have significantly low autonomy. Research further indicates that an individual's sense of autonomy proved to be an important moderator of self-esteem trajectory for all participants in the study of Orth et al. (2017). In addition, Gardner (2020) added that the nature of the relationship between self-esteem and autonomy remains understudied.

5.3.2. Personal Growth

In a study by Gustems-Carnicer et al. (2019), personal growth was an aspect of PWB that university students gave the lowest scores. This study, however, found that personal growth

had a positive statistically and practically significant correlation with resilience. This finding indicates that having higher levels of resilience seems to indicate experiencing a higher sense of personal growth. Alternatively, the findings could indicate that experiencing more personal growth could lead to increased resilience. Research has indicated a positive relationship between resilience and personal growth, specifically amongst young adults (Malik et al., 2013; Ogińska-Bulik & Kobylarczyk, 2015). However, the role of resilience was found to be minor in the process of the emergence of positive changes, as revealed in the form of personal growth (Kobylarczyk & Ogińska-Bulik, 2017).

Some authors equate these two concepts (Westphal & Bonanno, 2007), while others assume that personal growth is a form of resiliency (Johnson et al., 2007), and others, that personal growth is more significant than resilience and plays an overriding role (Lepore & Revenson, 2006). Tedeschi and Calhoun (2007) differentiate these two concepts, stressing that personal growth is due to the transformation of positive personal changes and can appear suddenly and unexpectedly. In contrast, resilience, a property of personality, is relatively constant and develops due to the accumulation of multiple experiences by the individual (Kobylarczyk & Ogińska-Bulik, 2017).

Furthermore, this study found that personal growth has a positive statistically and practically significant correlation with problem-solving. Thus, those who tend to use problem-solving as a coping strategy seem to be experiencing a higher sense of personal growth. Also, experiencing more personal growth seems to lead to the use of problem-solving as a coping strategy. These results are confirmed by a previous study (Kim et al., 2020), which found that personal growth was positively associated with problem-solving. This study indicated that problem-solving served as the strongest predictor of personal growth (Kim et al., 2020).

This study also found that personal growth has a positive statistically and practically significant correlation with self-esteem. Thus, those university students who tend to have higher levels of self-esteem seem to be experiencing a higher sense of personal growth or having an increased sense of personal growth seem to indicate higher levels of self-esteem. Malik et al. (2013) found that self-esteem is significantly and positively related to personal growth (r = 0.18**). Furthermore, Robitscheck (2003), Robitscheck and Kashubeck (1999), Robitscheck and Keyes (2009), and Robitscheck et al. (2012) found that students who have high self-esteem also have a high initiative for personal growth.

5.3.3. Purpose in Life

This study found that purpose in life had a positive statistically and practically significant correlation with resilience. Therefore, having higher levels of resilience seem to indicate having a higher sense of purpose in life. Additionally, these results could suggest that having a higher sense of purpose in life seems to indicate higher levels of resilience. These findings are confirmed by a previous study, namely Smith et al. (2009), which found that purpose in life and resilience were positively correlated and indicated that a sense of purpose in life might play a significant role in coping with stress, and thus be resilient. Previous studies have also found resilience to be a positive indicator of PWB, especially purpose in life (Harding et al., 2019; Mak et al., 2011; Nath & Pradhan, 2012). Hodges (2014) provided further support to Astin et al.'s (2011) findings that purpose in life is fundamental to university students.

It was further indicated that purpose in life has a positive statistically and practically significant correlation with problem-solving. Thus, those university students who use problem-solving as a coping strategy seem to have a higher sense of purpose in life, while also possibly having a higher sense of purpose in life, thus increasing the use of problem-

solving as a coping strategy. Freire et al. (2016) suggest that PWB and, more specifically, its constitutive dimensions, such as purpose in life, represent a personal resource of unquestionable worth to favour adaptive coping, such as problem-solving within the demands of the university context.

This study additionally found that purpose in life had a positive statistically and practically significant correlation with self-esteem. Thus, those who have higher levels of self-esteem seem to be experiencing a higher sense of purpose in life. Or, having a higher sense of purpose in life seems to lead to an increase in self-esteem. A study conducted by Hodges and Crowe (2014) hypothesised that purpose in life was important to university students and that purpose in life is related to self-esteem; their results indicated that purpose in life was important to university students. The results also suggested a strong correlation between purpose in life and self-esteem, and thus their research hypothesis was supported (Hodges & Crowe, 2014). Overall, these findings add to the growing line of work that positively relates adaptive coping (problem-solving) with stress and certain psychosocial variables that are closely linked to PWB, such as self-esteem (Cabanach et al., 2014), resilience (González-Torres & Artuch, 2014), and purpose in life (Astin et al., 2014; Freire et al., 2015).

5.3.4. Positive Relations

This study found that positive relations had a positive statistically and practically significant correlation with resilience. Having higher levels of resilience seem to indicate experiencing more positive relations with others. The findings could also indicate that experiencing more positive relations with others seems to indicate increased resilience. Jenkins (2016) supports these results, confirming that those who experience positive relations

in terms of secure attachments tend to demonstrate higher levels of resilience than those who have insecure relationships.

Furthermore, the findings indicate that positive relations have a positive statistically and practically significant correlation with problem-solving. Thus, those who use problem-solving as a coping strategy seem to be having more positive relations with others. It could also indicate that experiencing more positive relations with others seems to lead to problem-solving as a coping method. Oades et al. (2017) found that positive relations promote problem-solving. A study conducted by Erozkan (2013) found the opposite to be true; individuals who perceive themselves as competent in problem-solving are more extraverted, positive, and have more positive interpersonal relationships. Positive relations also facilitate collaboration, reduce conflict, raise resilience, promote socially responsible and helpful behaviour, increase the ability to learn and integrate complex information, enhance more thorough decision-making and enable change while transitioning to university (Isen, 2005). Positive relations were the only SPWB subscale that indicated a positive statistically and practically significant correlation with Seeking Social Support (as a coping strategy). Indicating that experiencing positive relationships seems to lead to seeking more social support as a means of coping, in as much, it could indicate that seeking more social support as a means of coping seems to lead to experiencing more positive relations with others. As Harding et al. (2019) anticipated, university students receiving higher levels of support from family and significant others were more likely to report having better, more positive relationships. Support from significant others predicted purpose and growth in life (Freire et al., 2015). Similarly, a non-experimental study found that support from family, friends, and significant others was associated with positive psychological strengths and PWB (Khan & Husan, 2010). Another qualitative study highlighted the importance of social support on first-year students' well-being (Awang et al., 2014). Social interactions within (peer, senior and

school support) and outside (family and sibling support) academic environments were of great importance on university students' academic, social, and emotional adjustment (Awang et al., 2014).

The study found that positive relations have a positive statistically and practically significant correlation with self-esteem. Thus, those university students who tend to have higher levels of self-esteem seem to be experiencing more positive relations with others. Additionally, those experiencing more positive relations seem to have higher self-esteem as well. According to Harris and Orth (2019), there is currently no integrated theory outlining which positive relationships might be most impactful for self-esteem and at which ages. Despite this, their findings did indicate that positive relationships have a prospective effect on self-esteem. Their findings were supported by many theories (Bowlby, 1988; Leary, 2012; Leary & Baumeister, 2000), highlighting the key role of positive relationships and social support in shaping the development of self-esteem in all phases of the human lifespan. The findings of Harris and Orth (2019) were important because previous research had yielded inconsistent results. Some primary studies reported supporting evidence, for example, concerning parent and peer relationships in childhood (Harris et al., 2017; Orth, 2018), peer relationships in adolescence (Gruenenfelder-Steiger et al., 2016; Reitz et al., 2016), and romantic relationships in adulthood (Luciano & Orth, 2017; Orth et al., 2015; Wagner et al., 2018). Other studies failed to find a prospective effect of positive relationships on self-esteem (Harris et al., 2019; Marshall et al., 2014; Mund et al., 2015; Orth et al., 2012). Evidence further suggests that high self-esteem is beneficial in personal relationships (Erol & Orth, 2016; Orth et al., 2012; Tackett et al., 2013). Mund et al. (2015) found evidence for reciprocal prospective effects between self-esteem and relationship quality. Nevertheless, the available evidence provides stronger support for the hypothesis that self-esteem influences relationship quality rather than, vice versa, that relationship quality influences self-esteem.

5.3.5. Self-Acceptance

This study found that self-acceptance had a positive statistically and practically significant correlation with resilience. This finding seems to suggest that having higher levels of resilience indicates showing more self-acceptance. Additionally, these findings could also suggest that having higher levels of self-acceptance indicate higher levels of resilience. Findings from Harding et al. (2019) supported this by postulating that resilience is linked with PWB through the "positive cognitive triad". Specifically, people with high resilience have a positive view of themselves (in addition to others and the world) and are indicative through high self-acceptance (Mak et al., 2011).

The findings further indicate that self-acceptance has a positive statistically and practically significant correlation with problem-solving. Thus, those who tend to use problem-solving as a coping strategy seem to be experiencing more self-acceptance. Or showing more self-acceptance indicate that students tend to use problem-solving as a coping strategy. Several studies indicated that the higher the degree of self-acceptance (along with a purpose in life and personal growth) reported by the students, the greater the use of adaptive coping strategies, such as problem-solving (Freire et al., 2016; Loukzadeh & Bafrooi, 2013; Mayordomo et al., 2015; Portocarrero & Bernardes, 2013).

Furthermore, the findings indicate that self-acceptance has a positive statistically and practically significant correlation with self-esteem. Thus, those who tend to have higher levels of self-esteem seem to be experiencing more self-acceptance. These findings could also indicate that showing more self-acceptance leads to higher levels of self-esteem. Although there is much empirical support for the concurrent association between various personal characteristics and self-esteem (Cameron & Granger, 2019; Murberg, 2010; Neff & Geers, 2013), longitudinal research has produced mixed findings. Some studies have found

evidence for longitudinal effects of self-acceptance on self-esteem (Wagner et al., 2018), whereas other studies indicate no support for the effect of self-acceptance on self-esteem development (Harris & Orth, 2019; Harris et al., 2015). Consistent with previous theory and research on self-acceptance (Ghahramani et al., 2011; Tylka, 2011), it is considered that self-acceptance consists of three factors: (1) body acceptance, (2) self-protection from negative judgements from others, and (3) feeling and believing in one's capacities. Masselink et al. (2018) agreed with these factors and argued that these three factors, collectively self-acceptance, can only exist if one experiences high self-esteem.

5.4. Discussion of the predictors of PWB in relation to the criterion variables from the Hierarchical Regression Analyses

While the combination of the various predictor variables (coping, resilience, self-esteem, and age) adequately explained the percentage of the variance of the subscales of the criterion variable (PWB) and the results are statistically significant, the corresponding effect sizes of all the analyses indicated that the results are of limited practical significance and will thus not be discussed.

However, one result from the hierarchical regression analyses proved statistically and practically significant. With Self-acceptance as the criterion variable, the hierarchical regression analyses found that the combination of the independent variables (coping, resilience, self-esteem, and age) accounted for 37.3% ($F_{6;1184} = 117.527$; $p \leq 0.01$) of the variance in the Self-acceptance scores of the sample indicating a statistically significant result on the 1% level, although not practically significant. Practically, this indicates that 37.3% of the variance in the Self-acceptance scores of the university students can be explained by the combination of their coping skills, levels of resilience, self-esteem, and age. As illustrated in

Table 8 (see page 86), 11.5% of the variance in the Self-acceptance scores of the sample is accounted for by Self-esteem as a statistically significant predictor variable. The medium comparable effect size ($f^2 = 0.18$) suggests that this finding is of practical significance and the statistical significance is at the 1% level.

Jibeen (2017) found a strong positive correlation between self-acceptance and self-esteem, suggesting that the constructs of self-acceptance and self-esteem are not entirely distinct (Chamberlain & Haaga, 2001). The consistency of the evidence offered in the study by Jibeen (2017) provides the firmest evidence to date that self-esteem protects against the adverse effects of negative outcomes across a range of domains, such as self-acceptance as a domain for PWB. Further, Ford and Collins (2010) investigated self-esteem as a moderator of psychological responses to interpersonal rejection. They found that compared with those with high self-esteem, individuals with low self-esteem responded to rejection by appraising themselves more negatively and making more self-blaming attributions, thus indicating low self-acceptance.

5.5. Discussion of the results of the Stepwise Regression Analysis

Stepwise regression aims to select a model step by step, adding or deleting one predictor only based on the statistical significance. The result of this process is a single regression model. Stepwise analysis has either forward or backward progression. The forward progression is more commonly encountered than backward analysis. Nowadays, researchers can control details of the process, including the significance level and variable manipulation (e.g., add or remove) in statistical software programmes, such as SPSS (Frost, 2017). Selecting the appropriate statistical tool for analysis is dependent upon the intended use of the analysis. As Pedhazur (1997) stated,

> Practical considerations in the selection of specific predictors may vary, depending on the circumstances of the study, the researcher's specific aims, resources, and frame of reference, to name some. Clearly, it is not possible to develop a systematic selection method that would take such considerations into account. (p. 211)

This rationale conflicts with the automated, algorithm-based analysis of stepwise regression. Nonetheless, there are still instances where stepwise regression has been recommended for use: in exploratory, predictive research (Menard, 1995).

When considering this study, the results of the stepwise regression analyses indicated that self-esteem, problem-solving, resilience, and avoidance as a combination contributed statistically significantly to the variance of autonomy. These four independent variables explained 17.9% of the total variance in autonomy. Self-esteem individually accounted for 13.6% of the variance of autonomy and was the only individual predictor variable that statistically and practically significantly predicted autonomy.

Regarding personal growth, the results of the stepwise regression analysis indicated that five of the predictor variables, namely self-esteem, problem-solving, resilience, avoidance, and age, as a combination made a statistically significant contribution to the variance of personal growth on the 1% level of significance (27.3%). However, self-esteem was the only individual predictor variable that statistically and practically significantly predicted personal growth. Self-esteem individually explained 19.5% of the variance of personal growth.

Furthermore, the results indicated that self-esteem, seeking social support, problem-solving, resilience, avoidance, and age as a combination contributed statistically significantly to the variance of positive relations. These six independent variables explained 25.8% of the total variance in positive relations. Self-esteem accounted for 16.8% of the variance of

positive relations and was the only individual predictor variable that statistically and practically significantly predicted positive relations.

When considering purpose in life, the results from the stepwise regression analyses indicated that four independent variables, namely self-esteem, problem-solving, resilience, and seeking social support as a combination, succeeded in explaining 28.2% of the total variance of purpose in life. Self-esteem made the largest contribution to the variance of purpose in life (18.9%) and was the only individual predictor variable that statistically and practically significantly predicted purpose in life.

Finally, the results indicated that Self-esteem, Seeking Social Support, Problem-solving, Avoidance, and Resilience contributed statistically significantly to the variance of Self-acceptance. These five predictor variables as a combination explained 37.2% of the total variance in Self-acceptance. Self-esteem accounted for 33.1% of the variance of self-acceptance and was the only individual predictor variable that statistically and practically significantly predicted self-acceptance.

These results are confirmed by a variety of previous studies. Gardner (2020) found that enhancing one's self-esteem will likely result in higher levels of PWB. Doğan et al. (2013), Islam and Ara (2017), Nwankwo et al. (2015), Sarkova (2010), and Wantur et al. (2020) further found PWB and self-esteem to be positively significantly correlated, reflecting the perception that as self-esteem improves, so does PWB. Self-esteem and PWB are very significant related factors in the development, competence building, skill acquisition, and academic performance of university students (Azad et al., 2018; Nwankwo et al., 2015). Malinauskas and Dumciene (2017) further conducted a multivariate test which indicated a large main effect between PWB and self-esteem. This confirmed their hypothesis in that PWB and self-esteem are higher after the transition to university. These findings further

support Gall et al.'s (2000) claim that university students possess the ability to cope adaptively with their stressful transition events as time passed from time starting university. The results are also consistent with a study showing that university is predominately anxiety-provoking; students' PWB is lower after starting university but then increases during the first year of university study (Coelho et al., 2016; Cooke et al., 2006). Rahardjo (2014) conducted a study that indicated that self-esteem and PWB influence academic stress amongst university students. These results indicated that the higher students' PWB, the higher their self-esteem, especially in relation to their academic achievement. The findings of this study were further supported by Babu et al. (2020), which found that self-esteem accounted for 23% of the variance of PWB. Azad et al. (2018) confirmed these findings by indicating that as a result of growing PWB, self-esteem, amongst other positive aspects, will increase. These findings of PWB are similar to that of Chen et al. (2006) and Neff et al. (2011). These findings are important as they reiterate that, undoubtedly, having low self-esteem is associated with negative PWB, including lack of motivation and increased depression, whereas high self-esteem is a positive and effective factor in mental health, and those who feel good about themselves usually have a good feeling about life and can confidently confront and overcome problems (Neff & McGeehee, 2010). Accordingly, a person with high self-esteem is thus expected to experience a high degree of PWB (Azad et al., 2018).

Generally, self-esteem appears to be effective in nature and tends to be associated with overall PWB, as well as academic achievement, and appears to have a more cognitive component and tends to be more strongly associated with behaviour or behavioural outcomes (Jibeen, 2017). Orth et al. (2017) found that self-esteem increases moderately through adolescence and continues to increase in young adulthood at a slower rate. This study also supports the findings of other researchers that self-esteem is important when studying

competence, coping strategies, and mental well-being because it is regarded as an indicator of PWB (Alexius et al., 2020; Du et al., 2017; Susanti, 2012; Wilkinson, 2004).

5.6. Limitations of the Study

Due to the limitations considered within this study, which could have influenced the results obtained in this study, the results should be interpreted against these limitations. Firstly, what can be considered a limitation, is that the University of the Free State is a highly unique and contextualised environment, especially since the majority of the sample consisted only of students studying under the Faculty of the Humanities. Therefore, the research cannot be generalised to other students studying different majors or studying at different faculties at the University of the Free State. Furthermore, the research only focused on students enrolled at university. It did not consider other tertiary education contexts, such as FET colleges or private institutions, as students attending these institutions may experience PWB differently from students attending public universities. Thus, the results of this study cannot be generalised to other student populations at universities or other tertiary institutions in South Africa or internationally (Maree, 2014). The issue of generalisability also links to the limitation of using convenience sampling to collect data, which results in the sample only being representative of the very distinct population of undergraduate students who participated in the study. Therefore, the results cannot be generalised to any other age groups or contexts beyond the specific research sample within this study. Another limitation could be that the self-reported questionnaires may have resulted in participants answering in a way that might put them in a more positive light (Lavrakas, 2008). This phenomenon is known as response bias or survey bias. It is a general term for a range of cognitive biases that occur

when a participant falsely or inaccurately answers questions on a questionnaire or survey (Lavrakas, 2008). Stangor (2015) describes this phenomenon as reactivity.

The specific variables used within this study were only measured within a short period of time in a cross-sectional study. It did not consider the possible change over the lifespan, as indicated by the literature review. Furthermore, this study employed a quantitative approach, which may have resulted in the finer nuances of the sample's experiences of PWB being lost. This is important to consider for future research, especially since the concept of PWB is a complex and subjective experience. Undertaking a longitudinal study, as well as a quantitative approach in future studies, would, therefore, be beneficial for future research to fully develop an understanding of PWB within the population of university students.

5.7. Recommendations for Future Studies

There are several important recommendations to consider for future research endeavours when considering research specifically relating to the concept of PWB and the population of university students. Firstly, due to the limited literature about university students in a South African context, more studies should be undertaken to build on the knowledge of PWB within South African university populations, especially since the concept of PWB has been identified as a serious global pandemic. Apart from the concept of PWB being understudied, it could also be beneficial to focus research not only on PWB as a concept but on each of the PWB subscales and how they develop, relate or correlate to various other variables, such as coping, resilience, self-esteem and age. Furthermore, as mentioned previously, it is suggested that it would be beneficial to study PWB in university students in the context of a longitudinal and possible qualitative context to obtain a more in-depth understanding of the complex nature of PWB and its dynamics within this specific population, as well as how the

various subscales influence individuals and change over time within the lives of these participants. Also, the use of probability sampling is recommended for future research endeavours, as it would yield a representative sample of the larger population of South African undergraduate students that would be beneficial in being able to generalise future results to contexts outside of the specific sample of university students at the University of the Free State (Maree, 2014). This would result in a better understanding of how the predictors of PWB interact with this concept in the broader spectrum of the multi-cultural South African landscape.

It is also recommended that similar research studies be conducted in different tertiary contexts, such as at FET colleges or private tertiary institutions within the South African context, to obtain a more holistic view of the concept of PWB within the context of these different populations of students. Similar research could also be conducted (or the same study could be repeated) at the different universities within South Africa with larger groups of students, as this would aid in obtaining samples that are more varied in terms of the specific variables investigated with regards to PWB, such as gender, ethnicity, faculties and study directions. By conducting more research within these contexts, the question of which variables or combinations of variables are the best predictors of PWB can be addressed, not only in the context of public universities but also in populations enrolled in other tertiary institutions. Since this study only focused on undergraduate students within the developmental phase of emerging adulthood, future research may consider focusing on emerging adults to evaluate, compare and contrast findings within these two different populations at university. This may also aid in establishing how PWB may potentially change as an individual ages and enters another developmental phase within the lifespan. Due to the study results indicating that there are numerous complex contributions to the experience and expression of PWB in university students, it is evident that this population should be

supported in enhancing PWB and combatting factors that might negatively influence one's PWB. Further research about PWB would also have to be conducted to establish practical solutions, programmes, and interventions for these issues so that resources can be used in effective manners to increase and maintain PWB amongst university student populations.

5.8. Summary

Research indicates that students who have high PWB have the ability to accept themselves (self-acceptance), have positive relations with others, have positive personal growth, have a purpose in life, able to master their environment (environmental mastery), and have higher autonomy (Alexius et al., 2020; Gardner, 2020). With these abilities, individuals can have a strong drive to have improved academic achievement (Alexius et al., 2020). With this, the research contribution is clear in that this research emphasises the importance of PWB amongst undergraduate students and which factors could contribute to the development thereof.

Despite the abovementioned limitations, this study contributes to the knowledge of PWB and resilience, coping, and self-esteem as predictors of PWB among undergraduate university students in the South African context. It also adds to the limited research regarding PWB in specifically South African university populations and PWB in the South African context as a whole. Overall, this study aimed to determine if any of the predictor variables, namely resilience, coping, self-esteem and age predicted PWB amongst a sample of undergraduate university students at the University of the Free State. In summary, the discussion of the results focused mainly on self-esteem, which proved to significantly (both practically and statistically) account for the variance in PWB.

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Appendix A: Faculty of the Humanities Research Ethics Committee Approval Letter

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

UFS UV

GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

05-Oct-2020

Dear Miss Monique Basson

Application Approved

Research Project Title:
Coping, resilience, self-esteem and age as predictors of psychological well-being amongst undergraduate university students.

Ethical Clearance number:
UFS-HSD2020/1400/0510

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

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Appendix B: Biographical Questionnaire

1. What is your gender?

Male	1
Female	2

2. How old are you?

18 years old	1
19 years old	2
20 years old	3
21 years old	4
22 years old	5
23 years old	6
24 years old	7
25 years old	8
26 years old	9
27 years old	10
28 years old	11
29 years old	12
Other:	13
Please specify:	

3. What is your ethnic group?

Black	1
Coloured	2
White	3
Asian	4
Indian	5
Other	6
Please specify:	

4. What is your culture?

South Sotho	1
North Sotho	2
Xhosa	3
Zulu	4
Tswana	5
English	6
Afrikaans	7
Other:	8
Please specify:	

5. In what year of study are you currently?

First year	1
Second year	2
Third year	3
Fourth year	4
Other:	5
Please specify:	

6. What is your main major?

Psychology	1
Criminology	2
Sociology	3
Anthropology	4
Political science	5
Industrial psychology	6
Communication	7
Education	8
Languages	9
Philosophy	10
Social work	11
Other:	12
Please specify:	

7. Where do you live?

Campus hostel	1
Hostel off campus	2
Home with parents	3
Flat in town	4
Student house	5
Other:	6
Please specify:	

8. With what religion do you identify?

No religion	1
Christianity	2
Judaism	3
Islam	4
Buddhism	5
Hindu	6
Other:	7
Please specify:	

9. How important is religion in your day-to-day life?

Not at all important	1
Somewhat important	2
Important	3
Very important	4
Extremely important	5

10. What is the frequency of your religious practice?

Never	1
Seldom	2
Regularly	3
Very regularly	4

11. Are you one of the following?

First generation student	1
Continuous generation student	2

12. What is your relationship status?

Single	1
In a relationship	2
Married	3
Widowed	4
Divorced	5
Separated	6
Other:	7
Please specify:	

13. From which South African province are you?

Eastern Cape	1
Free State	2
Gauteng	3
KwaZulu-Natal	4
Limpopo	5
Mpumalanga	6
Northern Cape	7
North West	8
Western Cape	9
Other:	10
Please specify:	

14. Did either of your parents graduate from college?

No	1
Yes, mother only	2
Yes, father only	3
Yes, both parents	4
Do not know	5

15. How well do you like being at university?

I am enthusiastic about it	1
I like it	2
I am more or less neutral about it	3
I don't like it.	4

16. If you could start over again, would you go to the same institution you are now attending?

Yes, definitely	1
Probably yes	2
Probably no	3
No, definitely	4

Appendix C: Ryff's Scales of Psychological Well-Being

Psychological Well-Being

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.

		Strongly disagree					Strongly agree
No	**Statement**	1	2	3	4	5	6
1.	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people	1	2	3	4	5	6
2.	In general, I feel I am in charge of the situation in which I live	1	2	3	4	5	6
3.	I am not interested in activities that will expand my horizons	1	2	3	4	5	6
4.	Most people see me as loving and affectionate	1	2	3	4	5	6
5.	I live life one day at a time and don't really think about the future	1	2	3	4	5	6
6.	When I look at the story of my life, I am pleased with how things have turned out	1	2	3	4	5	6
7.	My decisions are not usually influenced by what everyone else is doing	1	2	3	4	5	6
8.	The demands of everyday life often get me down	1	2	3	4	5	6
9.	I think it is important to have new experiences that challenge how you think about yourself and the world	1	2	3	4	5	6
10.	Maintaining close relationships has been difficult and frustrating for me	1	2	3	4	5	6
11.	I have a sense of direction and purpose in life	1	2	3	4	5	6
12.	In general, I feel confident and positive about myself	1	2	3	4	5	6
13.	I tend to worry about what other people think of me	1	2	3	4	5	6
14.	I do not fit very well with the people and the community around me	1	2	3	4	5	6
15.	When I think about it, I haven't really improved much as a person over the years	1	2	3	4	5	6
16.	I often feel lonely because I have few close friends with whom to share my concerns	1	2	3	4	5	6
17.	My daily activities often seem trivial and unimportant to me	1	2	3	4	5	6
18.	I feel like many of the people I know have gotten more out of life than I have	1	2	3	4	5	6
19.	I tend to be influenced by people with strong opinions	1	2	3	4	5	6
20.	I am quite good at managing the many responsibilities of my daily life	1	2	3	4	5	6
21.	I have the sense that I have developed a lot as a person over time	1	2	3	4	5	6
22.	I enjoy personal and mutual conversations with family members or friends	1	2	3	4	5	6
23.	I don't have a good sense of what it is I'm trying to accomplish in life	1	2	3	4	5	6

24.	I like most aspects of my personality	1	2	3	4	5	6
25.	I have confidence in my opinions, even if they are contrary to the general consensus	1	2	3	4	5	6
26.	I often feel overwhelmed by my responsibilities	1	2	3	4	5	6
27.	I do not enjoy being in new situations that require me to change my old familiar ways of doing things	1	2	3	4	5	6
28.	People would describe me as a giving person, willing to share my time with others	1	2	3	4	5	6
29.	I enjoy making plans for the future and working to make them a reality	1	2	3	4	5	6
30.	In many ways, I feel disappointed about my achievements in life	1	2	3	4	5	6
31.	It's difficult for me to voice my own opinions on controversial matters	1	2	3	4	5	6
32.	I have difficulty arranging my life in a way that is satisfying to me	1	2	3	4	5	6
33.	For me, life has been a continuous process of learning, changing, and growth	1	2	3	4	5	6
34.	I have not experienced many warm and trusting relationships with others	1	2	3	4	5	6
35.	Some people wander aimlessly through life, but I am not one of them	1	2	3	4	5	6
36.	My attitude about myself is probably not as positive as most people feel about themselves	1	2	3	4	5	6
37.	I judge myself by what I think is important, not by the values of what others think is important	1	2	3	4	5	6
38.	I have been able to build a home and a lifestyle for myself that is much to my liking	1	2	3	4	5	6
39.	I gave up trying to make big improvements or changes in my life a long time ago	1	2	3	4	5	6
40.	I know that I can trust my friends, and they know they can trust me	1	2	3	4	5	6
41.	I sometimes feel as if I've done all there is to do in life	1	2	3	4	5	6
42.	When I compare myself to friends and acquaintances, it makes me feel good about who I am	1	2	3	4	5	6

Scoring Instructions:

1) Recode negative phrased items: # 3, 5, 10, 13,14,15,16,17,18,19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41. (i.e., if the scored is 6 in one of these items, the adjusted score is 1; if 5, the adjusted score is 2 and so on…)

2) Add together the final degree of agreement in the 6 dimensions:
a. **Autonomy:** items: 1, 7, 13, 19, 25, 31, 37
b. **Environmental mastery**: items: 2, 8, 14, 20, 26, 32, 38
c. **Personal Growth**: items: 3, 9, 15, 21, 27, 33, 39
d. **Positive Relations**: items: 4, 10, 16, 22, 28, 34, 40
e. **Purpose in life**: items: 5, 11, 17, 23, 29, 35, 41
f. **Self-acceptance**: items: 6, 12, 18, 24, 30, 36, 42

Appendix D: The Resilience Scale (RS)

The Resilience Scale (RS)

Please read the following statements. To the right of each you will find seven numbers, ranging from "1" (Strongly Disagree) on the left to "7" (Strongly Agree) on the right. Click the circle below the number which best indicates your feelings about that statement. For example, if you strongly disagree with a statement, click "1". If you are neutral, click "4", and if you strongly agree, click "7", etc.

	Strongly Disagree				Strongly Agree		
1. When I make plans, I follow through with them.	1	2	3	4	5	6	7
2. I usually manage one way or another.	1	2	3	4	5	6	7
3. I am able to depend on myself more than anyone else.	1	2	3	4	5	6	7
4. Keeping interested in things is important to me.	1	2	3	4	5	6	7
5. I can be on my own if I have to.	1	2	3	4	5	6	7
6. I feel proud that I have accomplished things in life.	1	2	3	4	5	6	7
7. I usually take things in stride.	1	2	3	4	5	6	7
8. I am friends with myself.	1	2	3	4	5	6	7
9. I feel that I can handle many things at a time.	1	2	3	4	5	6	7
10. I am determined.	1	2	3	4	5	6	7
11. I seldom wonder what the point of it all is.	1	2	3	4	5	6	7
12. I take things one day at a time.	1	2	3	4	5	6	7
13. I can get through difficult times because I've experienced difficulty before.	1	2	3	4	5	6	7
14. I have self-discipline.	1	2	3	4	5	6	7
15. I keep interested in things.	1	2	3	4	5	6	7
16. I can usually find something to laugh about.	1	2	3	4	5	6	7
17. My belief in myself gets me through hard times.	1	2	3	4	5	6	7
18. In an emergency, I'm someone people can generally rely on.	1	2	3	4	5	6	7
19. I can usually look at a situation in a number of ways.	1	2	3	4	5	6	7
20. Sometimes I make myself do things whether I want to or not.	1	2	3	4	5	6	7
21. My life has meaning.	1	2	3	4	5	6	7
22. I do not dwell on things that I can't do anything about.	1	2	3	4	5	6	7
23. When I'm in a difficult situation, I can usually find my way out of it.	1	2	3	4	5	6	7
24. I have enough energy to do what I have to do.	1	2	3	4	5	6	7
25. It's okay if there are people who don't like me.	1	2	3	4	5	6	7

Appendix E: Coping Strategy Indicator

Coping

Please rate each statement with how it reflects to you dealing with stressful events, using the scale below to make your choice.

1 Not at all
2 A little
3 A lot

No	Statement	Not at all	A little	A lot
01.	Described your feelings to a friend	1	2	3
02.	Rearranged things so your problem could be solved	1	2	3
03.	Thought of many ideas before deciding what to do	1	2	3
04.	Tried to distract yourself from the problem	1	2	3
05.	Accepted sympathy and understanding from someone	1	2	3
06.	Did all you could to keep others from seeing how bad things really were	1	2	3
07.	Talked to people about the situation because talking about it made you feel better	1	2	3
08.	Set some goals for yourself to deal with the situation	1	2	3
09.	Weighed up your options carefully	1	2	3
10.	Daydreamed about better times	1	2	3
11.	Tried different ways to solve the problem until you found one that worked	1	2	3
12.	Talked about fears and worries to a relative or friend	1	2	3
13.	Spent more time than usual alone	1	2	3
14.	Told people about the situation because talking about it helped you come up with solutions	1	2	3
15.	Thought about what needs to be done to straighten things up	1	2	3
16.	Turned your full attention to solving the problem	1	2	3
17.	Formed a plan in your mind	1	2	3
18.	Watched television more than usual	1	2	3
19.	Went to someone friend or professional to help you feel better	1	2	3
20.	Stood firm and fought for what you wanted in the situation	1	2	3
21.	Avoided being with people in general	1	2	3
22.	Buried yourself in a hobby or sports activity to avoid the problem	1	2	3
23.	Went to a friend to help you feel better about the problem	1	2	3
24.	Went to a friend for advice about how to change the situation	1	2	3

25.	Accepted sympathy and understanding from friends who had the same problem	1	2	3
26.	Slept more than usual	1	2	3
27.	Fantasized about how things could have been different	1	2	3
28.	Identified with characters in movies or novels	1	2	3
29.	Tried to solve the problem	1	2	3
30.	Wished that people would just leave you alone	1	2	3
31.	Accepted help from a friend or relative	1	2	3
32.	Sought reassurance from those who know you best	1	2	3
33.	Tried to carefully plan a course of action rather than acting on impulse	1	2	3

Social Support = 1, 5, 7, 12, 14, 19, 23, 24, 25, 31, 32

Problem solving = 2, 3, 8, 9, 11, 15, 16, 17, 20, 29, 33

Avoidance = 4, 6, 10, 13, 18, 21, 22, 26, 27, 28, 30

Appendix F: Rosenberg Self-Esteem Scale

ROSENBERG SELF-ESTEEM SCALE

Instructions

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree Agree Disagree Strongly Disagree

2. At times I think I am no good at all.

Strongly Agree Agree Disagree Strongly Disagree

3. I feel that I have a number of good qualities.

Strongly Agree Agree Disagree Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree Agree Disagree Strongly Disagree

5. I feel I do not have much to be proud of.

Strongly Agree Agree Disagree Strongly Disagree

6. I certainly feel useless at times.

Strongly Agree Agree Disagree Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree Agree Disagree Strongly Disagree

8. I wish I could have more respect for myself.

Strongly Agree Agree Disagree Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree Agree Disagree Strongly Disagree

10. I take a positive attitude toward myself.

Strongly Agree Agree Disagree Strongly Disagree

Scoring:

Items 2, 5, 6, 8, 9 are reverse scored. Give "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Sum scores for all ten items. Keep scores on a continuous scale. Higher scores indicate higher self-esteem.

Appendix G: Informed Consent

RESEARCH STUDY INFORMATION LEAFLET AND CONSENT FORM

DATE

2017-08-01

TITLE OF THE RESEARCH PROJECT

Predictors of psychological well-being amongst university students

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

Dr. Jacques Jordaan	0777920	051-4012890
Name of student/researcher	*Student number*	*Contact number*
Name of student/researcher	*Student number*	*Contact number*
Name of student/researcher	*Student number*	*Contact number*

FACULTY AND DEPARTMENT:

Humanities
Psychology

STUDYLEADER(S) NAME AND CONTACT NUMBER:

Dr. Jacques Jordaan
051-4012890

WHAT IS RESEARCH?

Research is something we do to find new knowledge about the way things and people work. We use research projects or studies to help us find out more about children and teenagers and the things that affect their lives, their schools, their families and their health. Research also helps us to find better ways of helping, or treating children who are sick. We do this to try and make the world a better place!

WHAT IS THE AIM / PURPOSE OF THE STUDY?

University students are unique as they serve as the future for their own families, communities and next generations. However, university students usually experience stress due to the academic and social demands and burdens they face during their studies. Being a university student entails that students need to take responsibility for their lives and to start facing the challenges that emerging adulthood hold for them. The psychological well-being of students is therefore crucial to enable them to deal with these various demands and challenges. Psychological well-being is a concept that is multi-dimensional and that includes special aspects such as optimism, loneliness, self-control,

happiness, sense of interests, anxiety, and being free of failures. Seeing that the psychological well-being of university students is so important it is essential to determine what variables are the best predictors of psychological well-being amongst university students. The proposed study can be valuable in the South African context for several reasons. Firstly, the findings of this study will contribute to the larger body of South African research which aims to understand psychological well-being amongst student populations. This study will also help to determine which variables are the best predictors of psychological well-being and can thus be used to inform future research and decide whether extra resources are needed to assist university students. Thus, the aim of this research study is to determine which variables are the best predictors of psychological well-being amongst university students. The following research questions will be investigated: Can the combination of adjustment, coping strategies, depression, emotional intelligence, life satisfaction, decision-making and self-esteem explain a significant percentage of variance in the psychological well-being of university students? Which set of predictors as well as the individual predictors explain the most significant percentage of variance in the psychological well-being of university students?

WHO IS DOING THE RESEARCH?

I am a lecturer in the Department of Psychology of the University of the Free State. I am conducting this study as I am interested in the psychological well-being of university students.

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: *Insert approval number*

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

The data will be obtained from a sample of approximately 800 university students (N=800) within the Faculty of the Humanities of the University of the Free State. The students will be approached during Psychology lectures and requested to voluntarily participate in the study. Students of all ages, ethnic groups, study years, languages or otherwise will be included to form part of the sample. Psychology students are chosen

as the researcher is a lecturer within the Psychology Department and have easy access to students studying Psychology although these students may have different majors.

WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?

The participants will be requested to complete nine self-report questionnaires in their own time. The questionnaires will focus on psychological well-being and variables that have been found to be indicators of psychological well-being such as adjustment, depression, coping, self-esteem, decision-making, etc. The questionnaires should take about an hour and a half to complete, but the participants may complete the questionnaires in their own free time and provide the completed questionnaires back to the researcher.

CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?

Participation in this study is on a voluntary basis and participants may withdraw from the study at any point in time. Participants who are willing to participate will be provided with the information sheet and the relevant questionnaires. All participants will have to provide informed consent before participating in this study.

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

One benefit of participation is that the participants (students) will learn about research and research procedures. Another benefit is that students might learn more about certain concepts as some of the concepts that they study in Psychology will be measured through the self-report questionnaires. The identities of the participants will be kept anonymous and all information and inputs received from the participants will be kept confidential

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

Completing the questionnaires might be time consuming, but the researcher attempts to counter this by allowing the participants to complete the questionnaires in their own free time and to provide the questionnaires back once completed. A possible risk might be that participants might identify that they struggle with a certain aspect linked to psychological well-being and the researcher will ensure that such participants are referred to the necessary and relevant intervention services.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

All information and inputs received from the participants will be kept confidential. A coding system will be used to keep the identities of the participants anonymous and confidential. The identities of the participants will not be revealed to the public and the study will not be published in any article other than in an academic article for the purpose

of this research study. Only the researcher will have access to the data including possible future researchers who might want to use the data. However, these researchers will not be able to identify the participants due to the coding system and these researchers will also sign confidentiality forms.

HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?

The completed questionnaires will be kept within a locked cabinet (to which only the researcher has access) for a period of five years. All digital documents will be password protected. After five years the physical questionnaires will be destroyed by shredding them. The researcher will make use of a coding system to ensure the anonymity of the participants.

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

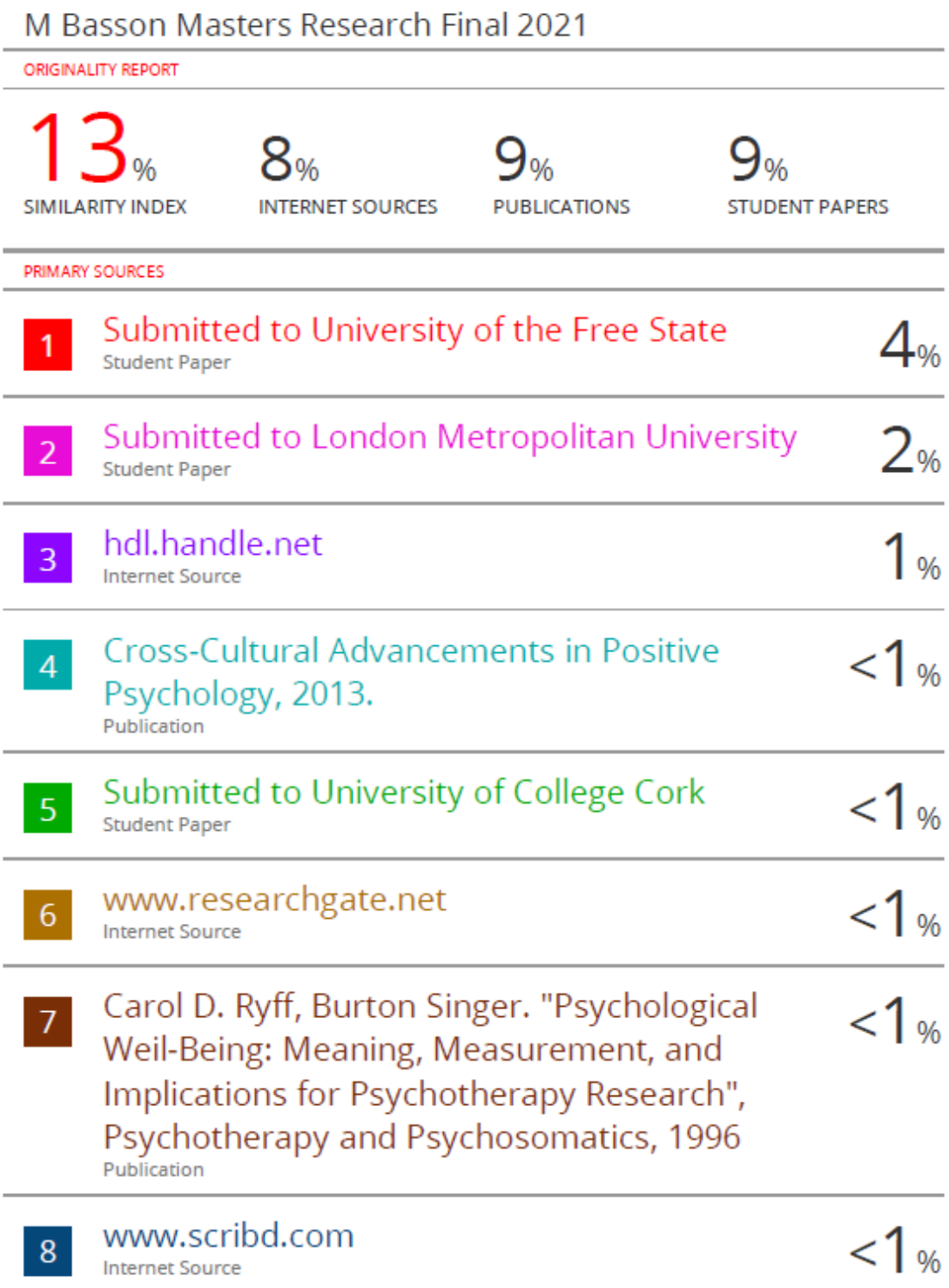
No financial rewards will be received for participation in this study. Participants will however learn more about research and the research process. This study might be time consuming due to the number of questionnaires involved in the study. Participants might identify from the questionnaires that they struggle with psychological well-being, but the researcher will ensure that these participants are referred for the appropraite interventions.

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 Dr. Jordaan at 051-4012890 or jordaanj1@ufs.ac.za. If you have any concerns or questions you are welcome to contact Dr. Jordaan.

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

Appendix H: Plagiarism Report



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ORIGINALITY REPORT

13%	8%	9%	9%
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