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FACULTY OF COMMUNITY AND HEALTH SCIENCES

MINI THESIS

Title: The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures

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Type of Thesis: Mini Thesis

Degree: M Psych (Clinical Psychology)

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Date: July 2021

Declaration

I declare that 'The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures' is my own work. It has not been submitted before for any degree or examination in any other university and all the sources I have used or quoted have been indicated and acknowledged as complete references.

Megan McCaul

January 2021

Abstract

Mental health is one of the most neglected issues among school-going adolescents, with the result that little is known about aspects of these young people in the South African context. Given the stressors encountered by adolescents in the South African context specifically, there is a great need for research into which health-promoting behavioural and coping strategies adolescents use to buffer the negative consequences of these stressors on their mental health and overall psychological well-being. The aims of the present study (which is the first phase of the four-phase study) were twofold: first, to validate (by means of cognitively testing on 150 school-going adolescents aged 13-19 years, in Grades eight to 11, from three selected schools within the Cape Metropole) the scales measuring stress (*Beck Depression Inventory-Second Edition* – the BDI-II; *Beck Anxiety Inventor* – BAI; *Beck Hopelessness Scale* – BHS), psychological strengths (*Multidimensional Scale of Perceived Social Support* – MSPSS; *Child and Youth Resilience Measure* - CYRM; *Rosenberg Self-Esteem Scale* – RSES), coping (*Coping Strategy Indicator* - CSI) and psychological well-being (*Psychological Well-Being scale* - PWB). Such validation, using the English as well as the Afrikaans- and isiXhosa-translated versions of the measures was done in order to determine the applicability and usability of these scales within the South African context, specifically in the study of sibling-bereaved school-going adolescents. Second, the study aimed to investigate, using structural equation modelling (SEM), the nature of the (both direct and indirect) relationships between stress, psychological strengths, coping and psychological well-being, with particular focus on the mediation effects of selected psychological strengths (that is, resilience, self-esteem and perceived social support) in the stress-coping relationship with psychological well-being. Lazarus and Folkman's Transactional Model of Stress was used as the theoretical framework for this study. Through the use of valid, reliable and standardised measuring instruments, it was established – from

the emerging data from the present study - that these measures were reliable and valid, thus making the measures suitable and replicable for future studies. Ethics clearance was obtained from the Biomedical Research Committee (BMREC) of the University of the Western Cape, and ethical issues (including informed consent, parental consent, assent, voluntary participation, right to decline invitation or to withdraw from the study without adverse consequences, and putting contingency plans for referral to available psychological services in the event of acute emotional upheavals) were all observed. Results of the current study indicated that, through cognitive testing, the questionnaires were well understood by the participants and the two translated questionnaires (Afrikaans and isiXhosa) were also well understood with no misunderstanding of language. Statistical analysis of the quantified relationships between different variables indicated that the statistical models employed were all valid and reliable measures to use in the current population. Results also indicated that psychological strengths (resilience, self-esteem and perceived social support) served as mediators between stress and psychological well-being. Interventions could be designed around enhancing students' psychological strengths in order for them to augment their ability to manage despite the odds they encounter, enhance their self-esteem and solidify social ties that help them navigate through emotional upheavals. Psychologists and Life Orientation teachers based in schools could also assist in working with students and communities that experience high levels of stress and prioritize the promotion of those psychological strengths that serve to militate against the deleterious effects of significant stressors that are often detrimental to a more holistic psychological wellbeing within the school context.

Keywords: Stress, Coping, Psychological strengths, Resilience, Self-esteem, Perceived Social Support), Psychological well-being, Adolescents, School-going, Cape Metropole.

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CHAPTER 1:

Introduction: Problem Statement and Focus

1.1 Introduction and background to the study

A hasty glance at the literature and available research on aspects of adolescent mental health will confirm that the topic has received incremental scholarly attention in social science research, both internationally (Adams, Savahl, & Casas, 2016; J. H. Amirkhan, 1990; J. H. Amirkhan, Landa, & Huff, 2018; J. H. Amirkhan & Marckwordt, 2017; Carr, 2001; Cooke, Melchert, Connor, & Cooke, 2016; Diener et al., 2009; Lin, 2015; Orphen, 2001; Rawatlal, Kliewer, & Pillay, 2015; Shahmohammadi, 2011; Stumblingbear-Riddle & Romans, 2012) and in the South African context (Adams et al., 2016; Benninger & Savahl, 2017; Bruwer, Emsley, Kidd, Lochner, & Seedat, 2008; Casale, Wild, Cluver, & Kuo, 2014; Dawes et al., 2015; Gavita, Freeman, & Sava, 2012; Govindasamy, Ferrari, Maruping, Bodzo, & Seeley, 2020; Harrison, 2020; Harrison, Loxton, & Somhlaba, 2019b, 2019a; Jacob et al., 2018; Najman et al., 2010; Savahl, Adams, Benninger, & Jackson, 2019; Zwemstra & Loxton, 2011). The bulk of the international research on adolescents' mental health has focused chiefly on the physical effects of stress on peer, school and parental influence; on well-being; and on stress coping mechanisms, as cited above. In South Africa, a burgeoning body of research on adolescents has also focused on various aspects, including the impact of poverty; culture and diversity; illness and violence on mental well-being; lack of integration; and on psychological strength and coping, as cited above. However, as much as there are notable studies that appear to accord priority to adolescent mental health in South Africa, limited research has investigated the nature of the relationships between stress, psychological strengths, coping and mental health (or psychological well-being) in school-going adolescents living in conditions characterised by socio-economic adversity in the Cape

Metropole, Western Cape Province (Harikrishnan, Arif, & Sobhana, 2017; Harrison et al., 2019b; Loxton, 2009). While this research help in so far as shedding light on salient aspects of adolescent mental health, it is impossible to determine if the trends reported are uniquely applicable to adolescents living in conditions of socio-economic strife or to adolescents of school-going age in general. No study of note has investigated the relationship between stress, psychological strengths, coping and psychological well-being in school-going adolescents in general. It is vital to investigate these trends in adolescents, as this particular stage of human development presents something unique in the human trajectory across one's lifespan: it marks a period of psychosocial transition between childhood and adulthood (Liebenberg, Ungar & Leblanc, 2013; Pascoe, Hetrick & Parker, 2019; Pritchard & van Nieuwerburgh, 2016; Skrove, Romundstad & Indredavik, 2013; Wahyuningsih, Kusumaningrum & Novitasari, 2020). The school context also represents a place where both physical and emotional maturation take place against the backdrop of expanded socialisation through which these adolescents progress. Adolescence is also characterised by significant developmental milestones that typify the above-mentioned psychosocial transition (Frankenhuis, Panchanathan, & Barrett, 2013; Kruger & Prinsloo, 2008; Rawatlal et al., 2015). Regarding the experience of stress, much has been written about this phenomenon — with evidence pointing to the idea that everybody inevitably experiences stress sooner or later, and in differing degrees (Grabel & Adabbo, 2011; Rizwan, Malik, Malik, & Siddiqui, 2017). It is therefore important to understand stress and its consequences, along with other ways of coping with stress, and how health-promoting behaviours affect psychological well-being.

According to Isaacs (2008), adolescence as a developmental stage is all about rapid change and psychological transition — two determinants that typically result in stress. These changes

occur in various domains, including affective, cognitive, biological and social areas; they also simultaneously increase vulnerability to the development of depressive symptoms (Rawatlal et al., 2015). Most adolescents manage to face stressors, like negative life events, by finding internal and external coping mechanisms and recourses to facilitate moving on from the stressor, but in other instances the stressors become too much with which to contend (Isaacs, 2008).

According to Harrison, Loxton and Somhlaba (2019), there is much attention in literature about the adverse effects of stressors on mental health but scant research on the mediation effects of coping strategies and psychological strengths on mediating the influences of stress. Based on a review of the literature, a need for valid instruments of this nature was identified to contribute towards understanding the buffering effects of coping strategies and health-promoting behaviours on stress for adolescent well-being. This is especially crucial in the South African context, where poverty remains a prevalent issue faced by more than half of the population, contributing significantly to high levels of stress and impacting negatively on mental and physical well-being (Harrison et al., 2019; Isaacs, 2008).

Evidence from available literature confirms that a myriad of biopsychosocial factors affects the development of healthy adolescents (Harrison et al., 2019a). Stressors in the South African context are exacerbated by high estimates of poverty, of which 55.5% of the population experiences, with the group most vulnerable to experiencing poverty being adolescents under the age of 17 (Harrison et al., 2019a). Further, a strong relationship between poverty and stress exists, with this relationship leading to adverse impacts on mental health. Negative psychological consequences cited include depression, which can lead to suicide, anxiety symptoms, increased rates of emotional and behavioural problems and

delinquency and school problems. These all lead to feelings of frustration and hopelessness (Harrison et al., 2019a; Isaacs, 2008). It is postulated that stressors increase the vulnerability and risk of developing mental health problems. The ability to cope with the stressor — or engage in protective behaviours to manage the stress symptoms — is crucial to buffering the negative consequences and safeguarding their mental health (Harrison et al., 2019a).

This crucial aspect in coping with stressors involves psychological strengths, as strengths are experienced as both internal and external protective factors. Adolescents living in adverse conditions in South Africa are at a higher risk of developing psychological and health problems. These risks include substance abuse, HIV/AIDS, violence, teenage pregnancy, school dropout and psychological factors such as hopelessness, poor quality of life and despondency (Harrison et al., 2019a).

The present study, therefore, took a closer look at the relationship between stress and the impact of coping strategies and health-promoting factors that buffer the negative psychological effects of stressors, among school-going adolescents in the Cape Metropole. The overall aims of the present study were twofold: (1) to test cognitively (as a means of validating) selected items of the instruments to be used in the South African context for the use in the next phase of the bigger project that investigates the psychological correlates of sibling loss; and (2) to investigate the nature of the statistical relationships between the variables of stress (depression, anxiety and hopelessness), certain psychological strengths or health-promoting factors (resilience, self-esteem and perceived social support) and coping and psychological well-being in school-going adolescents within the Cape Metropole. The underlying question relating to the first aim pertains to whether the instruments are valid and reliable measures to be used in the South African context. To answer this question, the study

cognitively tested selected items of the measuring instruments to be used within the South African context. The test was conducted on school-going adolescents (aged between 13 and 19 years) in grades eight to 11 from selected schools in the Cape Metropole.

Regarding the second aim, the study investigates the nature of the statistical relationships between stress, psychological strengths or health-promoting factors and coping and psychological well-being among school-going adolescents of the comparable age ranges and grades as above, also from selected schools in the Cape Metropole.

1.2 Operational definitions of main concepts

Outlined below are certain concepts central to the study and, for ease of contextual understanding of what each represents in the present study, will be operationally defined. The concepts include stress, coping and psychological strengths (such as resilience, self-esteem and perceived social support), psychological well-being and adolescence.

1.2.1 *Stress*

While the term 'stress' is often used flippantly in everyday conversations and non-academic environments, it is important to note the operational definition and understanding of the term as used in this study. Lazarus and Folkman's (1984) definition of stress includes a few components. They start by describing stress as a situation that is experienced or perceived by an individual as threatening and as a 'red flag' for imminent physical or mental health problems (J. H. Amirkhan & Marckwordt, 2017). They propose that there is a transaction between the individual and the situation, where the individual can mitigate the effect of the stressor through actively managing it. Multiple studies have indicated anxiety, depression and hopelessness as indicators of stress (J. H. Amirkhan et al., 2018; Rawatlal et al., 2015).

Depression, anxiety and hopelessness are all indicators of stress. Leading on from Lazarus and Folkman's (1984) definition of stress, an individual with depression, anxiety or feelings

of hopelessness as the outcome of stress perceives his/her situation as surpassing that of his/her ability to manage the environment. Individuals with depression, anxiety or feelings of hopelessness, in turn, hold negative views of the world and themselves (Beck, 1970). This may result in a negative outlook on the stressor and on his/her ability to cope with it. This all exacerbates the stress further, creating a downward spiral (J. H. Amirkhan, 1990; J. H. Amirkhan et al., 2018).

In this study, stress is one of the key variables and not only refers to the commonly accepted view of feeling worried or overwhelmed but to the definition stated above by Lazarus and Folkman (1984). To understand further how this definition is used throughout this study it is important to attempt contextualising the individual's experience of stress in line with this transactional model provided.

The experience of stress is informed by a process of primary and secondary appraisals. Primary appraisal is where the individual makes a judgement about the potential impact of the psychological stressor on his/her well-being. His/her perception of the stressful interaction or circumstance as a significant challenge — or as causing harm to his/her well-being — leads to what is called 'stress appraisal.' His/her perception and appraisal of the severity and impact of the stressor will also involve his/her perception of which coping strategies he/she thinks that he/she has at his/her disposal; this is called the 'secondary appraisal.' If the individual perceives his/her coping strategies as readily available and as capable of accomplishing coping goals, it will impact on the actual application thereof and, ultimately, how the stressor is managed. The more trust the adolescent has in his/her coping strategy, the less severe he/she perceives the stressful environment or situation, and the less negative impact the situation will have on his/her psychological well-being. If the individual does not perceive his/her ability to cope adequately, the stressful situation is perceived as having a more threatening impact on his/her life, which creates a problematic person-

environment transaction. This negative appraisal can then influence the individual's well-being and manifest in symptoms such as anxiety, depression and hopelessness. These negative psychological consequences reinforce the individual's belief that he/she is incapable of coping with the stressor, creating a viscous cycle of negative appraisal.

1.2.2 *Coping*

For the purposes of this study, the operational definition of 'coping', provided by Lazarus and Folkman (1984), will be used. 'Coping' is, therefore, defined as the 'constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the recourses of the person' (Lazarus & Folkman, 1984: p.141). This, again, speaks to the relationship that the individual has with this/her environment and his/her management of stressful situations. When an individual applies practical problem-solving skills to manage the stressor, he/she might gain a sense of mastery, boosting his/her confidence, reducing the negative impact of the stressor and strengthening functional coping for future stressful situations. This appraisal process is a key component of the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and has been described in the previous sub-section 1.2.1, titled 'Stress.'

Lazarus and Folkman's definition of coping forms the basis for most major measures of coping styles, including the Coping Strategy Indicator (CSI) used in the present study, and Endler and Parker's (1999) Coping Inventory for Stressful Situations (CISS). The latter describes three coping strategies: task-oriented (actively problem-solving; that is, planning), emotion-oriented (maladaptive ruminative or emotional reactions) and avoidant responses (behaviours aimed at avoiding the stressful event; that is, watching television) to stressful situations (Jang, Thordarson, Stein, Cohan, & Taylor, 2007). Avoidant coping is further described as maladaptive behaviours that precludes individuals from being able to effectively

process stressors and include behaviours such as excessive spending, binge eating and substance use (Brem, Shorey, Anderson, & Stuart, 2017).

For further clarity on what coping entails, we can divide the manner in which an individual manages a stressor into two forms: emotion-focused coping and problem-solving coping (Lazarus & Folkman, 1984). Emotion-focused coping is the adolescent's cognitive process(es) aimed at minimising the stress. The cognitive process is the ability of the individual to alter the manner in which he/she perceives the stressor — through cognitive reframing — that leads to an increase in his/her belief about their ability to use coping skills, in turn minimising his/her perception of the negative effects of the impact of the stressful event (J. H. Amirkhan, 1990). Problem-focused coping is where the individual actively manages the actual stress symptoms. This may be done by activating a social support resource, by addressing the stressor or by a more self-directed method like learning a new skill to overcome the stressor (Freydenberg, 1997).

Amirkhan's (1990, 1994) taxonomy of coping makes reference to three coping strategies: problem-solving coping, support-seeking coping and avoidant coping. These also form the basis of the CSI that is used to identify coping strategies in the current study. In addition, Amirkhan (2018) identifies the importance of consistency in the use of coping behaviours applied in stressful situations and in describing individual differences in coping.

Coping is acknowledged as an essential psychological resource associated with well-being (Upton, Cartwright, & Upton, 2013). It seems that even though there are some categorising and describing differences in research on coping, the literature is in agreement that coping involves adapting to challenging situations; however, not all coping strategies are effective or helpful (J. H. Amirkhan, 1990; Upton et al., 2013). Coping can, therefore, be categorised into adaptive and maladaptive coping. Adaptive coping is protective to health, while maladaptive

coping is detrimental to health. Moreover, the manner in which individuals cope with stress influences their perceived sense of stress management (Holton, Barry, & Chaney, 2016). Adaptive coping is task-oriented, while maladaptive coping constitutes emotion-oriented and avoidance-oriented responses. Task-oriented coping is a kind of cognitive or behavioural response to taxing external or internal demands. Task-orientated coping is associated with the shouldering of an active problem-solving approach, with the aim of alleviating or removing the stressor altogether. Emotion-oriented coping responses entail modulating the emotion associated with the stressor; this could take the form of self-blaming or ruminating (Harrison et al., 2019b; Isaacs, 2008; Lazarus & Folkman, 1984; Shahmohammadi, 2011).

1.2.3 Psychological strengths: Resilience, self-esteem and perceived social support

Psychological strength is the manner in which an individual manages the stressful situations in his/her life; psychological strength is determined by the individual's perception of available resources (Harrison, 2020). In literature, the term 'psychological strength' has often been referred to as 'psychological capital': the internal and external resources that a person has at his/her disposal to manage emotional upheavals. Coping is slanted towards being a correlate of psychological strength.

For the purposes of this mini thesis, the view of Lazarus and Folkman will be employed. This means that there exists a constant interaction between the individual and his/her environment, and that this interaction, subsequently, affects the adaption and development of the mental well-being of the adolescent (Lazarus & Folkman, 1984).

Literature on psychological strengths appears to confirm that strengths are positively correlated with a wide range of desirable behavioural and psychological outcomes. Individuals who make use of their psychological strengths experience better psychological

well-being, experience less stress, are more likely to achieve their goals, enjoy higher levels of happiness and experience lower rates of depression. Consequently, all of this elevates their psychological strengths; for example, their self-esteem levels (Biswas-Diener, Kashdan, & Minhas, 2011).

While there is clearly a mounting case for the benefits of and attention to psychological strengths, there is not as much consensus on how best to use the knowledge relating to psychological strengths. According to Biswas-Diener et al. (2011), there is an implicit assumption that strengths exist in isolation, divorced from social and intrapsychic factors. Modern personality theorists have begun to recognise that there exists an interaction between the social situation and the individual behaviour, and that the situation determines the appropriateness of the strength used (Diener et al., 2009).

In the literature, the researcher found three specific psychological strengths that have often been cited as mediating the effects of stress on psychological well-being and overall mental health: resilience, self-esteem and perceived social support (Behnke, Plunkett, Sands, & Bámaca-Colbert, 2011; Bruwer et al., 2008; Govender, Cowden, Oppong Asante, George, & Reardon, 2017; Rizwan et al., 2017; Smokowski, Evans, Cotter, & Guo, 2014; Stumblingbear-Riddle & Romans, 2012; Timson, 2015), which will each be defined next.

1.2.3.1 *Resilience*

Literature has defined resilience in terms of certain factors that contribute to a healthy psychological state despite the presence of risk factors (Skrove et al., 2013). According to Skrove et al. (2013), these resilience factors can be divided into three categories: family support, individual resources and supportive external social networks. Resilience is commonly defined, and the definition that will be used in this study is the following: *adapting well and withstanding the stressful circumstances despite adversity, threat or stress*

(Harrison, 2020). Protective factors fulfil an important role in fostering resilience, mediating the relationship between psychological stress and mental well-being.

The concept of resilience has evolved over the past four decades. Initially, literature has placed greater focus on the individual's internal characteristics that promote resilience. Researchers subsequently noticed the significantly positive impact of external factors (for example, family and community) that expanded the concept of resilience to include both internal and external factors (Stumblingbear-Riddle & Romans, 2012).

Most studies of resilience suggest that resilience is a dynamic process enabling an individual to respond or adapt under adverse conditions; these could include emotional, social, economic or personal aspects. Literature seems to associate resilience with positive outcomes that are independent of at-risk status, recovery after trauma and competent responses under adverse conditions (Thornton & Sanchez, 2010).

1.2.3.2 *Self-esteem*

Self-esteem can be understood as an individual's perception (subjective appraisal of the individual's own competence in the face of challenges, contributing to his/her view of self-efficacy) of his/her self-worth, competence and personal evaluation (Harrison, 2020). These perceptions are often informed by the feedback received from family, friends and teachers. The higher the individual's self-esteem, the better he/she is able to cope with a stressor. He/she will be more optimistic and perceive life as more manageable. Consequently, the individual becomes less susceptible to depression. Conversely, low self-esteem might be a risk factor for distressing consequences of stress, feelings of inadequacy, deficiency and unworthiness.

As expressed previously, Lazarus and Folkman's transactional model would further suggest that self-esteem is important because of these negative and positive consequences of feelings

of personal self-esteem. If the individual believes in him/herself, he/she will believe in whichever mediating action he/she wishes to take in addressing the stressor that he/she faces; if the individual does not believe in him/herself, he/she might not believe it useful even to try doing anything to alleviate the stressor, as he/she does not believe that he/she is capable of affecting it. Doing nothing renders the stressor ever more present, or even renders the stressor worse. The stressor becomes a constant companion and the pain or negative consequences of the stressor worsen; it then becomes harder to for the individual to cope. This will further reinforce the individual's belief that he/she is unworthy or inadequate (Hulbert-Williams, Morrison, Wilkinson, & Neal, 2013; Lazarus & Folkman, 1984).

1.2.3.3 *Perceived social support*

For the purposes of this study, 'perceived social support' describes the perception of adolescents regarding readily available social support when faced with a stressor, and that assistance is indeed available. This phenomenon of perceived social support is associated with the reduction of distress and increased feelings of self-efficacy (Harrison, 2020; Harrison et al., 2019b). In a study by Yan et al. (2021), perceived social support was further defined as an individual's belief regarding the quality and amount of support received from the relationships and the from social contacts in his/her life. Perceived social support is the individual's perception of the available emotional, spiritual or material support from other persons or groups of people in his/her life (Haviland et al., 2017; Yan et al., 2021). Furthermore, social support has been identified as beneficial for humans' psychological well-being (J. H. Amirkhan, 1990; Haviland et al., 2017; Smokowski et al., 2014).

1.2.4 *Psychological well-being*

Psychological well-being refers to a state of being devoid of any psychological issues. The term also has a broader meaning, where individuals can perceive themselves in positive manners compared to others (Hezomi & Nadrian, 2018; Rajendra & Reena, 2018;

Wahyuningsih et al., 2020). People are able to hold on to their independence, environmental mastery, life goals and emotions that promote healthy development. With respect to the present study, psychological well-being can further be described as the absence of a depressive disorder, anxiety and hopelessness, and as the presence of coping skills, self-esteem, life satisfaction and happiness (Wahyuningsih et al., 2020). The American Psychiatric Association (APA, 2018) defines mental health as effective daily functioning, being able to form healthy relationships and as possessing the ability to adapt to changes in the environment and in the face of adversity.

In recent years literature studies have been placing greater focus on the topic of strength, which coincides with the professional attention on positive psychology. The promise of identifying and using psychological strengths in the therapeutic milieu has become increasingly attractive for the greater positive patient outcomes (Biswas-Diener et al., 2011; Diener et al., 2009).

According to positive psychology, subjective well-being is an individual's cognitive and affective evaluation of his/her life (Diener, 2000; Diener et al., 2009). It is fascinating that well-being is seen as subjective in that the definition entails living a good life, with each person enjoying the right to decide if he/she is indeed living his/her version of a good life. A 'good life' includes criteria such as pleasure, loving others and self-insight. In defining well-being it is essential to combine intensity and frequency of pleasant emotions (Diener, 2000). It appears obvious that individuals who are intensely happy most of the time will experience greater happiness and wellbeing, but Diener et al. (2009) found that the amount of time being happy — rather than the intensity — serves as a better predictor of happiness and subjective well-being. Furthermore, they illuminate the claim that highly pleasurable experiences may even serve as a disadvantage in that these highly pleasurable experiences render the milder positive experiences apparently less pleasurable (Diener, 2000).

For the purposes of this study, the holistic definition of mental well-being proposed by the World Health Organization (2014) — in combination with the conceptualisation of Diener et al. (2009) — is employed. Mental well-being is conceptualised as a state where an individual acknowledges his/her own potential to cope with life stressors, is able to work productively, has the ability to contribute to his/her community and subjectively experiences his/her life as being more positive than negative (Diener, 2000; Diener et al., 2009).

1.2.5 *Adolescence*

G. Stanley Hall (Moshman, 2011) wrote the first book on adolescents at the turn of the 20th century. Before this book, the concept of 'children' and 'adults' had always existed, but not always 'adolescents.' Mathematically, a teenager has already reached the age of 13 but not yet 20 (the 'teen' years, in our counting scheme). Adolescents are like adults but, unlike children, can engage in dialectical reasoning, hypothetical-deductive reasoning, reflective coordination of theories and evidence, can show explicit conceptions of inferential validity and reflective epistemologies and can apply a third party perspective in social and moral settings (Johnson, Eva, Johnson, & Walker, 2011; Moshman, 2011; Pritchard & van Nieuwerburgh, 2016). Adolescents are, therefore, cognitively mature enough to provide well-informed and well-rounded answers to the current study.

The present study acknowledges that there remains some uncertainty in the literature regarding the precise age of adolescents. Studies seem to range from approximately 12 to 18 or 21 years of age (Harrison, 2020; Harrison et al., 2019b; Pritchard & van Nieuwerburgh, 2016). The present study includes adolescents as aged 13 to 19, in grades eight to 11.

1.3 Rationale for the present study

In this section the researcher will further discuss the rationale for investigating the mental well-being of adolescents in the Cape Metropole, as well as the importance of understanding

the mediating effects of psychological strengths and coping strategies on the outcomes of the mental health on adolescents.

The present study is an important part of understanding not only the well-being of adolescents but the psychological needs and mental health-related aspects of adolescents. When poorly managed — or through continuous exposure — stress can accumulate to levels that become injurious to our health and well-being, just like anxiety, loss of sleep and unhealthy relationships (Rajendra & Reena, 2018). Some other consequences of stress, as found in a study by Bostock et al. (2018), include poor physical health, familial difficulties, emotional distress, poor sleeping patterns, an increased desire for comfort foods, decreased levels of exercise and social interactions, increased alcohol consumption, cognitive impairment, depressed mood and general discontent (Bostock, Crosswell, Prather, & Steptoe, 2018). The negative consequences of stress, therefore, have significant negative ramifications on many levels. A similar study reported that students in secondary school who faced a wide range of stressors developed a decrease in motivation, an increased risk of school dropout and a reduction in academic achievement (Pascoe et al., 2019). There were also long-term consequences for these students, such as the risk of unemployment, increased governmental costs and various mental health issues that included anxiety, depression, sleep disturbances and substance abuse.

Schools fulfil an important role in the development of adolescents' identities; educators are, therefore, placed in a unique position to: (1) recognise the problems; and (2) provide the necessary support to the students. For educators, this can feel like a daunting task given that adolescents are often reluctant to share their emotional and temperamental needs (Johnson et al., 2011). The onset and diagnosis of mental disorders take place primarily in early adulthood, but, retrospectively, the majority of individuals first *display* symptoms in adolescence — often during the crucial stages of emotional, social and cognitive

development (Johnson et al., 2011). It is important to note that during adolescence there is a significant increase in the risk of suicide and substance abuse due to the individual's precarious mental well-being (Johnson et al., 2011). It is, therefore, critical to be able to identify the issues in advance, rather than belatedly.

Studying the mental well-being and the mediating effects of coping skills is necessary in light of the currently scant availability on research on this topic — and even less within the Cape Metropole population. It is also imperative to conduct research in a South African context as adolescents are a particularly vulnerable group given that many of their lives are characterised by socio-economic adversity and living arrangements in low-income communities (Harrison et al., 2019b; Najman et al., 2010; Villiers, Den, & Berg, 2012). These socio-economic conditions present their own unique challenges to performing and focusing on basic tasks (such as schoolwork) as adolescents are often preoccupied with concerns regarding the well-being of their families. They might also feel a sense of responsibility and seek employment to assist their families financially, leading to a higher probability of school dropout. These factors and other stressors — such as the impact of HIV/AIDS on families, physical ailments, the financial burden and that accompanies ill health (like medical bills and inability to work due to illness), the high rates of violence at schools and in the communities due to gang and police clashes — all lead to adolescents feeling distressed and despondent (Shields, Nadasen, & Pierce, 2008). The Cape Metropole communities have some of the highest reported drug-related crime rates in South Africa (Haefele, 2011). This necessitates the importance of understanding, through research, the stress-coping experience for adolescents living in these contexts, as the alternative of not having a firm grasp of adolescents stress-coping experience is detrimental to their holistic mental health and well-being.

Given the unique stressors of adolescents in the Cape Metropole, it is vital to understand and research which mediating effects can yield positive influences on the stressors that have the potential for psychological harm. Some of the mediating effects that the current study observed were certain psychological strengths and the impact that they had on psychological functioning. The study also observed the essential positive effects that the coping mechanisms had on adolescents living in the aforementioned environments. A better understanding of what coping strategies or psychological strengths helps will empower key figures in developing interventions that work and will empower them with the ability to strengthen the much-needed psychological resources.

When observing the individual and the collective impact of the psychological strengths — that is, perceived social support, self-esteem and resilience — we can say that the strengths all have the potential to advance research into which coping strategy is best suited to aid in enhancing adolescents' mental well-being and psychological health. The aid could be executed through cost-effective short-term interventions and enhancing structures.

The theoretical framework by Lazarus and Folkman (1984) used in this study (which will be presented in greater detail later in this mini thesis) suggests that every individual's mental well-being is influenced by an ever-changing interaction between the protective factors and risks that impact on him/her. This interplay can be either environmental or individual (Behnke et al., 2011). As mentioned earlier in this chapter, there is an acknowledgement of the dynamic interplay between certain stressors that negatively affect adolescents and the positive influence of protective factors on the mental health outcomes of these interactions.

There has been a proliferation of coping measures over the past few years; however, little is known of the validity of coping in adolescents who are experiencing higher levels of stress. Coping responses also vary in effectiveness, depending on the situation in which they are

employed (J. H. Amirkhan, 1990). The present study tried to illuminate the use of coping strategies and fill the gap in literature on the use of coping strategies in the Cape Metropole, South Africa.

In recent decades, there has been an increase in the study of psychological health and well-being. A variety of conceptualisations of psychological health has been proposed, including hedonic well-being, wellness approaches and quality of life. A review of the literature by Cooke, Melchert, Connor and Cooke (2016) discovered 42 different conceptualisations and operationalisations of well-being, suggesting that considerable disagreement on properly measuring and understanding well-being exists (Cooke et al., 2016). Accordingly, this study aims to fill the gap in the literature with regards to understanding well-being in adolescents better. As it is apparent that this remains an understudied area with limited research, especially in the South African context.

1.4 Structure of the mini thesis

To conclude the chapter I considered it proper, appropriate and useful to present a synopsis of the different chapters and a summary of the content contained in each chapter. These summaries are presented by means of the subheadings that follow below.

Chapter 1: Introduction and background to the study

In this chapter an overview of the study — including an introduction, definitions of key concepts and the rationale of the study— was presented. Most of the points briefed in chapter one will be discussed in greater detail in subsequent chapters.

Chapter 2: Literature review

This chapter presents a literature review of the concepts of the study. The main issues of psychological well-being and psychological strengths (including coping skills, depression, anxiety and hopelessness in adolescents) are discussed throughout. These concepts are discussed based on the theoretical framework of the present study.

Chapter 3: Theoretical Framework

Chapter 3 provides a detailed description of the theoretical frameworks employed throughout the study, specifically Lazarus and Folkman's transactional model and Messick's measurement theory. This chapter also describes the research aims and objectives of the study.

Chapter 4: Research methodology

This chapter provides a detailed description of the methods utilised throughout the study. This includes a description of the research design, the sampling and the sampling procedure, a description of the participants, the measuring instruments used, the procedure, the data analysis and the ethical considerations of the present study.

Chapter 5: Results

In this chapter the results of the findings of the study will be presented. This includes the results of the cognitive testing phase and the findings of the structural equation modelling (SEM) analysis.

Chapter 6: Discussion

In this chapter results were discussed and integrated with relevant literature.

Chapter 7: Discussions

In the final chapter the researcher will discuss the major findings in perspective, the applicability of the theoretical frameworks used, the strengths and contributions of the study, recommendations for future research and overall implications for interventions for adolescents in the school context.

1.5 Summary of the chapter

In this chapter an overview of the study — including an introduction, definitions of key concepts and the rationale of the study — was presented. Most of the points briefed in chapter 1 are discussed in greater detail in subsequent chapters. The following chapter will provide a review of the literature on various aspects of adolescent mental health and well-being.

CHAPTER 2

Literature Review

2.1. Introduction to the chapter

This chapter provides a literature review on various aspects of mental health and adolescent well-being, by examining specific aspects such as stress, coping, psychological strengths and psychological well-being. Pertaining to stress, this chapter considers the three indicators of stress, including depression, anxiety and hopelessness, and the impact that these have on psychological strengths, coping and psychological well-being. In relation to psychological strengths, it looks at the literature pertaining to specific strengths — that is, perceived social support, resilience and self-esteem — and the impact that these have on coping and psychological well-being. The final aspect explored in the literature are the mediating effects of certain coping strategies employed by adolescents in the wake of stress, including problem-solving coping, social support-seeking coping and avoidant coping. Throughout this chapter, this provides a global and national view of the aforementioned aspects by focusing on the prevalence, factors associated with, and the consequences of these aspects.

2.2 Reviewing the literature

A cursory look at the literature on adolescent mental health and well-being reveals that this area represents one of the most researched terrains in the literature on adolescents in general. However, it seems that the bulk of the literature comes from research conducted in other parts of the world, with just a few literatures stemming from research in Africa, Southern Africa and South Africa specifically.

2.2.1 Risk factors and contributors to stress during adolescence and to adolescent mental health

The stage of adolescence is deemed to represent a unique stage of development as it marks a psychological transition from childhood to adulthood (Pritchard & van Nieuwerburgh, 2016;

Rawatlal et al., 2015). It is also a particularly challenging time, with emotional, behavioural and cognitive changes taking place rapidly (Colle, Gabbatore, Bara, & Bosco, 2013), and is a stage characterised by a variety of events and changes that might be intrinsically stressful and unusually high compared to other developmental stages (Colle et al., 2013). The school context — where most adolescents of school-going age are found —also represents a place where physical and emotional maturation take place against the backdrop of expanded socialisation. These adolescents progress through important developmental milestones that typify the above-mentioned psychosocial transition (Frankenhuis et al., 2013; Kruger & Prinsloo, 2008; Rawatlal et al., 2015).

Often times, adolescents' emotional behaviours and responses are merely passed off as part of their current stage of development and maturation. This development stage includes the academic stress that they experience and the rapid growth that they are undergoing in transitioning from childhood to adulthood. This often leads to individuals (e.g. teachers, parents and others in whose care the adolescents are), who should be assisting adolescents, instead dismissing their emotional stress and failing to pay attention to these young individuals who are in need of a deeper understanding and further intervention (Harikrishnan et al., 2017). It is important to identify, notice and assist adolescents, especially given the high numbers of adolescents experiencing stress at this stage. In a study conducted by Harikrishnan at al. (2017) — which aimed to understand the mental health status of school-going adolescents in Tezpur, India — the results were alarming in that fewer than one-tenth of the 1,403 participants were suffering from a mental health problem. However, the high prevalence and impact of mental health related problem in adolescents has also been highlighted by the World Health Organisation (WHO), which has specifically identified depression as the most prevalent mental health disorder in adolescents (Rawatlal et al., 2015). This has been echoed in research (e.g. Amirkhan et al., 2018), which points to various

behaviours and symptoms that can indicate stress overload. Amirkhan and associates found certain defining markers of stress overload — some showing up immediately and some with a delayed response — that included body complications, gastrointestinal disturbances, respiratory problems, moodiness, nervous habits and cognitive disruption (Amirkhan et al., 2018).

Still pertaining to the prevalence of mental health problems in adolescents, studies conducted in other parts of the world seem to suggest that stress is an inherent problem among adolescents within the school context. For example, in India, the prevalence rate of adolescent and child psychiatric disorders is 6.46% in communities, and in schools it is 23.3% (Harikrishnan et al., 2017). Similarly, in Sri Lanka, the prevalence of behavioural and emotional problems in school-going adolescents was found to be 13.8%, with 8.8% constituting internalised problems and 8.8% constituting externalised problems. Moreover, up to 17% of Sri Lankan adolescents suffer from major depressive disorder (Harikrishnan et al., 2017). The above-mentioned behavioural, emotional, and psychiatric disorders and issues have severely negative consequences on the individual, adversely affecting his/her well-being and psychological functioning. Moreover, these negative consequences extend to the individual's parents and family unit. This is part of the reasoning for the need to understand these issues better, in order for schools, families and mental health systems to take appropriate steps to prevent and remedy the problem and to take action to promote better mental, physical and emotional well-being of adolescents. In further attempting to understand adolescent mental health and the impact of stress, it is important to note the developmental stage they are in, and how the stage of maturation as they progress psychologically from childhood to adulthood provide specific challenges that influence their levels of stress (Colle et al., 2013; Pritchard & van Nieuwerburgh, 2016).

There are many studies that speak to the specific developmental stage adolescents are in and further link how the stage impacts on increased levels of stress during this stage (Ericson, 1959; Frankenhuis et al., 2013; Kruger & Prinsloo, 2008). Adolescents undergo both intrapersonal and interpersonal changes, pubertal changes and maturation of sexual organs and appearance, including rapid body growth (Colle et al., 2013; Kruger & Prinsloo, 2008). Moreover, adolescents also undergo cognitive changes, including concerns regarding identity, deductive thinking and abstract thought. They start to examine who they are while grappling with their futures and where their lives are heading. The theory of Ericson's (Ericson, 1959; Kruger & Prinsloo, 2008) developmental stages places adolescents in the fifth stage of Ericson's eight stages of psychosocial development, where the conflict to resolve is *Identity vs Role Confusion*. According to Ericson, this stage is where the individual grapples with the different roles that he/she currently fulfils, and that in this stage he/she needs to adapt to the different roles to foster a renewed sense of self. If the individual does not succeed in resolving this crisis, he/she becomes 'role confused', which may lead to isolation and withdrawal from social support systems. The risk of losing his/her sense of identity also becomes greater (Ericson, 1959). It is therefore clear that this stage of development has many challenges, both physically and emotionally, all which contribute to potential added stressors on the adolescent. Even during the challenging time that most adolescents inevitably undergo, the adolescent experience is even worse for those at-risk of developing mental and/or emotional disorders. Studies indicate that one in five adolescents suffers from a serious behavioural, emotional or mental health issue (Johnson et al., 2011). For this reason, it is vital to identify in advance and to treat appropriately, affording these young people with a better chance at living a healthy and balanced life. This issue of risks associated with severe stress is not a novel concept. A study by Collins and Collins (1994) discusses the large numbers of

children and adolescents who suffer from serious emotional or behavioural disorders. The researchers indicate that even in 1994 there was limited and inappropriate treatment or intervention opportunities to fit the needs of troubled adolescents (Collins & Collins, 1994). Therefore, knowing how to identify adolescents experiencing mental health issues, which coping strategies are most effective and which associate better with well-being could inform health care practice (Upton et al., 2013). This identification process can further be examined by understanding how stress manifests in different individuals.

There is literature indicating how stress manifests in boys compared to how stress manifests in girls (Govindasamy et al., 2020; Shawl & Mehraj, 2017). Adolescent boys, for instance, were found to be more stressed due to competition and due to experiencing more fear than girls. Girls were found to be more easily bothered than boys, overly concerned about academics and anxious when their examination scores were low, but they were also more comfortable in sharing their feelings. In a study by Govindasamy et al., (2020) on adolescent well-being in sub-Saharan Africa, the researcher described tragic life events experienced by adolescent boys and girls linked to stress/negative experiences and lack of integration into networks. The male adolescent participants further expressed the important role that their fathers played in fostering belonging, and that without acceptance from their fathers they felt out of place (Govindasamy et al., 2020). Both adolescent boys and girls were found to suffer physically form stress too, specifically from frequent headaches (Shawl & Mehraj, 2017). Adolescent boys and girls experience and express stress differently in some ways, and in some ways, there are similarities. There are also other factors that impact on the manifestation of adolescent stress and mental health. When one looks at the South African context more closely, the manifestations of stress have been explained in a manner which is more contextual to the specific context.

In South Africa, the manifestation of stress can be attributed to the increased risk for poor mental health found in this context, furthermore, the negative consequences of stress appears to stem from high rates of physical illness, hard living conditions and death (Casale et al., 2014). Poor mental health is perpetuated by limited mental health resources and low uptake of available services. Additionally, many South Africans are HIV-positive (Najman et al., 2010), constituting a major stressor. Identifying potential protective factors, especially in informal communities, beckons greater attention (Casale et al., 2014). In South Africa, adolescents are further afflicted by the generational cycle of poverty that also perpetuates levels of stress. It is therefore crucial to identify and promote factors that buffer the negative effects of stress. The main concern in South Africa, however, is the prevalence of poverty, which leads to daily stressors and a range of other risk factors. Individuals struggle to satisfy their basic necessities; for example, food, clothing and electricity (Harrison, 2020). In South Africa it can therefore be seen that stress is perpetuated by a variety of factors like poor living conditions, physical health issues, limited resources and poverty, that contribute to increased levels of stress. Contributors of stress in the South African context can further be specified by zooming in on the Western Cape context and what factors specific to this population add to levels of stress.

In the Western Cape, individuals who live in poverty-stricken areas also encounter risk factors such as crime and violence (Isaacs, 2008; Jacob et al., 2018). Substance abuse disorder, unemployment, scant social support and poor education are rife, further hindering potential progress and growth (Isaacs, 2008). A study by Najman et al. (2010) outlined the negative health consequences of living in poverty on adolescents; these consequences included increased anxiety and depression. Literature shows that in the Western Cape risk factors for stress are often related to poverty and factors relating to poverty. In the next section, the researcher will be observing what literature says about adolescents coping with

stress.

2.2.2 Adolescent coping with stress

There has been a proliferation of coping measure studies over the past few years; however, little is known about the validity of coping in adolescents, who are experiencing higher levels of stress. In addition, literature has found that coping responses vary in effectiveness, depending on the situation in which they are employed (Amirkhan, 1990). There are, therefore, some gaps in literature on coping, but there are also some studies that provide useful information for setting the scene of coping for the current study.

Available literature on coping with stress highlights that managing a stressor is contingent on the use of psychological strengths. Psychological strengths are mediators to the negative effects of the stressful encounter on psychological well-being and mental health — the result of which is a healthy psychological state (Shahmohammadi, 2011). Coping in the school context specifically has received much attention in literature.

In exploring coping in the school context, Shahmohammadi (2011) conducted a study on high school students in Iran on coping with stress in school in order to determine academic anxiety. In this study stress was analysed among students and the study attempted to understand their adapted coping strategies. Findings indicated that 26.1% of students were distressed, with the main school stressors being not being placed in tertiary education, examinations, too much content to learn, difficulty understanding the prescribed content, labour-intensive class timetables and ‘too much’ homework (Shahmohammadi, 2011). Students who reported liking their schools were found to have performed better academically and to be healthier than adolescents who did not enjoy school (Shawl & Mehraj, 2017). This study was helpful in indicating some of the general stressors experienced by school-going adolescents and some of their (both healthy and unhealthy) coping strategies.

Leading on from exploring general stressors experienced by adolescents and the coping strategies employed in such situations, there are also studies that observe the influence of one specific stressor experienced by school-going adolescents and the coping employed in such, more specific, situations. In a study conducted by Somhlaba and Wait (2009) on ascertaining which coping strategies were predominantly used after a significant stress (like spousal death) and the way that coping related to psychological distress following the loss, it was found that the superiority of problem-solving coping styles compared to coping through avoidance which was not as positive. Folkman (cited in Somhlaba & Wait, 2009) reinforced the notion of problem-focused coping being strongly associated with decreased distress, while emotion-focussed coping was linked with increased distress. It can be seen, in both the current and the previously mentioned study, that there exist manifold different situations that cause stress for adolescents, both in the school context and in daily life.

In addition to the different situations causing stress, there are different situational and individual factors that contribute to predicting coping behaviour. In predicting coping behaviour, various researchers have emphasized the role of situational variables (e.g. whether the event coped with is subjectively deemed amenable to modification and control) as key factors upon which coping efforts are expended, while others highlighted the personality dispositional styles as major determinants of coping. For example, Amirkhan (1994) stressed that it would be equally useful to identify stimulus-related characteristics (for example, the duration, intensity or controllability of the stressor) and the characteristics of the coper (for example, material resources or personality dispositions). Jang et al. (2007) reinforce this concept by expressing that coping is an active process sensitive to both individual and situational variables. Some other studies, however, highlighted aspects relating to personality functioning as main determining factors of coping. For example, (Jang et al., 2007; Shahmohammadi, 2011) pointing to extroverted individuals being more favourably disposed

to the use of preferred problem-focused coping (Jang et al., 2007; Shahmohammadi, 2011), while others highlighting that that extroverts preferred support-seeking coping responses (Amirkhan et al., 2018)). Some other studies found that there was no covariation between coping strategies and personality (Amirkhan et al., 2018). It can therefore be seen that there is some contention regarding the use and determination of coping in adolescents.

Given this contention regarding use and determination of coping in adolescents, the researcher, as described in chapter one, will be following the framework of Lazarus and Folkman (1984) for ease of understanding coping in the current mini-thesis. To briefly reiterate the understanding of what influences coping, Lazarus and Folkman (1984) proposes that coping is influenced by personal and situational factors. A person's individual characteristics and resources — such as health, energy, beliefs about control, existential beliefs, problem-solving skills, social support, personal constraints, commitments, social skills, material resources and level of threat — all influence the coping process (Lazarus & Folkman, 1984). The current study thus uses the understanding that coping is influenced by both personal and situational factors. In the following section the researcher will observe in greater detail what literature has said about psychological strengths in adolescents.

2.2.3 Psychological strengths in adolescents

As indicated, adolescence is a particularly challenging time, with significant emotional, behavioural and cognitive changes rapidly taking place (Colle et al., 2013). It is a stage characterised by a wide range of events and changes that may be intrinsically and unusually stressful compared with other developmental stages (Colle et al., 2013). Besides using coping strategies to mediate the effects of stress, adolescents also have certain psychological strengths at their disposal.

Literature on psychological strengths appears to confirm that strengths are positively correlated with a wide range of desirable behavioural and psychological outcomes. For example, individuals who make use of their psychological strengths more frequently are deemed to experience better psychological well-being, experience less stress, are more likely to achieve their goals, enjoy higher levels of happiness and experience lower rates of depression. Consequently, their psychological strengths (self-esteem levels, for example) are elevated (Biswas-Diener et al., 2011).

In the literature, the researcher found three psychological strengths often cited as mediating the effects of stress on psychological well-being and overall mental health: perceived social support, resilience and self-esteem (Behnke et al., 2011; Bruwer et al., 2008; Govender et al., 2017; Rizwan et al., 2017; Smokowski et al., 2014; Stumblingbear-Riddle & Romans, 2012; Timson, 2015).

2.2.3.1 Perceived social support

There is evidence supporting the notion of the buffering effects of social and psychological recourses on the experience of stress, in that having someone to rely on in times of stress increases the individuals perceived idea of being able to manage the stressor, because they feel that even if they try to manage alone and find they are not capable of doing it alone, they have someone who can help them manage it, therefore they are more likely to try themselves first (Carr, 2001). A study by Orphan (2001) indicated that perceived support from significant others can reduce the adverse negative effects on mental health. Similarly, Casale et al. (2014) also found social support to be a positive, health-promoting and stress-buffering resource. They describe aspects of supportive relationships to include emotional caring, concern for the individual and his/her best interests, information sharing and instrumental aid. These positive experiences relate to diminished stress in that they contribute to the individual

feeling supported in any stressor they might face – that they have someone to help if they cannot manage alone, decreasing the anticipated negative effects of the stressor they are facing. Lazarus and Folkman (cited in Carr, 2001; Orphen, 2001) further explain that the buffering effects of social support are greater from relationships where the adolescent feels valued by the person offering support than from a person who he/she does not feel holds him/her in high regard. Two relationships that have been proven to be significant in assisting adolescents during times of stress are that of parents and teachers (Shawl & Mehraj, 2017). In addition to providing social support, good parenting and teaching have also proven to be significant social support factors for adolescents (Shawl & Mehraj, 2017). Therefore, receiving social support form significant individuals in adolescent's lives impact on the positive management of facing stressors.

In addition to the benefits of social support form significant relationships there are other factors of the social support structure that affects psychological well-being. Considering that family functioning, cohesion, communication and support all influence attachment styles in relationships (Rawatlal et al., 2015). Studies find that individuals with better family support, cohesion and communication report higher levels of secure attachment, which decreases the risk of developing depressive symptoms. This is because secure attachments styles function as a protective factor against negative mental well-being (Rawatlal et al., 2015). Furthermore, studies have linked the construct of social support with many areas of adaptive functioning. These include interpersonal satisfaction, mental and physical well-being, feelings of social security and increased use of emotion-focused coping strategies (Osman, Lamis, Freedenthal, Gutierrez, & McNaughton-Cassil, 2014). It can therefore be seen that evidence points to the benefits of social support to overall psychological well-being, particularly for those individuals who perceive such support as available in times of need, feel a sense of cohesion and have a healthy sense of adaptive functioning.

There are more studies that indicate the mediation effect of perceived social support on positive mental health outcomes, and one study, by Skrove et al. (2014) that outlines this relationship, and provides more specifics of what it looks like in practice. Skrove et al. (2014) indicate that social support from family and friends, high self-esteem and living with both parents are associated with lower levels of psychological distress and symptoms of depression. They further indicate that spending time with friends during leisure hours is the greatest mediator and protective factor against symptoms of depression and anxiety in adolescents. Skrove et al. (2014) also found that even though symptoms of depression and anxiety were frequent in adolescents, they found that resilience factors safeguarded adolescents from symptoms of depression and anxiety significantly, and that having a healthy relationship with parents or having many friends also had an attenuating effect on the presence of depressive and anxiety symptoms. Good family connections also had positive effects on mental and physical health and on establishing a more secure identity separate from the family; this is crucial for adolescents as they live in a stage of transition and development. In this regard, parental factors such as school involvement, maternal warmth and parental monitoring are critical in the development of adolescents' self-regulatory strategies, while positive peer relations promote a sense of belonging. This sense of belonging, in turn, encourages a sense of self-worth (Skrove et al., 2013). Resilience is the next psychological strength taken into consideration in this review of the literature. Results of the study by Skrove et al. (2013) therefore demonstrate the significant positive influence of social support form peers, friends, and family on positive mental health outcomes, while incorporating the practical factors in what it looks like practically.

2.2.3.1 Resilience

Resilience is notoriously difficult to define, but there is some consensus that it signifies the adapting of behaviour in the face of a challenging situation (acute or chronic) or adjusting well to major challenges commonly associated with negative outcomes (Theron, 2012; Theron & Dunn, 2010) – perhaps more aligned with the conventional notion of 'success achieved against odds'. The adaptive behaviour is dynamic and is nurtured by reciprocal, well-being affirming transactions between significant relationships and ecologies (Theron & Dunn, 2010). When faced with a stressor, resilience depends on the adolescent's ability to navigate and negotiate towards the resilience-enabling resources and on his/her environment to reciprocate. Resources of resilience include intrapersonal resources (for instance, relational skills, problem-solving skills and hopefulness) and interpersonal resources (for instance, access to health care services, adult mentoring and effective schools) (Theron & Dunn, 2010).

Adolescents with powerful resilience capacities will face a stressor with the mindset of the stressor being an opportunity for growth and with a feeling of acceptance towards the specific stressor. They are able to employ individual protective resources which include reframing the situation, refocusing thoughts, acceptance, not blaming the self and being able to express their emotions (Theron & Dunn, 2010). Resilience studies also emphasise the importance of relational buffers such as parents, friends and other significant supportive relationships (Govender et al., 2017; Liebenberg et al., 2013; Theron & Dunn, 2010; Timson, 2015). Therefore, this again points to the dynamic interaction between variables influencing psychological well-being, as seen in the proposed model of the current study.

Given research has indicated the positive interaction between resilience and psychological well-being, there is another study that used these results to test a resilience intervention. In a 2012 study, Villiers and van den Berg implemented and evaluated a resilience programme for children living in Bloemfontein, South Africa. The researchers focused on promoting emotional regulation, interpersonal skills, stress management and problem-solving as forms

of resilience to be empowered (Villiers et al., 2012). Results indicated that the resilience programme significantly increased interpersonal characteristics such as self-appraisal and emotion regulation (Villiers et al., 2012). These results further provide evidence to the mediating effect resilience plays in positive outcomes for psychological health. Adolescents in South Africa in particular need to be resilient to cope with stress and trauma given that the exposure to poverty, violence and ongoing socio-economic transformation all lead to high levels of stress. Self-esteem is the next psychological strength that will be discussed in this review of the literature.

2.2.3.3 Self-esteem

Self-esteem is a key component of personality processes that affects psychological well-being. Self-esteem is considered one of the most important factors in an adolescents' development, playing a major role in protective processes in preventing negative psychological well-being outcomes (Gidwani, Chaudhary, & Banerjee, 2021; Uzun, LeBlanc, & Ferrari, 2020). Research indicates that adolescents with lower levels of self-esteem will also exhibit lower levels of self-control. When an individual's self-esteem is higher, he/she has more controlling thoughts and feels a greater sense of control over his/her environment, feelings, thoughts and behaviours (Uzun et al., 2020). Low self-esteem is also a major contributor to the development of depression, with diminished self-esteem leading to feelings of worthlessness, inadequacy and deficiency. This depreciating view of the self adversely influences how the adolescent perceives his/her everyday situations and stressors, leading to hopelessness and, eventually, depression (Romojimenez, Bichindaritz, & Samuellajeunesse, 1995; Stewart-Sicking, 2013; Szabó et al., 2016; Uzun et al., 2020).

Conversely, adolescents who enjoy high self-esteem levels are more optimistic, may perceive their life events as more manageable and, consequently, become less susceptible to

developing depression (Uzun et al., 2020). In a recent study conducted on adolescents, when looking at nine predictors of depression, self-esteem was found to be the strongest predictor than any of the other predictors (MacPhee & Andrews, 2006). Similar results were found in a study of Latino adolescents' reports of neighbourhood risk, parental conflict, discrimination and parental support in relation to their depression and self-esteem. It was found that self-esteem was negatively and significantly related to depressive symptoms, with the influence of other factors being less clear (Behnke et al., 2011). It can therefore be seen that self-esteem has been shown to have a significant positive impact on mediating stress and improving psychological well-being outcomes. As this present study looks specifically at school-going adolescents, the next section will be focusing on what literature says about adolescents' mental health and well-being in the school context internationally. Later in this literature review the researcher will take a closer look at the school context locally.

2.2.4 The school context: International perspectives

Much of what is found in the literature on school-going adolescent mental health tends to focus on issues relating to psychological dysfunction. But the concept of mental health also incorporates well-being, realising personal abilities, coping with normal stressors and contributing fruitfully to one's community (Lambert et al., 2014; Pascoe et al., 2019; Wahyuningsih et al., 2020). There are, however, some studies with focus on factors that mediate the effects of stress (many indicating the importance of relationships, which will be mentioned throughout the next section) and provide indications of which kinds of stressors school-going adolescents encounter. In a study on school-going adolescents' happiness, results indicated that school-going adolescents' happiness was positively correlated with healthy connections with friends, family and school; with meals with family and with regular exercise (Lambert et al., 2014). These factors served as mediators against stress experienced

by the sample. The researchers also found that school-going adolescent happiness was negatively correlated with the witnessing of physical assault of family members at home, yelling, frequent marijuana use, discrimination, frequent alcohol use, having a chronic health condition and sexual abuse. All of these factors impacted on the mental health and well-being of school-going adolescents. Even though this study was conducted in New Zealand, the researcher found that there were many similarities in both the positive and negative relations as to what affected happiness in the research on South Africans and — specifically — on adolescents in the Western Cape (Adams et al., 2016; Haefele, 2011; Harrison, 2020; Isaacs, 2008; Jacob et al., 2018; Oxtoby, 2014). Other studies also looked at factors that impacted on levels of stress, as well as some mediating effects.

In looking at the factors that impact on levels of stress in the school context, as well as what mediates the effects of stress on mental well-being, a study by Shawl and Mehraj (2017) found the influence of peer relationships and parental pressure to be major contributors to the stress levels of school-going adolescents. These relationships also contributed to other outcomes; adolescents who associated with peers who were high achievers performed better academically and had improved mental health compared to students who belonged to peer groups of low achievers (Shawl & Mehraj, 2017). Because school is the primary social meeting place for adolescents, it is also where the quality of interactions has the greatest impact on their well-being. On the other hand, the school can be a potential source of stressful situations and increased symptoms of stress, as peer relationships can constitute a cause of conflict. Adolescents may also fail to fulfil their parents' expectations, which can lead to feelings of worthlessness and depression, particularly for adolescent girls (Shawl & Mehraj, 2017). It can therefore be seen that school going adolescents undergo pressures from parental figures that influence their stress levels, and that peer relationships can influence adolescent in multiple ways, including academic and emotional outcomes. An additional

study demonstrated similar results in relation to predictors of stress and well-being in school-going adolescents.

In a study on Indian school-going adolescents, results showed similar results as mentioned above, this study indicated five predictors of mental well-being: education, family type, academic performance, socio-economic status and gender. These factors all had impacts on the adolescents' abilities to cope. The study also found that peer problems were the most common factor that had negative effects on students' mental health, as was seen in results of both previously studies discussed (Harikrishnan et al., 2017; Lambert et al., 2014; Shawl & Mehraj, 2017). Again, the significant impact of peer relationships was demonstrated. There are other studies that demonstrate the importance of relationships for school-going adolescents, but these, however, also consider other internal factors.

In considering internal factors contribution to the mental health of school going adolescents I consider a study by Hezomi and Nadrian (2018) who conducted a study on female students in Iran on determining psychological well-being, self-efficacy or self-esteem and satisfaction with family and life. They found that happiness, life satisfaction and hopefulness were positively correlated with well-being, while perceived stress was negatively correlated with psychological well-being. Moreover, satisfaction with family was also found to be significantly associated with well-being (Hezomi & Nadrian, 2018). It can be deduced that the internal factors — as presented in the current study as psychological strengths — influenced the mental health and well-being of school-going adolescents positively.

Furthermore, it seems the subject of relationships between school going adolescents and significant others (family, friends and teachers) has also received scholarly attention from other studies that looked at the impacts of relationships on mental health. For example, in a study on Taiwanese school-going adolescents, it was found that the students' perceptions of

unfairness by teachers influenced their levels of depression (Yi, Wu, Chang, & Chang, 2009). In general, it was found that negative family and school situations, as well as unhealthy relationships with friends and family, had adverse effects on the adolescents. These factors were also correlated with severe depressive outcomes — more so for females than for males (Yi et al., 2009). In the current study, the researcher includes relationship factors — as well as the adolescents' perception of their perceived social support — as psychological strengths.

2.2.5 Psychological well-being in adolescents in South Africa and the Western Cape

South Africa is rich in cultural, ethnic, historical and linguistic diversity, as well as in socio-economic rankings. In recent years, there has been a growing trend towards cultivating these diversities (Kruger & Prinsloo, 2008). Trends in research on child and adolescent well-being show substantial advancement in studies investigating subjective well-being (Savahl et al., 2017). This advancement raises the question of whether scales measuring psychological well-being can be compared across countries and diverse cultures (Pascoe et al., 2019; Savahl et al., 2017). The current study — in addition to enquiring what influences psychological well-being in adolescents — attempts to fill the gap in the aforementioned limitation found in research, with the potential for furthering intervention studies and available treatments.

In looking at psychological well-being in adolescents in the South African context it is important to consider some of the limitations found in this context and the impact it could have on their mental health. In South Africa, for instance, the psycho-social support services for adolescents managing stressful situations — like HIV disclosure, unplanned pregnancy, violence (within the family, community or gender-based violence) or the death of a family member — are scarce. This scarcity complicates adolescents' ability to find acceptance and continue building positive identities without compromising their mental well-being (Govindasamy et al., 2020). This therefore impacts adolescents self-concept and self-esteem

negatively, in making them feel alone (Govindasamy et al., 2020). Further considering adolescents well-being Benninger and Savahl (2017) researched intervention programmes for improving children's well-being. They found that for individuals in impoverished communities in the Western Cape, self-concept was a major factor that needed to be included, as it was significantly related to the positive outcomes of well-being. They proposed that programmes for well-being should include social support, play, provision of basic materials and opportunities for learning (Benninger & Savahl, 2017). These study therefore further demonstrates the negative impact scarcity of resources has on adolescents mental well-being, and the significant role that self-concept plays on the outcome of mental well-being. It was found that adolescents self-concept was also affected by peer relationships, and specifically bullying (Savahl et al., 2019).

In line with promoting well-being in school going adolescents, by looking next at bullying and buffers to daily stressors, the same researcher, Savahl, conducted multiple research studies on subjects of well-being in children and adolescents internationally and within the South African and Cape Metropole contexts. In a multinational comparison on children's subjective well-being and their experiences of bullying, Savahl et al. (2019) discovered a significant negative relationship between psychological well-being and bullying. When faced with daily challenges, psychological-well-being is upheld by three buffers: behaviourally activating certain routines to evade adverse challenges, relationship intimacy and money. These buffers are similar to coping strategies, as discussed in the current study. Therefore, as stated before, this study also confirms that social support and good relationships serve to moderate stressors that impact on well-being, that internal coping strategies work better than external buffers, and that peer relationships can have positive or negative effects on mental well-being (Savahl et al., 2019).

When reviewing a comparative analysis across three African countries on children's subjective well-being, it becomes clear that many shortcomings in South Africa exist. However, we should not dismiss the achievements made over the past years with regard to child and adolescent well-being. While there has been a reduction in infant mortality, fewer parents and child deaths as a result of conflict-related violence; access to water, sanitation and education — albeit still problematic — has increased (Savahl et al., 2017).

Even though Sub-Sahara Africa is not South Africa, there are many similarities, as can be seen in a study by Gino (2020), where researchers asked adolescents in sub-Saharan Africa living with health and livelihood challenges, similar to the environment South African adolescents live in, what made life good for them. They found that the participants' accounts embodied a sense of relatedness, with the participants describing a good life as having a 'loving family', 'trusting family members' and 'living together as a family.' The participants described a family as a group with 'shared happiness and love.' These participants also expressed their acknowledgment of the important role that supportive caregiver relationships played in their lives, and emphasised their understanding of reciprocal relationships in expressing the need to give back to the relationships in their lives (Govindasamy et al., 2020). The researchers also found that the adolescents acknowledged the positive relationships that extended past the immediate family for cultivating social integration and a further sense of belonging. Economic evidence shows that well-being in adolescence is a priority indicator that predicts human capital and labour market outcomes, including adult health outcomes (Govindasamy et al., 2020).

Further looking at the impact of the environment on school-going adolescents mental well-being, the researcher leads the reader to a study with the aim to ascertain the relationship between children's views on their environment and subjective well-being, where it was found that there was a need for understanding how children and adolescents make sense of nature

and their environments, and that there was a shortage of environmental education in schools which could enable schools to foster better psychological well-being in children and adolescents (Adams et al., 2016). The current study aims to fill the gap of beginning to understand the relationships between adolescents' stress, coping strategies, psychological strengths and their psychological well-being. In the next section of the literature review the researcher will look at stress experienced by adolescents in the South African context and, more specifically, in the Western Cape province.

2.2.6 Stress in adolescents in South Africa and the Western Cape

Mental health issues in adolescents pose a major threat to public health, and studies show that one in five adolescents has a mental disorder. In South Africa, exposure to violence, substance abuse and HIV/AIDS increase one's vulnerability to mental illness (Dawes et al., 2015). From the research conducted by Jacob and Coetzee (2018), it appears that mental health is often overlooked in the Western Cape province of South Africa. The available evidence suggests that there is a great need for the improved integration of primary mental health services, strengthening community services and cost-effective studies on planning and implementing interventions for the purposes of mental well-being (Jacob & Coetzee, 2018).

When adolescents in the South African context are exposed to multiple forms of community violence the exposure can have traumatic negative consequences on their well-being. The constant exposure and proximity to violence renders them more susceptible to developing post-traumatic stress disorder (PTSD) (Bruwer et al., 2008; Dawes et al., 2015). In a study by Martin, Revington and Seedat (2013), it was found that exposure to community violence and family violence in South Africa was significantly high, and that there was indeed a positive correlation between exposure to violence and PTSD symptomology. Therefore, trauma related stressors in South Africa is of concern and impacts negatively on adolescent mental

well-being. In a similar study by Carey et al. (2007), the researchers discuss the widespread numbers of adolescents and children who experience childhood sexual abuse.

Although a significant body of literature focuses on the pathogenesis of adolescent depression and its correlations with coping responses, this literature mostly focuses on suburban populations (Smokowski et al., 2014) — to the exclusion of at-risk adolescents like those in the Cape Metropole. There is, however, a vast body of literature focusing on young children in the South African context, observing their fears, stress, anxieties and coping responses (Harrison et al., 2019a, 2019b; Howard, Muris, Loxton, & Wege, 2017; Loxton, 2009; Zwemstra & Loxton, 2011). Although these studies focus on a younger population than the current study does, there are interesting connections that one can make about the state of well-being in South African youth. Results indicated that preschool children, compared with those in Western countries, display relatively high levels of anxiety disorder symptoms and anxiety-proneness (Howard et al., 2017). Social spiritual support was perceived to be the most effective coping strategy for children in the South African context, followed by problem-focused avoidance and then direct problem-solving. Relinquishing control was perceived as the least helpful strategy (Loxton, 2009). Furthermore, it was found that children's psychological well-being was negatively affected by fears about wild animals, HIV/AIDS and special circumstances like death, physical harm and medical fears (Zwemstra & Loxton, 2011).

In South Africa, the reality of HIV-related stigma impairs well-being by crushing the individual's self-esteem and ability to build healthy or positive relationships. Individuals feel rejected and misunderstood by their families or communities, and the stigma negatively impacts on their self-worth and ability to be in intimate relationships (Govindasamy et al., 2020). In the next section, the researcher will observe in greater detail what the literature says about adolescent mental health and well-being in the local school context.

2.2.7 The South African school context

The researcher found many articles highlighting the severity of bullying taking place in schools in South Africa. These articles focused on issues and strategies such as how to make schools safer spaces when it came bullying and cyberbullying (Kyobe Prof., Oosterwyk, & Kabiawu, 2016), interventions for bullies (Steyn & Singh, 2018), risk factors and prevalence of bullying (Arhin, Oppong Asante, Kugbey, & Oti-Boadi, 2019; Idemudia, 2013; Kyobe Prof. et al., 2016; Mlisa, Ward, Flisher, & Lombard, 2008; Reygan, 2016; Steyn & Singh, 2018). One particular study by Arhin et al. (2019) looked at the negative effects of bullying on school-going adolescents' psychological well-being, which will be discussed next. Although this study was not conducted in South Africa, but in Ghana, it is added here because of the similarity between the socio-economic environment between Ghana and South Africa (Arhin et al., 2019; Wilson & Somhlaba, 2017).

Bullying seems to be a salient and constant stressor that many school-going adolescents identify that they face daily. In this study on school-going adolescents' psychological distress (that is, anxiety, stress and depression) in Ghana (Arhin et al., 2019), it was found that victimisation through bullying was positively correlated with all domains of psychological distress. Furthermore, depression was found to be a predictor of bullying victimisation (Arhin et al., 2019). It is clear that the Ghanaian study and those mentioned above indicate the high prevalence of bullying and the negative consequences that it has on the psychological well-being of school-going adolescents in South Africa. These studies indicate the important role that teachers could play in minimising the negative impacts on adolescent well-being (Reygan, 2016; Steyn & Singh, 2018). Another study, however, indicates that teachers are simply too overstretched (Strauss & Daniels, 2013). Research indicates that teachers in the Western Cape specifically are battling to cope with the demands and pressures of their field.

These include external demands such as parental expectations and socio-economic challenges (Strauss & Daniels, 2013). These demands and pressures lead to burnout and depression. As a consequence, teachers are unable to provide the adequate and necessary support to the students struggling at school (Strauss & Daniels, 2013).

In addition to bullying and teachers feeling overstretched, many studies observe other factors that influence the mental well-being of adolescents living in South Africa. These factors are stressors encountered by many school-going adolescents on a daily basis which they need to navigate. Stressors include limited educational and mental health resources, increased risk for poor mental health, physical illness, death, hard living conditions, high poverty rates, violence in communities and at home, HIV/AIDS and struggling to have their basic needs satisfied (Casale et al., 2014; Govindasamy et al., 2020; Harrison, 2020; Harrison et al., 2019a; Najman et al., 2010; Shawl & Mehraj, 2017). One can imagine that adolescents who face one or more of these stressors outside of school or in the home environment would likely struggle to focus and be present at school. This may lead to school dropout, negative coping strategies like alcohol or drug abuse, academic difficulties and general negative mental well-being and psychological health (Harrison et al., 2019b; Pascoe et al., 2019; Strauss & Daniels, 2013). It is, therefore, imperative to identify which factors might mediate the effects of stressors faced by school-going adolescents in South Africa.

The current study formed part of the first of four phases (in the four-phase bigger study; appendix Q) called the ‘cognitive testing’ phase. The cognitive testing phase aims to elicit valuable responses from participants regarding the items and response scales, specifically regarding the appropriateness of the language used, ambiguity, comprehensibility and level of understanding. This study also looked at the relationships between the variables, as depicted in the model (Figure 1). The information gathered in the cognitive testing phase was used to

determine if the questionnaires needed modification in preparation for the next phase: the pilot testing phase (conducted in a study outside the scope of this study).

2.3 Summary of the chapter

This chapter presented a literature review of the concepts of the study. The topics of psychological well-being, psychological strengths (including coping skills), depression, anxiety and hopelessness in adolescents were discussed throughout. These concepts were discussed based on the theoretical framework of the present study. The next chapter will provide a detailed description of the theoretical frameworks employed throughout the study.

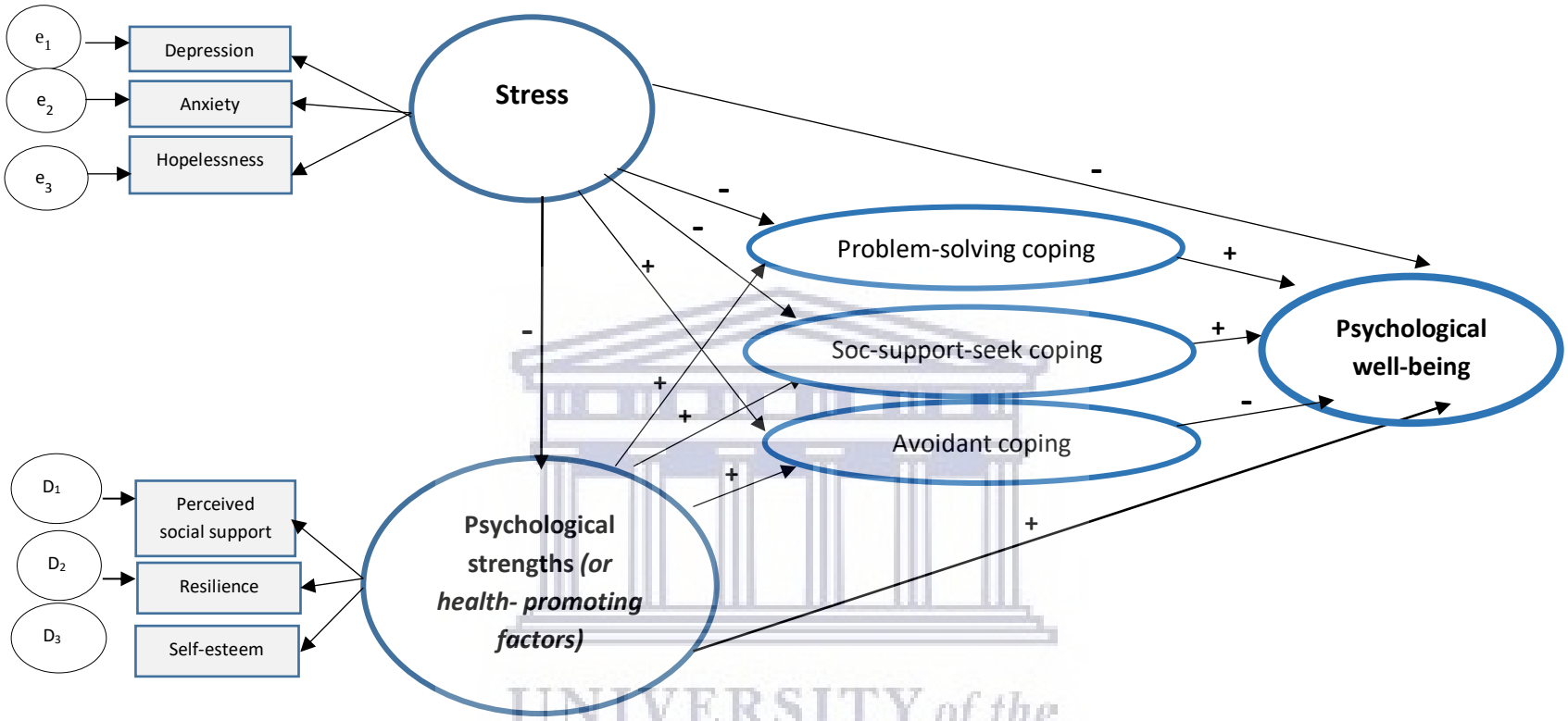

Figure 1[1]**.** *A diagram depicting the hypothesised direct and indirect relationships between the variables under study*

* Avoidant coping strategy has been deemed as providing temporary stress relief (for example, Folkman & Lazarus, 1991) but some have questioned its long-term sustainability for general psychological well-being (Stein, 1996; cf. Sue, 1986). For this reason, the avoidant coping strategy be seen as either adaptive or maladaptive.

[1] SEM = structural equation modelling, a statistical tool or technique that will be used to determine whether the data (from school-going adolescents) fits the hypothesised model that outlines the direct and indirect relationships between the variables under study

CHAPTER 3

Theoretical Framework, Aims and Objectives

3.1 Introduction to the chapter

This study is located in the field of measurement and validity theory. This chapter provides a detailed description of the theoretical frameworks employed throughout the study, which are Lazarus and Folkman's Transactional Model of Stress (Lazarus & Folkman, 1984) and Messick's measurement theory (Messick, 1989). This chapter also describes the research aims and objectives of the study.

3.2 Theoretical Framework

3.2.1 Transactional Model of Stress

This study employed the Transactional Model of Stress (Lazarus & Folkman, 1984) as the theoretical framework to guide the study. The model proposes an appraisal-based model of stress that describes a subjective process involving cognitive appraisals and coping responses. Appraisals can be conscious or unconscious, and are influenced by situational, temporal and personal factors. Coping represents the cognitive and behavioural efforts made to make the situation more manageable. Various types of coping strategies are commonly used to handle the different demands associated with stressors, and their selection reflects variation in underlying appraisal (Hulbert-Williams et al., 2013).

3.2.1.1 Stress as transactional

The stress model of Lazarus and Folkman (1984) in this study enables a better understanding of the dynamic and transactional processes of stress and coping and their consequences. The Transactional Model of Stress and Coping poses that there is a dynamic interaction between the person and his/her environment that influences his/her experience of stress and well-

being. Lazarus and Folkman further describe the importance of cognitive processes in connection to stress and reactions to stress. They also consider both the role of the environment and the individual and how these shape the individual's mental health outcomes. This model is well-suited for adolescents in the Cape Metropole context as they are often an at-risk population.

According to the Transactional Model of Stress, a stressful situation can be assessed by the individual as favourable, unfavourable or neutral. The individual also assesses his/her own capabilities of handling it. These assessments affect the outcome of the adjustment process: the more negative the assessment, the more unfavourable the stress reaction, or the more negative the side effects. These assessments are not made once but performed repeatedly during the development of the situation. The process is thus transactional (Grabel & Adabbo, 2011). The concept of psychological stress is dependent on the interaction between the individual and the environment. The stress ensues when the individual experiences or perceives his/her environment as too overwhelming or exceeding his/her ability to cope, endangering his/her well-being or physical health.

3.2.1.2 Cognitive appraisal and coping

The transactional dynamic model looks at the interaction between the individual, the psychological stress and environment, and how the stress response is mediated by two central processes: cognitive appraisal and coping.

The first process — cognitive appraisal — is one where the individual categorises the event into different facets depending on this impact on well-being. This process can further be divided in to primary and secondary appraisal. Primary appraisal is where an individual subjectively evaluates the event and its impact on his/her well-being. Some situations might be evaluated as having no impact on his/her well-being and deemed irrelevant, while others

might be appraised as having a positive or enhancing impact on well-being. Then there is the stress appraisal, where the individual appraises an event as being stressful and presenting a challenge or threat that might harm him/her or manifest in loss.

An event that is evaluated as a challenge might still be appraised as resulting in personal growth — if the individual feels confidence in his/her ability to cope with it. Conversely, if the event is experienced as resulting in harm or loss, it means that the event has already harmed the individual; for example, injury to his/her self-esteem or the death of a loved one. Threat appraisals are events that pose a potential threat for future; the individual anticipates harm or loss, which might mean that he/she will mobilise coping in anticipation of the threat.

Secondary appraisal is when the stress is appraised and perceived by the individual as a danger to his/her well-being. The individual evaluates which coping strategies he/she has at his/her availability in response to the stress appraisal. Lazarus and Folkman (1984) therefore define secondary appraisal as the individual taking into account which coping options he/she has available, the possibility of that coping strategy working and the efficacy of the coping strategy(ies) that he/she wishes to implement.

There are also two independent individual determinants of appraisal: commitment and beliefs. Commitment is what the individual finds important to him/her or what he/she ascribes meaning to. These commitments shape the individual's evaluation of what is at stake when facing a certain stressor. Greater commitment will increase vulnerability to threat or challenge as well as increase efforts in coping responses. The second independent individual determinant of appraisal is beliefs. Beliefs influence the individual's evaluation of what exactly is happening in the specific event and what may happen with the situation. Personal control involves the individual's belief about his/her ability to control the event and the outcome of the event, specifically those outcomes that he/she deems important.

3.2.1.3 Personal and social determinants

Situational factors should be taken into consideration with respect to influencing the individual's stress-appraisal. Depending on how novel the situation is, the individual will influence threat appraisal given the amount of previous experience or knowledge about the situation relating to harm or challenge. The other situational factor that influences stress-appraisal is the uncertainty relating to the event. Moreover, imminence, temporal uncertainty, duration and timing of an event over one's life course influence the stress-appraisal. External factors (such as perceived social support, resilience and self-esteem) also determine the stress-appraisal (Harrison et al., 2019b; Smokowski et al., 2014; Timson, 2015). All of these personal and situational factors operate interdependently to affect appraisal (Lazarus & Folkman, 1984).

3.2.2 Measurement theory

The second theoretical framework is measurement theory. Because one of the aims of this study is to assess the validity of scales in a specific context, validity theory will be used to guide the procedures of construct validation throughout the validation of the scales.

3.2.2.1 Validity

According to Messick (1995), validity is not a property of the scale or test but, rather, a property of the meaning of the test scores. Validity is an 'overall evaluative judgement of the degree to which empirical evidence and appropriateness of interpretations and actions on the basis of test scores or other modes of assessment' (Messick, 1995; p. 741). These test scores are not only a function of the items or stimulus conditions but also of the context of the assessment and the person responding.

Validity was traditionally divided into construct, content and criterion-related validity. Messick proposed that validity should be conceptualised as a unitary concept: namely, construct validity. He introduced six aspects of procedures of validity: 1) content; 2) structure; 3) external factors; 4) generalisability; 5) substantive; and 6) consequential aspect of validity. Messick maintains that these aspects ensure that all bases are covered (Messick, 1995). These forms of evidence are gathered to support the construct validity and to integrate into the validity argument, in order to demonstrate how far the instruments are (or are not) a valid measure of the construct (Messick, 1995).

It is important to note that tests themselves do not have construct validities; construct validities are properties of test responses, and test responses are functions of the individual answering the test. Construct validities also factor in the environmental and measurement contexts (Messick, 1975, 1986). The validation interpretation gives the measure meaning — in this particular instance — as well as further evidence of the generality across groups and settings. The validation interpretation also shows how stable or circumscribed that meaning is likely to be over time (Messick, 1975, 1986). Some theorists argue that predictive, content and concurrent validities are essentially all ad hoc construct validities, and that they are all what are needed to form a scientific point of view (Messick, 1975). That is also what the main focus of validity measurement will be in the current study.

3.2.2.2 Important considerations for the scores

Messick (1995) sets out four aspects of the scores that need to be present in order to answer the question of whether the test scores can be used for their intended purposes. The questions are: first, does the evidence support the interpretation or meaning of the scores? Second, is there evidence to reinforce score meaning and score relevance to the applied purpose, as well

as the score utility to the applied setting? Third, are there credible rationales for the value implications of scores interpretations and implications? Last, is there evidence for the functional worth of testing in terms of its consequences? (Messick, 1989).

3.3 Research aims

Using the theoretical frameworks as described in detail above, the current mini thesis has two research aims:

1. First, this study aims to validate the scales measuring depression, anxiety, hopelessness, coping, self-esteem, resilience and perceived social support by 'cognitively testing' selected items from the measures (that is, stress, coping, psychological strengths and psychological well-being) on school-going adolescents. These adolescents are in grades eight to 11 (aged 13 to 19 years) and attend selected schools in the Cape Metropole. As a form of validation, cognitive testing entails working alongside participants to ascertain the following: what they understand or do not understand about selected items in the measures; the level of difficulty of the items; and whether any questions are confusing (as a way of determining if any items could be adapted for future research or for the further phases of the study that are beyond the scope of this proposal).
2. The second aim is to determine, using structural equation modelling (SEM), the nature of the relationships between stress, psychological strengths, coping and psychological well-being. SEM enables the determination of the direct and indirect relationships between variables (see figure 1).

3.4 Research objectives

To achieve the above-mentioned aims, quantitative methods were used to fulfill the following set of objectives (also see figure 1 for predicted and hypothesised relationships between the variables under investigation):

3.4.1 To cognitively test (validate) the measures of stress, psychological strengths, coping and psychological well-being;

3.4.2 To determine if stress (with depression, anxiety and hopelessness as indicators) is positively related with psychological well-being, with the problem-solving coping strategy having a mediating effect;

3.4.3 To ascertain if stress is positively related to psychological well-being, with the social support-seeking coping strategy having a mediating effect;

3.4.4 To determine if psychological strengths or health-promoting factors (perceived social support, resilience and self-esteem) mediate the relationship between stress and psychological well-being;

3.4.5 To ascertain whether psychological strengths of perceived social support, resilience and self-esteem are positively correlated with psychological well-being, with the problem-solving coping strategy having a mediating effect.

3.5 Summary of chapter

Chapter 3 provided a detailed description of the theoretical framework employed throughout the study. The chapter also described the research aims and objectives of the study. The following chapter will provide a detailed description of the methods utilised throughout the study.

CHAPTER 4

Research Methodology

4.1 Introduction to the chapter

On the basis of theorising, a structural model that depicts the hypothesised relationships between the variables of stress, psychological strengths, coping strategies and psychological well-being was developed. The aims of the study are, thus: (1) to test the validity of the scales used; and (2) to test an exploratory structural model that seeks to explain these relationships (Dijkstra & Henseler, 2015).

Given the focal points of the study — as captured in the aims, objectives, research questions and hypotheses (illustrated in the hypothesised model) — a quantitative method, which will be outlined in some detail below, was accorded priority for interpretation of the data (Bryman & Cramer, 1994).

This chapter will provide a detailed description of the methods utilised throughout the study. This includes a description of the research design, the sampling and sampling procedure, a description of the participants, the measuring instruments used, the procedure, the data analysis and the ethical considerations of the present study.

4.2 Research method and design

The researcher conducted a cross-sectional survey study of school-going adolescents between the ages of 13 and 19 years, in grades eight to 11, in 2021, to determine the reliability and construct validity of scales. To meet the objectives of the study, a quantitative approach was deemed the appropriate method for the current study. A quantitative approach was pivotal in understanding the nature and strength of relationships between the variables and in enabling the researcher to test the hypothesised relationships via SEM. The quantitative approach, grounded in the positivist paradigm, is characterised by objectivity whereby phenomena are

factual and separate experiences of the phenomena under study. In contrast, the qualitative approach uses a constructivist paradigm, emphasising subjective experiences as central to understanding phenomena, but cannot quantify the statistical relationships between variables (Bryman & Cramer, 1994).

The selected items of the scales used in this study are from existing scales that will be validated (via cognitive testing) for the use in the context of the Cape Metropole. The scales used in this mini thesis will be described in detail in 4.5 of this chapter 4.

4.3 Sample and sampling procedure

In the present study, participants were 180 school-going adolescents from three different schools in the Cape Metropole. The researcher ensured that the public schools selected were representative in terms of language spoken by the learners (English, Afrikaans and isiXhosa), in grades (eight to 11) and age (13 to 19 years). Purposive sampling techniques were used to select schools and participants; 126 participants were selected from the first school and 54 students from the second school. Of these 180 participants, 30 formed part of the cognitive testing phase only. This meant that they would complete only the abbreviated version of the questionnaire and give verbal feedback on the sampled items of the measures (first aim of the study). Thus, these 30 participants did not participate in the main study that consisted of a further 150 participants who completed the full questionnaires (second aim of the study).

To recruit participants for this study, the researcher physically approached the relevant schools, requesting a brief meeting with the respective principals (Appendix C – School permission letter). In these meetings, the researcher explained the purpose of the study and what would be required from the school should it agree to participate in the study. Once consent was obtained from the principal, the researcher was assigned a teacher dedicated as a liaison throughout the data gathering process at each respective school.

The teacher at the first school handed out the parental consent forms and parental information sheets to the students in the first week that the students had arrived at school for the start of the new year. The forms were placed in their orientation booklets, which they then took home to their parents. The teacher placed these forms in the orientation booklets of all the grades eight to 11 students. The teacher also had a WhatsApp group where she reminded the parents about the forms the day before the particular grade came to school. As the study took place during the COVID-19 pandemic, only two or three grades were present at school on any particular day in the week. All participants who received parental consent chose to participate in the study when the participant consent form was distributed. All students who were above the age of 18 were asked to join the groups to listen to the purpose of the study — as explained by the researcher — and had the decision to join the research. All of the over-18 students who attended the data gathering sessions agreed to participate.

Prior to the main study, the first 30 participants who had returned parental consent forms were invited for the cognitive testing phase. Of these 30, 15 were from the first school, and verbal responses were recorded on paper, while responses of the next 15 participants for this phase were from the second school, and responses were recorded on voice recording.

At the start of a chosen and agreed-upon period (which was different for each day), the teacher of the first school asked all the students who had returned their consent forms to proceed to the allocated classroom for participation in the study. The researcher went in for the allocated period — as discussed on the previous day with the teacher — and proceeded with the data gathering. Participants could select their language preference in which to complete the questionnaire from the three different language versions. This process necessitated almost daily visits to the schools for three months.

At the second school, the teacher gave all the grade 10 learners parental consent forms and collected them daily, marking those who had returned the forms on a class list. Once 44 forms had been returned, the teacher contacted the researcher to indicate that there was a sufficient number of participants to conduct the research. The researcher then spent two days gathering the data from 39 participants. Of the 44 participants who had returned their parental consent forms to the teacher, four did not show up for school on the days that the researcher was there, and one did not wish to participate in the study once the participant information and participant consent forms were distributed. That participant was excused with no difficulties.

4.4 Participants

The final sample of participants who partook in the survey consisted of 150 school-going adolescents recruited from two schools in the Cape Metropole (N= 150).

Of the 150 participants, 85 adolescents (56.3%) were female, and 65 adolescents (43.7%) were male. The ages of the participants ranged from 13 to 19 years (M = 15 years; SD = 1.45). In terms of the participants' school grades, 32 participants (21%) were in grade eight; 26 (17%) were in grade 9; 73 (49%) in grade 10; and 19 (13%) in grade 11.

Results from the demographic questionnaire indicated that the highest proportion of participants were Afrikaans-speaking, with 59 participants (39%) indicating Afrikaans as their native language. A further 40 participants (27%) indicated English to be their native language, and 31 participants (21%) indicated isiXhosa to be their native language. Regarding the remaining participants, 14 (9%) self-described themselves as bilingual (English and Afrikaans-speaking), while six (4%) indicated being a native speaker of an unspecified 'other' language.

The demographic questionnaire further indicated that 40 participants (26.7%) lived only with their mother, while two participants (1%) lived only with their father. A further seven of the participants (4.7%) resided with both their mother and father, while 82 participants (54.7%) resided with both parents and siblings, and four participants (2.7%) lived in a home with siblings only. It was found that a further 15 participants (10%) lived with relatives only.

Participants were asked to indicate how they felt about their families' financial circumstances. Sixty-seven participants (44.7%) indicated that they never struggled to pay the bills, 77 participants (51.3%) indicated they sometimes struggled to pay the bills and six of the participants (4%) indicated that they always struggled to pay the bills.

Participants were also asked if they had ever had to skip a meal or not (due to insufficient food) in the past month. One hundred and twenty-five participants (44.7%) indicated that they had never had to skip a meal, and 77 participants (51.3%) indicated that they had had to skip a meal before.

4.5 Measuring instruments

The data collection instruments comprised of a questionnaire with eight standardised scales relating to various aspects of their levels of stress and well-being and a demographic questionnaire — all which had been translated to isiXhosa and Afrikaans.

The questionnaires were translated from English to both isiXhosa and Afrikaans using the Brislin back-translation method (Brislin, 1970). This method entailed a translation procedure that began with the questionnaire in its standardised form: English. The questionnaire was then given to a bilingual individual who translated the questions to another language(s): the 'target' language(s) (isiXhosa and Afrikaans). A second bilingual person, working independently of the first, then translated from the target language(s) back to English. The

researcher then compared the two English versions and was able to make assumptions about the target translation's quality (Bacon, 2000).

This study saw the need to communicate with participants in languages other than the researcher's own. This is not a simple process, as one needs to consider the inclusion of idiomatic expressions, consider words that may have several valid translations or — depending on the target language — consider different concepts that may share the same single word (Blanch & Aluja, 2016).

4.5.1 Demographic questionnaire

The demographic questionnaire was used to obtain data regarding the participants' age, sex, population group, grade that they were currently enrolled in at school and what their home language was. Moreover, in order to describe the participants of the sample adequately, questions were asked of the participants' religious affiliation, whom they lived with at home, how they felt about their families' financial circumstances and if they ever had to skip a meal due to insufficient food (appendix H).

4.5.2 Beck Depression Inventory-Second Edition **(BDI-II; Beck, Steer, & Brown, 1996)**

To measure participants' depressive symptoms, the 21-item Beck Depression Inventory-Second Edition (BDI-II) was used. This is a four-point Likert-type self-report instrument used for assessing depression in clinical populations — as well as for detecting depression in normal populations, which include adults and adolescents (Beck et al., 1996; Makhubela & Mashegoane, 2015). The BDI-II is one of the most commonly used depression inventories (Adebayo & Isiakpona, 2012; Erford, Johnson, & Bardoshi, 2016). The items range from zero (absence of symptoms) to three (severity of symptoms). Scoring of the instrument results in four possible categories of depression: minimal, mild, moderate and severe.

Coefficient alphas of .92 and .93 have been reported for the BDI-II (Beck et al., 1996). There is evidence for BDI-11 being a reliable and valid measure that can be used to assess the severity of depressive symptoms over time among South African university students (Makhubela & Mashegoane, 2015). The current study indicated a Cronbach alpha of .85 for the BDI-II (appendix I).

4.5.3 Beck Anxiety Inventory (BAI; Beck & Steer, 1993)

To measure participants' anxiety, the Beck Anxiety Inventory (BAI) was used. This scale consists of 21 self-report items designed to measure the occurrence and severity of symptoms of anxiety. The BAI is a widely used measure of anxiety in behavioural research and practice and is often used to screen for anxiety disorders in health care settings. Respondents indicate how much they have been bothered by each symptom during the past week on a four-point Likert-type scale, from zero (not at all) to three (severe).

The BAI has come to be known as a valid and reliable measure of anxiety, with high internal consistency, test-retest reliability, good concurrent and discriminant validity and a coefficient alpha of .92. (Bardhoshi, Duncan, & Erford, 2016, Beck & Steer, 1993). The BAI has also been widely applied in various cultural settings in the world, including South Africa (Bardhoshi et al., 2016; Kagee, Coetzee, Saal, & Nel, 2015). The current study indicated a Cronbach alpha of .91 for the BAI (appendix J).

4.5.4 Beck Hopelessness Scale (BHS; Beck, 1988)

To measure participants' levels of hopelessness, the Beck Hopelessness Scale (BHS) was used. The BHS is a 20-item self-report instrument and combines 11 negative statements (for example, 'my future seems dark to me') with nine positive statements (for example, 'I look forward to the future with hope and optimism') about the future. With a true-false response

format, the possible range of scores is from 0 to 20. This scale has seven reversed items (1, 5, 6, 8 13, 15 and 19). It is the most widely used measure of hopelessness.

The Coefficient alpha for the BHS is .93 (Boduszek & Dhingra, 2016; Szabó et al., 2016; Troister, Agata, & Holden, 2015). This scale has also been used and validated for use in South African population groups, specifically university students in in Limpopo and Pretoria, with good internal reliability ($\alpha = .69$) (Makhubela & Mashegoane, 2015). The current study indicated a Cronbach alpha of .91 for the BHS (appendix K).

4.5.5 Coping Strategy Indicator (CSI; Amirkhan, 1990, 1994)

To measure participants' use of coping strategies in the wake of adversity, the Coping Strategy Indicator (CSI) was employed. This scale is a 33-item self-report measure that has demonstrated significant psychometric strength. It measures three fundamental models of coping: problem solving, seeking social support and avoidance. Respondents are instructed to select and briefly describe a problem that has caused worry or stress in their lives within the last six months. Responses are then categorised into the three fundamental models of coping: problem-solving coping, social support-seeking coping and avoidant coping.

Cronbach's alpha coefficient indicates high internal reliability for all CSI scales: .93 for seeking support, .89 for problem solving and .84 for avoidance (J. H. Amirkhan, 1990). In a study on a black South African sample, the CSI was used even though the instrument was originally standardised for Western populations. This is because, since one of the authors was a native speaker of isiXhosa and an insider to the community under study, he could judge the appropriateness of the items (Somhlaba & Wait, 2009). The three subscales of the CSI coping for the present study yielded the following Cronbach alpha coefficients:.86, .82 and .68, for the social support-seeking coping, problem-solving coping and avoidant coping strategies, respectively (appendix L).

4.5.6 Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet & Farley, 1988)

To measure participants' perception of perceived social support, this study used the Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS is a 12-item self-report inventory that measures perceived social support from friends, family and a significant other. Respondents use a seven-point Likert-type scale that ranges from one ('very strongly disagree') to seven ('very strongly agree') for each item. The scale comprises of brief and complete sentences, rendering it easy to administer and score in research settings. The MSPSS is widely used throughout the social support literature (Dahlem, Zimet, & Walker, 1991).

The Coefficient alphas for the MSPSS ranged from .85 to .91 and were found to be psychometrically sound when used with adolescents (Zimet et al.,1991). The scale also had good internal consistency when used in the South African adolescent population (Bruwer et al., 2008). The MSPSS has several qualities that render it ideal for use in the South African context: first, it focuses specifically on subjective or perceived evaluation of social support structures — including from friends, family and significant others — where most other scales do not focus on these three sources of support as distinct subscales (Bruwer et al., 2008). Second, this scale has been shown to be psychometrically sound in many different studies with diverse populations (Bruwer et al., 2008). Last, this scale is a shorter, easy-to-follow self-report measure, especially compared to other scales which tend to be much more lengthy (Bruwer et al., 2008). The current study indicated a Cronbach alpha of .87 for the MSPSS (appendix M).

4.5.7 Child and Youth Resilience Measure (CYRM-12; Liebenberg, Ungar & LeBlanc, 2013)

To measure participants' resilience, the Child and Youth Resilience Measure (CYRM) was used. The CYRM is a 12-item indirect measurement of youth resilience that accounts for cultural and contextual diversity across youth populations. The 12-item scale is designed for large omnibus studies or small clinical trials for documenting adolescent capacity and social ecologies. This shorter scale, compared to its longer 28-item version, was developed for settings with limited resources (Liebenberg et al., 2013). The CYRM measures the availability of resources that improves the likelihood of demonstrating resilience when faced with adversity or risk (Govender et al., 2017).

This CYRM scale has been validated on two distinct groups: namely, youth exposed to adversity and school-going adolescents. This scale is, therefore, ideal for use in the South African population, with Cronbach's alpha scores for designated subtests as follows: .84 for individual, .79 for community and .79 for culture (Liebenberg et al., 2013). In a study conducted on a particular South African population, the scale also showed to have good reliability, with a Cronbach's alpha coefficient of .79 (Harrison, 2020). The current study indicated a Cronbach alpha of .81 for the CYRM (appendix N).

4.5.8 Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

To measure participants' level of self-esteem, the Rosenberg self-esteem scale (RSES) was employed. The RSES is a 10-item scale that measures global self-worth and it measures both positive and negative feelings of the self. The items on the scale are answered using a four-point Likert scale that ranges from 'strongly agree' to 'strongly disagree.' The RSES has been found to have good psychometric characteristics and has reported the construct validity, concurrent validity and convergent validity to be satisfactory. The scale also demonstrated good content validity, as measured by factor loading, and good reliability (both internal

consistency and test-retest reliability) (Gray-Little, Williams, & Hancock, 1997; Rizwan et al., 2017; Rosenberg, 1965).

For use in the South African context, previous studies have translated the RSES into many different languages, all of whom demonstrated similar good validity and reliability, with a Cronbach Alpha of .77 (Rizwan et al., 2017). This scale has also been used in South Africa and showed to have excellent internal consistency, with coefficients of .93 and .97 (Westaway, Jordaan, & Tsai, 2015). A study conducted in South Africa reported that the scale was such a well-validated measure that it was considered ideal for use in a population with a unique multiracial and multicultural setting (Westaway et al., 2015). In fact, this scale was validated and used for university students in Limpopo and Pretoria, with moderate internal consistency (α = .73) (Makhubela & Mashegoane, 2015). The current study indicated a Cronbach alpha of .81 for the RSES (appendix O).

4.5.9 Psychological Well-Being scale (PWB; Diener et al., 2009)

To measure participants' psychological well-being, the Psychological Well-Being (PWB) Scale was used. The PWB is an eight-item scale that measures respondents' psychological well-being, and has both positive and negative feelings designed to assess ongoing feelings of well-being (Diener et al., 2009). In a validation study of the PWB, results of confirmatory factor analysis indicated adequate fit indices. The items were homogeneous for measuring psychological well-being as well as a positive relationship with life satisfaction, self-esteem and positive affect, and a negative relationship with depression and negative affect. This all supports its construct validity.

The PWB demonstrated satisfactory internal consistency and stability supporting good reliability, with a Coefficient alpha of .87 (Lin, 2015). PWB may be suitable for assessing

adolescent well-being in South Africa given that the scale is in alignment with the conceptualisations of well-being in an African setting, specifically among adolescents (Govindasamy et al., 2020). The current study indicated a Cronbach alpha of .89 for the PWB (appendix P).

4.6 Procedure

Before gathering the data for this study, ethics clearance was obtained from the Biomedical Research Ethics Committee (BMREC) of the University of the Western Cape (Ethics reference: BM20/9/18) (appendix A), and institutional permission was obtained from both the Western Cape Education Department (WCED) (Appendix B) and the participating schools for research to be conducted in the schools. Students who agreed to participate in the research study were provided with the information sheet (appendix D) detailing the nature and purpose of the study, with additional relevant information regarding risks and benefits, as well as avenues for support. Participants 18 years and older were asked to sign the informed consent form (appendix E). Participants younger than 18 years were given a parental consent form (appendix F) by the liaising teacher. The parental consent forms needed to be signed by their parents and (together with their own assent form; appendix G) returned to the researcher before partaking in the study.

Before the 150 participants were recruited, the cognitive testing phase took place. Participants were given an abbreviated version of the questionnaire — in English, Afrikaans or isiXhosa — to complete. Participants were informed before completing the abbreviated questionnaires that they would be asked for feedback after completion. Feedback was given in groups of 5 as participants completed the abbreviated questionnaires. The abbreviated version of the questionnaire took between 15 and 30 minutes. After participants completed the questionnaires, they were asked if there was anything that they did not understand, anything in any of the translations that they thought needed to change or anything that was confusing.

Data for both the abbreviated and full questionnaires were collected during school hours; the administration and completion of the full questionnaires took between 20 and 50 minutes.

4.7 Data analysis

Data from the questionnaires was first coded and imported into Microsoft Excel. The data was then imported into Statistical Package for the Social Sciences 27 (SPSS), where the data was cleaned and variables were coded and given labels where appropriate. Demographic characteristics were described with simple descriptive statistics. Continuous data was summarised using means with standard deviations. If data was not distributed normally, it was summarised using medians and interquartile ranges. Data normality was checked graphically, using histograms. Data was further analysed using the partial least squares structural equation modelling (PLS-SEM), and through the programme SmartPLS v3.3.3, in consultation with a qualified statistician (who provided guidance, mentorship and regular assistance and consultation throughout the process of data analysis[2]).

The statistical model used to analyse the data was PLS-SEM, as this was suitable for prediction-oriented research. This helped the researcher to focus on clarifying the endogenous variables. The current study has a proposed model that consists of many latent factors and expected multicollinearity, for which the PLS path modelling is suited (Dijkstra & Henseler, 2015). The PLS path model consists of two elements: the first is the outer model, which demonstrates the relationships between the latent variables and its indicator variables. The

[2] The researcher consulted with a statistician from Stellenbosch University for assistance with the data analysis of the study — specifically the SEM analysis. As the researcher had no formal training in using SEM, I received guidance, mentorship and assistance from Professor Martin Kidd regarding data analysis using SEM. He is a qualified statistician working in the Centre for Statistical Consultation at Stellenbosch University. After the multiple consultations with Prof. Martin Kidd, I have confidence in having a sound basic understanding of the intricate nature and extent of direct and indirect relationships between variables in SEM.

second is the inner model, which demonstrates the relationships between the latent variables (Henseler, Ringle, & Sinkovics, 2009; Reeves, 2013; Wong, 2013).

Item analysis was used to determine whether items consistently represented the latent variables across observations. As a primary source, the determination of internal consistency of the scales and subscales was interpreted using Cronbach's alphas. Supplementary to this, the inter-item correlations were used. Cronbach's alpha is the alpha coefficient of internal consistency when all scale items are standardised (Gliem & Gliem, 1992). The closer Cronbach's alpha is to 1.00, the greater the internal consistency of the scale or subscale (Gliem & Gliem, 1992).

Inter-item correlations are the average correlations between all test items in the scale or subscale. The closer the correlation is to 1.00, the stronger the relationship between the scale items. Scores between .15 and .50 are considered acceptable, and scores above .50 are considered excellent for reflective measures (Tabachnick, B & Fidell, 2013).

The next measure of internal consistency was the composite reliability analysis. Convergent validity was further used to determine the extent to which the indicators of the scales shared a large enough proportion of variance with the underlying construct. Discriminant validity was used to identify the degree to which a certain construct in the model was truly distinct from other constructs. For evaluation and interpretation of the model, PLS-SEM was employed. The coefficient of determination was used to measure the proportion of variance of the endogenous construct's, explained by its predictor construct to determine prediction accuracy. Multicollinearity was run to determine collinearity issues, and path coefficients were run to determine the relationships between all variables.

4.7.1 Goodness of fit

The researcher used PLS-SEM to run the analysis. This statistical programme did not have the capacity to run a goodness of fit for the hypothesised model. In some cases, another SEM analysis could be run, but that was not feasible for the current study as it would not yield reliable statistics due to insufficient data available for that type of analysis. As the researcher, and in the consultation with the qualified statistician, Professor Kidd, I arrived at the assumption that the data fitted the model before running the reliability statistics. This assumption could be reached because all of the scales used in the model were pre-existing scales — all of which had been used in multiple studies with valid and reliable statistics in all settings.

4.8 Ethics considerations

The researcher obtained ethical clearance from the Biomedical Research Ethics Committee (BMREC) of the University of the Western Cape (Ethics reference number: BM20/9/18). Institutional permission from the Western Cape Education Department (WCED), as well as permission from the principals of the relevant schools, was obtained, in order for the study to be conducted on the school-going learners. Participants who agreed to participate in the study had the aims of the study explained to them. Participants over the age of 18 received an informed consent form to sign. Participants under the age of 18 received both an assent form to sign and a parental consent form to be signed by their parents or guardians. The consent forms were issued to ensure voluntary participation in the study. Only adolescents who had returned their signed consent forms could participate in the study. Participants were informed of the particulars of the study, such as the aims, what would happen with the study and what their involvement would entail. They were also informed of the key ethical principles of confidentiality, their right to withdraw without any penalty, informed consent and

privacy/anonymity. Anonymity was ensured, firstly, by the researcher mentioning neither the names of the participants nor the schools that participated in the research study. In order for the researcher to conduct follow-up sessions with any participant identified as being high risk or needing psychological intervention, the consent form (which had the participant's name written with his/her signature) and questionnaire were stapled together until all the data was captured for that participant. If no red flags were identified the participant was marked as no risk. The researcher went through each questionnaire on the same day, even if not yet capturing the data, to check responses and note if there were any concerns warranting follow-up sessions. In those cases, appropriate referrals were made.

The researcher administered the questionnaires personally and was present for questions during the completion process. The researcher was also available to provide assistance if participants were having difficulties answering some items or if they were experiencing any emotional distress during the completion of the questionnaire.

The researcher took care to abide by all COVID-19 safety precautions. The researcher sanitised before handing out any papers, participants used their own pens, social distancing was adhered to and masks were worn diligently. Given the nature of the study on aspects of stress, coping and psychological well-being, the researcher arranged for a counselling session for any participant who may have required it following the data collection. After capturing the data the researcher found five participants with scores or answers that were concerning. The researcher approached the liaising teacher to set up a session with myself and the participant, the researcher conducted a counselling session with these participants, including a risk-assessment and opportunity for further support or counselling with the school's counselor as further counselling falls outside the scope of the researcher. None of the five participants wanted further counselling and felt satisfied with the session provided. Risk

assessment also indicated that none of the participants were actively indicating suicidal tendencies – despite indicating so on their questionnaires. Participants were also asked if I could ask their teachers to check in with them from time to time, all of the participants agreed to this and the teachers indicated that they are aware of these students struggling with personal issues and agreed to check in with them.

The questionnaires were locked in a password-protected file on both the researcher's and research supervisor's laptops. Questionnaires were secured in a locked cabinet on the researcher's premises. Data was captured in Excel and imported into SPSS for analysis.

4.9 Summary of chapter

This chapter provided a detailed description of the methods utilised throughout the study. The chapter included a description of the research design, the sampling and sampling procedure, a description of the participants, the measuring instruments used, the procedure, the data analysis and the ethical considerations of the present study. The following chapter will provide a discussion of the results from the statistical analyses.

CHAPTER 5

Results

5.1 Introduction to the chapter

This chapter will provide a presentation of the results from a wide range of statistical analyses. First, the researcher will discuss the results of the cognitive testing phase. Second, the researcher will discuss the preliminary descriptive statistics for the demographics and the individual scales indicating the prevalence of each. Third, the PLS-SEM results will be presented.

5.2 Cognitive testing results

In this section the researcher will discuss the results of the first aim of the study, which include the cognitive testing phase of the study.

The cognitive testing phase was conducted at two different schools. The first 13 participants from the first school completed their questionnaires in English only. At the second school, the researcher gathered cognitive testing questionnaires from six Afrikaans-speaking (and Afrikaans-abbreviated questionnaires) participants, and seven isiXhosa-speaking (and isiXhosa-abbreviated questionnaires) participants. The feedback from these participants was voice recorded by the researcher. The feedback indicated that the questionnaires were well translated and that there was nothing that the participants found confusing, battled to understand or that they felt needed changing. In total, feedback was received from 26 participants in all three languages (English, Afrikaans and isiXhosa). There was, therefore, no need for any changes to be made to the final or full questionnaires in any of the three languages, and the data gathering process followed.

The final sample size, 150 participants, comprised those who completed the full questionnaires, and who were not included in the cognitive testing phase. It was, therefore,

necessary for the researcher to approach a third school for the data gathering phase (main survey of 150 participants) of the study.

5.3 Prevalence of depression

Depression was measured using the BDI-II (Beck, Steer & Brown, 1996). Prevalence of depression was calculated in accordance with the cut-off points of the BDI-II, which are as follows: 0-9 is considered absence of/minimal depression; 10-15 is considered mild depression; 16-23 is considered moderate depression; and 24-63 is considered severe depression.

The prevalence of the various categories of participants' depressive symptomology was as follows: depression scores on the BDI-II indicated that 53 participants (35.57%) fell within minimal range (0–9), 38 (25.50%) were mildly depressed (10–15), 31 (20.81%) were moderately depressed (16–23), and 27 (18.12%) were severely depressed. This exemplifies that 61.07% of the participants were at least mildly depressed, and that at least 38.93% were moderately or severely depressed. These findings are depicted in Figure 1.

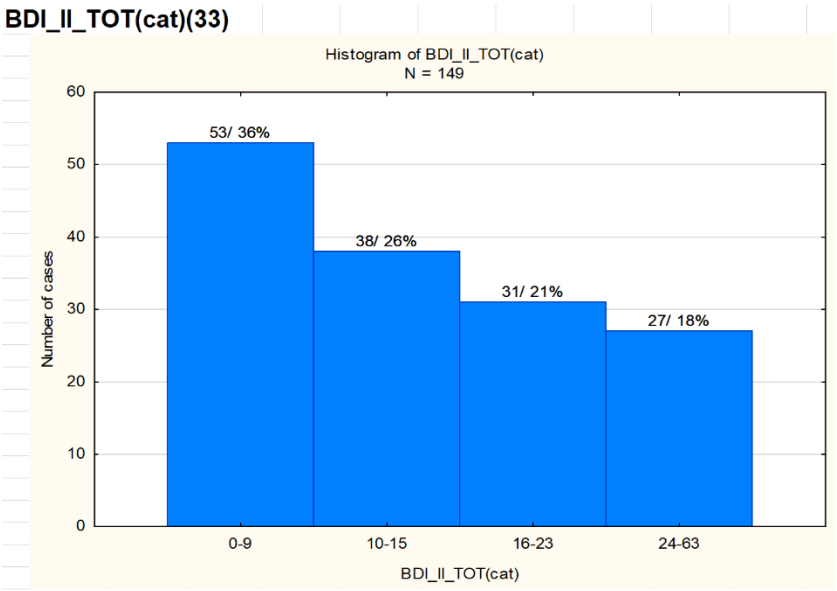

Figure 1: Histogram depicting BDI-II prevalence scores (N = 149).

5.4 Prevalence of anxiety

The presence of anxiety was measured using the BAI (Beck & Steer, 1993). Prevalence of anxiety was calculated in accordance with the cut-off points of the BAI, which are as follows: 0-7 is considered absence of/minimal anxiety; 8-15 is considered mild anxiety; 16-25 is considered moderate anxiety; and 26-63 is considered severe anxiety.

The prevalence of the various categories of participants' anxiety symptomology was as follows: anxiety scores on the BAI indicated that 40 participants (27%) fell within the minimal range (0-7), 49 (33%) were mildly anxious (8-15), 25 (17%) were moderately anxious (16-25), and 34 (23%) were severely anxious. This means that 60% of the participants presented at least mild anxiety symptomology, and that at least 40% evinced anxiety of moderate or severe intensity. The findings are depicted in Figure 2.

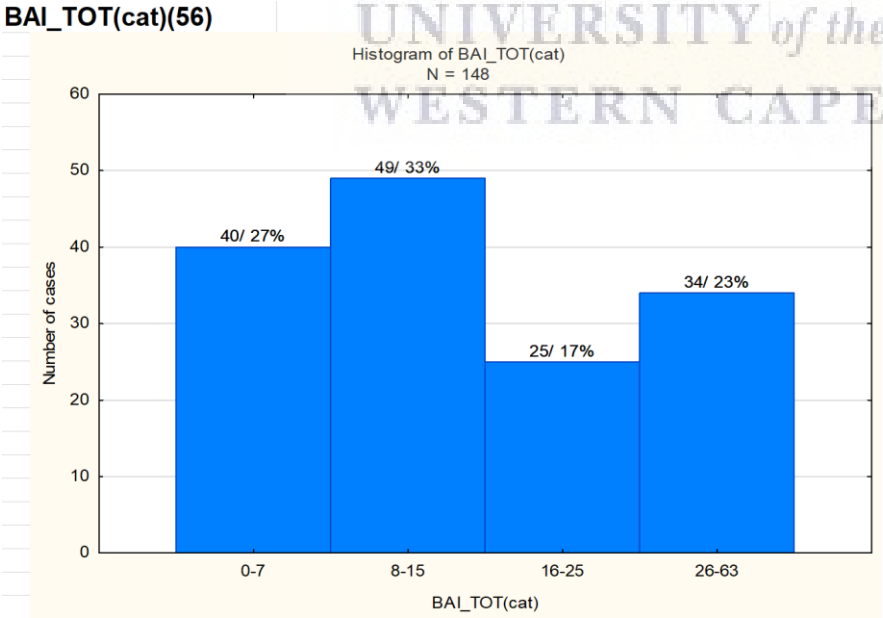

Figure 2. Histogram depicting BAI prevalence scores (N = 148).

5.5 Prevalence of coping strategies

The three coping strategies were measured using the CSI. These three coping strategies were the problem-solving coping strategy, the social support-seeking coping strategy and the avoidant coping strategy. Results of participants' responses indicate that none of the participants used only one problem-solving coping strategy predominantly. Six participants (4%) used the social support-seeking coping strategy predominantly, and 107 participants (74%) used the avoidant coping strategy predominantly. Results also indicate that 31 participants (22%) oscillated between a variation of the different coping strategies: Three participants (2%) used a blend of both problem-solving coping and social support-seeking coping, 20 participants (14%) used a blend of social support-seeking coping and avoidant coping, and eight participants (6%) used vacillated between all three coping strategies equally. The findings are depicted in Figure 4 below.

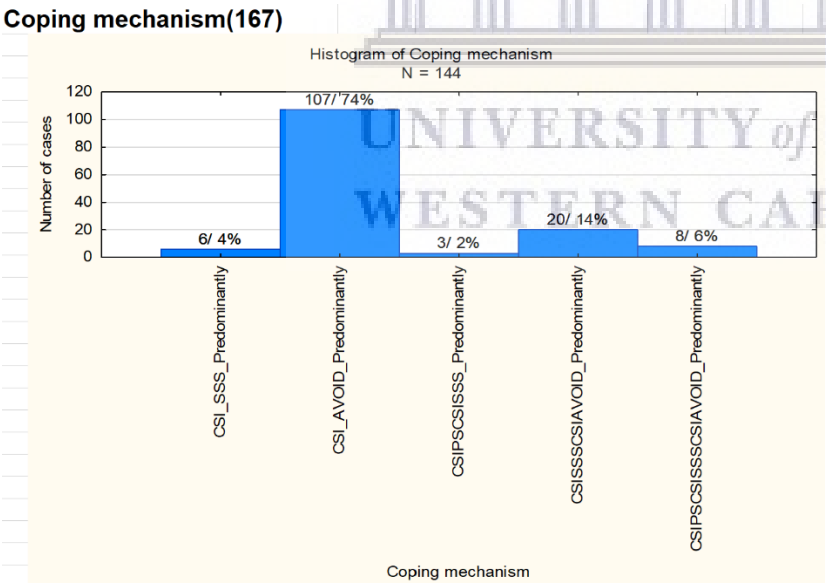

Figure 4. Histogram depicting prevalence of coping strategies (N = 144).

5.6 Preliminary statistical analyses

Findings of the preliminary statistical analyses provided the researcher with a peek into the results and nature of the distribution before making use of PLS-SEM.

Item analysis was conducted as the first assessment of internal reliability. The standardised Cronbach's alphas for the scales and subscales were determined and will be described in this chapter in detail. The next measure of internal consistency was the composite reliability analysis. Convergent validity was further used to determine the extent to which the indicators of the scales shared a large enough proportion of variance with the underlying construct. Discriminant validity was used to identify the degree to which a certain construct in the model was truly distinct from other constructs. For evaluation and interpretation of the model, PLS-SEM was used. The coefficient of determination was used to measure the proportion of variance of the endogenous construct's, explained by its predictor construct to determine prediction accuracy. Multicollinearity was run to determine collinearity issues, and path coefficients were run to determine the relationships between all variables.

5.6.1 Reliability (item) analysis

Item analysis was conducted to determine the internal consistency of the items and subscales of all the scales. As mentioned in the methodology section, the purpose of the item analysis was to determine whether the items consistently represented the latent variables across observations. To determine the internal consistency of the scales and subscales, the Cronbach alphas were interpreted as the primary sources of internal consistency information. The closer the Cronbach's alpha is to 1.00, the greater the internal consistency of the scale. See the table below for the broadly accurate guide regarding Cronbach's alpha interpretation ranges (Gliem & Gliem, 1992).

Table 1. Interpretation of Cronbach's alpha (N=150).

Interpretation of Cronbach's Alpha

Cronbach's alpha	Interpretation
> .90	Excellent
> .80	Good
> .70	Acceptable
> .60	Questionable
>. 50	Poor
< .50	Unacceptable (problematic)

Note: Adapted from "Calculating, interpreting and reporting Cronbach's alpha reliability coefficient for Likert type scales," by J. A. Gilem, & R. R. Gilem, 2003, p. 87. Copyright 2003 by Midwest Research to Practice Conference in Adult, Continuing, and Community Education.

All scales — except for the avoidant coping subscale (α = .68) and the psychological strength scale (α = .69) — had Cronbach alphas above the acceptable cut-off of .70. Avoidant coping and psychological strength fell into the questionable range, but was still considered acceptable (Wong, 2013). The Cronbach alphas for all scales are discussed below.

The BDI scale was used to operationalise adolescent depression. The Cronbach alpha was (α = .85), which indicated a good internal consistency. The BAI scale was also used to operationalise anxiety in adolescents. The Cronbach alpha was (α = .91), which indicated an excellent internal consistency. The BHS, measuring hopelessness in adolescents, had a Cronbach alpha of hopelessness (α = .91), also indicating an excellent internal consistency. Depression, anxiety and hopelessness formed the variables of stress, which had a Cronbach alpha of stress (α = .70), indicating good internal consistency.

Psychological strengths had three scales. The first was the ***perceived social support*** (as measured by the MSPSS), with a Cronbach alpha of (α = .87), indicating a good internal consistency. The second was ***resilience*** (as measured by the CYRM scale), with a Cronbach alpha of (α = .81), also indicating a good internal consistency. The third was ***self-esteem*** (as measured by the RSES scale), with a Cronbach alpha of (α = .73), indicating acceptable

internal consistency. Psychological strengths had a Cronbach alpha of (α = .69), indicating questionable — but acceptable — internal consistency.

The CSI has three subscales of coping. The first — problem-solving coping — had a Cronbach alpha of (α = .82), indicating good internal consistency. The second —which was social support-seeking coping — had a Cronbach alpha of (α = .86), indicating good internal consistency. The third — avoidant coping — had a Cronbach alpha of (α = .68), indicating questionable internal consistency. The last scale was the psychological well-being scale (as measured by the PWB scale), which had a Cronbach alpha of (α = 0.89), indicating good internal consistency.

5.6.2 Composite reliability

Composite reliability is an additional measure of internal consistency, but, unlike Cronbach's alpha, the composite reliability calculation does not assume equal indicator loadings. Instead, each indicator's own individual reliability is taken into account, and indicators are prioritised accordingly (Hair, Ringle, & Sarstedt, 2014; Leguina, 2015). Composite reliability should be above .708, but in exploratory research .60 to .70 is also considered acceptable (Hair et al., 2014).

In accordance with the Cronbach's alphas derived during item analysis, the composite reliability coefficients of the Partial Least Square (PLS) measurement (outer) model corroborate with the scales and subscales in having good internal consistency. The composite reliability values of .78 (avoidant coping), .80 (psychological strength), .92 (psychological well-being), .89 (social support-seeking coping), .86 (problem solving coping) and .86 (stress) demonstrate that all six scales have high levels of internal reliability (that is, composite reliability coefficients larger than .71). The findings are depicted in Figure 5 below.

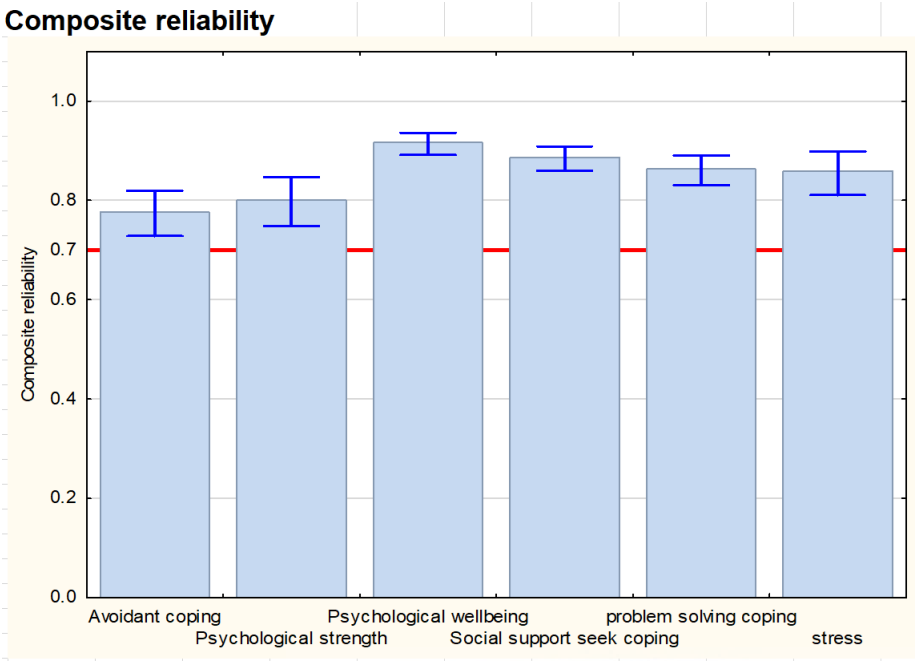

Figure 5. Histogram depicting composite reliability.

5.6.3 Convergent validity

Convergent validity is determined by the extent to which the indicators of a scale share a large enough proportion of variance with the underlying construct. Convergent validity is determined by evaluating the average variance extracted (AVE) and the outer loadings of the outer model. According to Hair et al. (2014), AVE is the degree to which the latent construct explains the variance of its indicators. Generally, an AVE value larger than .50 indicates that the construct on average explains more than 50% of variance in the indicators. If the AVE value is smaller than .50, more chance or error variance is explained by the indicators than by the latent construct (Hair et al., 2014). The researcher will look at the outer loadings next.

5.6.3.1 Average variance extracted

The AVE values of psychological strength (.57), psychological well-being (.58) and stress (.67) are all greater than the required minimum of .50. Thus, the scales of these three

constructs have high levels of convergent validity, and the items accurately tap into the underlying latent construct. However, the AVE values of avoidant coping (.24), social support-seeking coping (.42) and problem-solving coping (.37) are less than .50. One can argue that these scales might explain more error variance than variance accounted for by the latent constructs — although the AVE value for the composite social support-seeking coping scale was only marginally below .50. The low AVE score for avoidant coping and problem-solving coping will further be investigated by studying the loadings. The findings are depicted in Figure 6 below.

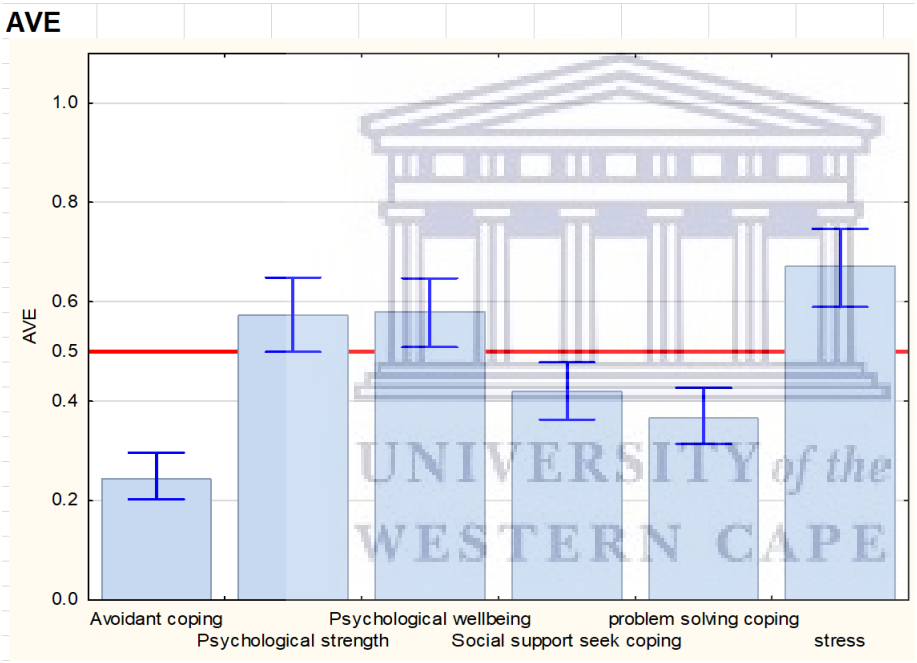

Figure 6. Histogram depicting average variance extracted.

5.6.3.2 Outer loadings

Results of the breakdown between the individual indicator paths and the latent scale constructs are discussed in this section. Outer loading squared demonstrates the proportion of variance in the indicators, explained by the latent construct. As a rule of thumb, the outer

loadings should be greater than .71, which means that the loadings account for more than 50% of the variance in the latent scale construct (Leguina, 2015). However, one can be less stringent and accept outer loadings sizes between .50 and .69. One should only consider excluding a construct when the outer loading is less than .40 (Taylor & Geldenhuys, 2019). Results indicated that there were no items smaller than .40. It can therefore be concluded that no items have outer loadings small enough to be considered for exclusion.

5.6.4 Discriminant validity

Discriminant validity refers to the degree to which a construct in the model is truly distinct from other constructs. In other words, to establish discriminant validity is to determine that a construct is unique and captures phenomena distinct from other constructs (Hair et al., 2014; Leguina, 2015).

The rule of thumb is that, if the indicators of two constructs have a 95% upper value that is clearly smaller than one, then the true correlation between the two constructs is most likely different and indicative of discriminant validity. In contrast, a 95% upper value greater than one indicates that the two constructs are not sufficiently distinct and lack discriminant validity (Hair et al., 2014).

In Table 2 it can be seen that all 95% upper values are smaller than one. Thus, the difference in the true correlations between the constructs for these constructs is significant, and this means that these constructs are distinct.

Table 2. Discriminant validity indicating 95% upper value (N=150)

Discriminant validity

	Heterotrait-Monotrait ratio					
	from	to	Ratio	95% lower	95% upper	Discriminate
Psychological strength -> Avoidant coping	Psychological strength	Avoidant coping	0.3	0.23	0.32	yes
Psychological wellbeing -> Avoidant coping	Psychological wellbeing	Avoidant coping	0.26	0.2	0.27	yes
Psychological wellbeing -> Psychological strength	Psychological wellbeing	Psychological strength	0.82	0.6	1.01	no
Social support seek coping -> Avoidant coping	Social support seek coping	Avoidant coping	0.43	0.35	0.47	yes
Social support seek coping -> Psychological strength	Social support seek coping	Psychological strength	0.51	0.35	0.66	yes
Social support seek coping -> Psychological wellbeing	Social support seek coping	Psychological wellbeing	0.22	0.17	0.26	yes
problem solving coping -> Avoidant coping	problem solving coping	Avoidant coping	0.62	0.47	0.73	yes
problem solving coping -> Psychological strength	problem solving coping	Psychological strength	0.55	0.37	0.69	yes
problem solving coping -> Psychological wellbeing	problem solving coping	Psychological wellbeing	0.28	0.18	0.36	yes
problem solving coping -> Social support seek coping	problem solving coping	Social support seek coping	0.67	0.5	0.79	yes
stress -> Avoidant coping	stress	Avoidant coping	0.38	0.26	0.45	yes
stress -> Psychological strength	stress	Psychological strength	0.81	0.64	0.98	yes
stress -> Psychological wellbeing	stress	Psychological wellbeing	0.46	0.28	0.64	yes
stress -> Social support seek coping	stress	Social support seek coping	0.19	0.14	0.22	yes
stress -> problem solving coping	stress	problem solving coping	0.26	0.16	0.34	yes

5.7 Evaluation and interpretation of the model

The PLS-SEM model does not have a goodness of fit statistic. Instead, the PLS-SEM model uses the sample data to obtain parameters that best predict the endogenous latent variable (Hair et al., 2014). To this end, the model's quality is based on its ability to predict the endogenous construct. The following assessment criteria are discussed: 1) coefficient of determination; 2) multicollinearity; and 3) the evaluation of the main effects.

5.7.1 Coefficient of determination

The coefficient of determination measures the proportion of the endogenous construct's variance, as it is explained by its predictor construct. This is done to determine prediction accuracy (Hair et al., 2014). The rule of thumb here is that r-square values smaller than .25 are considered weak; r-square values between .25 and .50 are considered satisfactory; r-square values between .50 and .75 are considered moderate; and r-square values greater than .75 are considered substantial (Hair et al., 2014). The objective should be to achieve high r-square values.

5.7.2 Multicollinearity

When two latent constructs are highly correlated, it can indicate collinearity. Collinearity implies that two constructs are so similar that they might encapsulate the same theoretical meaning. Results indicate that there are no Variance Inflation Factors (VIF) scores that are above five. This indicates that there are no multicollinearity issues.

5.7.3 Path coefficients

The last criterion that must be assessed as part of the inner model is whether a positive linear relationship between the hypothesised paths in the model exists. In other words, one would wish to establish whether there are significant relationships between the underlying latent constructs, as hypothesised. Path coefficients and p-values determine the strength and direction of the hypothesised relationships between the latent variables.

Figure 7 represents the six-variable structural model that shows the path coefficients (and p-values in brackets) for the various hypothesised paths between the latent constructs.

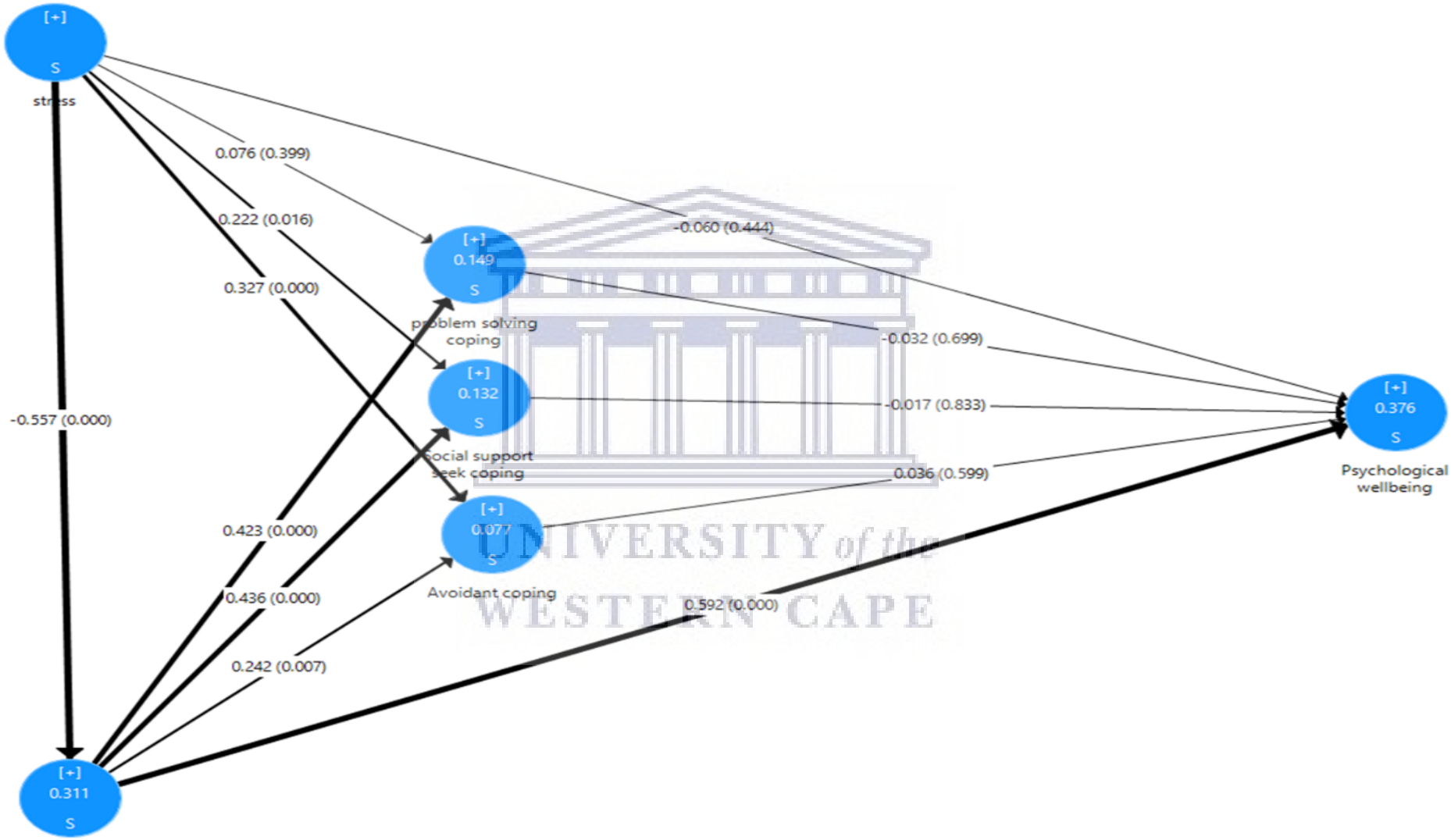

Figure 7. Graphical representation of path coefficient of the relationships as proposed in the SEM model.

5.7.3.1 Psychological strengths

It can be seen that there was a significantly positive relationship between psychological strengths and psychological well-being, with a path coefficient of .59 ($p < .01$). Psychological strengths also had a significant positive relationship with social support-seeking coping, with a path coefficient of 0.44 ($p < .01$); psychological strengths and problem-solving coping have a path coefficient of .42 ($p < .01$); and psychological strengths and avoidant coping had a path coefficient of .24 ($p < .01$). Thus, the higher the degree of psychological strengths, social support-seeking coping, avoidant coping and problem-solving coping (independently), the better the psychological well-being of the participant.

Psychological strengths had a significantly negative relationship with stress, with the path coefficient being -.56 ($p < .01$). This means that the lower the stress levels, the higher were the psychological strengths. Conversely, the higher the psychological strengths, the lower were the stress levels.

5.7.3.2 Stress

Stress had a significant positive relationship ($p = .02$) with social support-seeking coping, with a path coefficient of .22. and avoidant coping with a path coefficient of .33 ($p < .01$). This means that the greater the stress, the more participants made use of social support-seeking coping and avoidant coping strategies. Stress did not have a significant relationship with problem-solving coping — with the path coefficient of .08 ($p = .4$) — or psychological well-being, with a path coefficient of .06 ($p = .44$).

5.7.3.3 Psychological well-being

Psychological well-being did not have a significant relationship with problem-solving coping, with a path coefficient of -.03 (p= .7); its relationship with avoidant coping had a path coefficient of .04 (p = .6); and its relationship with social support-seeking coping had a path coefficient of – .02 (p = .83). This means that psychological well-being does not bear a significant relationship with any of the other constructs except psychological strengths. It can, therefore, be expressed that none of the coping variables serves as a partial mediator (indirect relationship) between stress and psychological well-being. Psychological strengths, however, function as mediators between stress and psychological well-being (indirect relationship).

5.8 Summary of chapter

In this chapter, the results of the findings of the study were presented. This included the results of the cognitive testing phase, findings of the validity statistics and the SEM analysis. Results indicated that, through cognitive testing, the questionnaires were well-understood by the participants. Analysis indicated that the statistical models employed were all valid and reliable measures to use in the current population. Results also indicated that psychological strengths served as mediator between stress and psychological well-being. The next chapter provides an integrated discussion of findings, citing both the theories and relevant literature for the discussion points.

CHAPTER 6

Discussion

6.1 Introduction to the chapter

The present chapter will serve as a discussion of the results presented in chapter 5. The researcher will begin by reiterating the overall aims of the study, as a reminder to the reader. Then, the significant results, as presented in chapter 4, will be discussed in relation to the literature found on the same topic. These results include overall stress levels, overall use of coping strategies and the relationship between psychological well-being and stress via psychological strengths (that is, resilience, self-esteem and perceived social support).

6.2 Overall aim of the study

The present study had two aims: first, to validate the scales measuring depression, anxiety, hopelessness, coping, self-esteem, resilience and perceived social support by cognitively testing selected items from the measures (that is, stress, coping, psychological strengths and psychological well-being) on school-going adolescents. These adolescents were between grades eight and 11 (aged between 13 and 19 years) and attended selected schools in the Cape Metropole. As a form of validation, cognitive testing entails cooperating with participants to ascertain what they understand or do not understand about selected items in the measures, the level of difficulty of the items and whether any questions are confusing (as a way of determining if any items could be adapted for future research or for further phases of the study that are beyond the scope of this study). The second aim was to determine, using SEM, the nature of the relationships between stress, psychological strengths, coping and psychological well-being. The SEM enabled the determination of the direct and indirect relationships between variables.

6.3 Discussion of key findings

This study has demonstrated that multiple variables play a role in the psychological well-being of school-going adolescents in the Cape Metropole. In the face of certain stressors encountered by these adolescents, there were factors that significantly affected the outcome of their mental health. In the following section, the researcher will discuss the key and salient findings of the mini thesis by integrating and engaging with the literature on the same topic.

6.3.1 Overall stress levels

In the present study, the construct of stress was determined by levels of depression, anxiety and hopelessness. Results of each of the three independent scales indicated the prevalence of stress in school-going adolescents in the Cape Metropole.

6.3.1.1 Depression

In the present study at least 39% of participants were moderately or severely depressed. Results of the present study are partially consistent with the WHO's findings (2018) which indicate depression to be the most prevalent mental health disorder amongst adolescents.

Moreover, results of the present study, which indicate that 18% of South African participants have severe levels of depression, is consistent with findings from a study conducted on school-going adolescents in Sri Lanka, where the results indicate that up to 17% of adolescents have major depressive disorder (Harikrishnan et al., 2017).

6.3.1.2 Anxiety

In the present study at least 40% of participants evinced anxiety of moderate or severe intensity. Furthermore, the present finding is partly consistent with findings from an Iranian

study on high school students (Shahmohammadi, 2011) on coping with stress in school to determine academic anxiety. Findings indicated that 26.1% of students in Iran were distressed.

To make sense of the results of the present study, a study by Shahmohammadi (2011) explaining what school going adolescents find anxiety-provoking aids in understanding what might be causing the anxiety. In the study by Shahmohammadi (2011) it was found that the participants were anxious about the following: not being placed in a tertiary educational institution, school examinations, too much content to learn, difficulty understanding the prescribed content, heavily-packed timetables and too much homework (Shahmohammadi, 2011).

6.3.1.3 Hopelessness

Hopelessness in South African youth has mostly been researched in combination with depression. In a study by Mngoma, Ayonrinde, Fergus, Jeeves and Jolly (2020) on the prevalence of hopelessness and depression in youth in rural South Africa, in the Harry Gwala District, it was postulated that youth experience hopelessness due to high rates of interpersonal violence and self-inflicted injuries – especially among 15–24-year-old adolescents and men. They also indicated that suicide was an important proxy measure of severe emotional distress, predominantly hopelessness and depression (Mngoma, Ayonrinde, Fergus, Jeeves, & Jolly, 2020). With regards to the prevalence of severe hopelessness, one in four of the young men in the sample reported current suicidal thoughts associated with hopelessness and depression (Mngoma et al., 2020).

In order to explain the prevalence of the scores of stressors (depression, anxiety and hopelessness) experienced by school going adolescents in the Cape Metropole, the researcher

will again make reference to Lazarus and Folkman's stress model (1984). Most adolescents manage to face stressors like negative life events by finding internal and external coping mechanisms and recourses to facilitate moving on from the stressor. But in other instances the stressors become too much to contend with, resulting in outcomes of stress levels as seen in the present study (Isaacs, 2008).

Lazarus and Folkman's (1984) definition of stress begins by describing stress as a situation that is experienced or perceived by an individual as threatening and as a 'red flag' for imminent physical or mental health problems (J. H. Amirkhan & Marckwordt, 2017). Leading on from this definition, an individual with depression, anxiety or feelings of hopelessness has, therefore, perceived his/her situation as surpassing that of his/her ability to manage the environment. Individuals with depression, anxiety or feelings of hopelessness hold negative views of the world and of themselves (Beck, 1970). This may result in a negative outlook on the stressor and on their ability to cope with it. This all exacerbates the stress further, creating a downward spiral (J. H. Amirkhan, 1990; J. H. Amirkhan et al., 2018).

The high rates of depression and anxiety in the current study could also be ascribed to the particularly challenging stage of human development wherein adolescents find themselves: adolescence indeed ushers in a period of psychosocial transition between childhood and adulthood (Liebenberg, Ungar & Leblanc, 2013; Pascoe, Hetrick & Parker, 2019; Pritchard & van Nieuwerburgh, 2016; Skrove, Romundstad & Indredavik, 2013; Wahyuningsih, Kusumaningrum & Novitasari, 2020). In light of the sample of the present study of school-going adolescents, it is important to mention that the school environment also represents a place where both physical and emotional maturation take place against the backdrop of expanded socialisation through which these adolescents progress, which is characterised by

many stressful situations constantly challenging them (Frankenhuis et al., 2013; Kruger & Prinsloo, 2008; Rawatlal et al., 2015).

6.3.2 Overall use of coping strategies

Results of the present study indicate that most school-going adolescents use the avoidant coping strategy significantly more than the problem-solving or social support-seeking coping strategies. Results of the present study also indicate that 107 participants (74%) use the avoidant coping strategy predominantly. Even though literature on coping strategies (as was discussed in chapter 2) varies, very little literature actually speaks about avoidant coping specifically, and no existing literature highlights avoidant coping as the predominant coping strategy used by school-going adolescents or youths.

However, present findings are consistent with a study by Shahmohammadi (2011) if we first consider the definition of avoidant coping responses by Lazarus and Folkman (1984) and Brem et al. (2017). Lazarus and Folkman's definition of coping forms the basis for most major measures of coping styles, including the Coping Strategy Indicator (CSI) used in the present study. Brem et al. (2017) describes avoidant coping as any behaviour(s) aimed at avoiding the stressful event — for example, watching television (Jang et al., 2007). The next describes experiential avoidance as maladaptive behaviour(s) that precludes individuals from being able to process stressors effectively. This can include behaviours such as excessive spending, binge eating and substance use (Brem et al., 2017). In the study by Shahmohammadi (2011) on coping in school-going adolescents, the author indicated that male students predominantly coped by occasionally seeking refuge in drugs or alcohol and that female students resorted to prayer and hope for a better future. Both the male and female participants predominantly used avoidant coping behaviours, as did the participants in the

present study, even though in the present study the focus was not on the specifics of what those avoidant coping behaviours were.

The present finding is also consistent with findings by Amirkhan and Auyeung (2007), where they found that children who had experienced trauma as a stressor favoured avoidance as a coping strategy. This study, however, focused on children and not adolescents. The authors nonetheless explain that once a child prioritises avoidant coping as a child, he/she will likely continue to use this coping strategy in adolescence and adulthood, which is consistent with findings of the present study (J. Amirkhan & Auyeung, 2007; J. H. Amirkhan, 1990).

The present findings appear to be inconsistent with findings by Amirkhan (2018) — that extroverts prefer problem-focused coping — while Amirkhan (2018) finds that extroverts prefer social support-seeking coping responses (Jang et al., 2007; Shahmohammadi, 2011). However, the findings of the aforementioned two studies focused exclusively on extroverts, whereas the present study observed school-going adolescents in general.

In an attempt to decipher this finding of the present study, the researcher will revert back to the theoretical framework utilised in the present study. According to Lazarus and Folkman (1984), coping is influenced by personal and situational factors. A person's individual characteristics and resources, such as health, energy, beliefs about control, existential beliefs, problem-solving skills, social support, personal constrains, commitments, social skills, material resources and level of perceived threat, all influence the coping process (Lazarus & Folkman, 1984). It could therefore be hypothesised that avoidant coping was the predominant coping strategy used in the current study due to the lack of the above-mentioned factors in the population of the present study. Admittedly, this statement is conjecture and requires further investigation.

Lazarus and Folkman's stress model highlights the dynamic interaction between the individual, his/her psychological stress and his/her personal environment. The individual subjectively evaluates the event and its impact on his/her well-being as either having a positive influence or as posing a threat. The individual then uses secondary appraisal to evaluate which coping strategies he/she has available in response to a stress appraisal. It can therefore be expressed that participants in the present study evaluated the avoidant coping strategy as being the most effective strategy to implement.

6.3.3 Relationship between stress and psychological well-being via psychological strengths: resilience, self-esteem and perceived social support

The next three relationships to be discussed are the relationships between stress and psychological well-being, with the moderating effects of three psychological strengths — those strengths being resilience, self-esteem and perceived social support. One of the aims of the current study was to determine if psychological strengths or health-promoting factors (perceived social support, resilience and self-esteem) mediated the relationship between stress and psychological well-being. Available literature on coping with stress highlights that managing a stressor is contingent upon the use of psychological strengths. These are mediators to the negative effects of the stressful encounter on psychological well-being and mental health, the result of which is a healthy psychological state (Shahmohammadi, 2011).

6.3.3.1. The relationship between stress and psychological well-being via resilience

Results of the present study show that resilience acts as a mediator between stress and psychological well-being. The results of the current study were therefore in line with previous research on the same relationship. Literature has demonstrated that resilience plays a major

role in mediating the relationship between the experience of stress and psychological well-being (Harrison et al., 2019b; Scorza et al., 2017). Research also suggests that the process of adapting well and withstanding the experience of a stressor affects adolescents' mental health in times of distress positively (Scorza et al., 2017). This was seen in a study on at-risk Rwandan adolescents, where resilience was found to have associated negatively with symptomology of depression (Scorza et al., 2017). Such a study indicates that resilience may be essential to adolescents during stressors, and the authors of the Rwandan study suggest that resilience is integral to preventing mental health challenges.

Previous research explains the results of the current study in that when an adolescent manages his/her emotions in the wake of stress — and attempts to address the stressor directly — the management of the stressor through the use of resilience may enable the individual to adapt and cope, regardless of the source of stress (J. H. Amirkhan et al., 2018; Holton et al., 2016; Strauss & Daniels, 2013). In a study by Harrison et al. (2019) on at-risk South African university students living in poverty, the researchers found that family, community and social support were essential ingredients to resilience, where the expectation of support from loved ones were crucial to nurturing resilience. They further found that resilience was shown to have a positive influence on the students' psychological well-being and functioning in society, as is the case in the present study.

An additional study helps understand why resilience functions as a mediator between stress and psychological well-being, in that adolescents with good resilience capacities are deemed more capable of facing a stressor with the mindset of it being an opportunity for growth and with a feeling of acceptance towards the specific stressor (Theron & Dunn, 2010). In such instances, adolescents are able to employ individual protective resources, including reframing the situation, refocusing thoughts, acceptance, not blaming the self and being able to express their emotions uninhibited (Theron & Dunn, 2010). Resilience is therefore seen as a necessity

for adolescents to cope with stressors, especially in the South African context, where the constant exposure to poverty, violence and ongoing socio-economic transformation leads to high levels of stress (Harrison et al., 2019b; Strauss & Daniels, 2013).

In another study centred around the importance of resilience on adolescent well-being, Villiers and Van den Berg (2012) investigated the development, implementation and evaluation of a resiliency programme for children and adolescents in Bloemfontein, South Africa. They focused on promoting emotional regulation, interpersonal skills, stress management and problem solving as forms of empowerment (Villiers et al., 2012). Results indicated that the resilience programme significantly increased interpersonal characteristics such as self-appraisal and emotion regulation (Villiers et al., 2012). This serves as further evidence of the significant mediating effects that the psychological strength of resilience has on the overall psychological well-being of adolescents.

6.3.3.2 The relationship between stress and psychological well-being via self-esteem

Findings from the present study demonstrate that self-esteem acts as a mediator between stress and psychological well-being. These findings are in line with findings of other studies that indicate the significant mediating effect of self-esteem on psychological well-being in the face of stressors (Harrison et al., 2019b; MacPhee & Andrews, 2006; Uzun et al., 2020). The protective role that high self-esteem plays on adolescents' mental health and psychological well-being is evident in the literature, with cumulative research indicating a converse relationship between self-esteem and depression (Behnke et al., 2011; Gidwani et al., 2021; Lin, 2015).

As was mentioned in the current study, self-esteem has also been identified by two other studies as a key component of personality processes which affects psychological well-being positively. For this reason, self-esteem is considered one of the most significant factors in an

adolescent's development, playing a major role in protective processes in preventing negative psychological well-being outcomes (Gidwani et al., 2021; Uzun et al., 2020). Similar results were found in a recent study on adolescent well-being: when looking at nine predictors of depression, self-esteem was found to be the strongest predictor out of all nine (MacPhee & Andrews, 2006). In the present study, the psychological strengths discussed were not considered in any hierarchical order, but MacPhee & Andrews (2006) have indicated that self-esteem is a significant mediating factor, as is shown in the present study.

In order to decipher the findings of the present study, the researcher found literature that indicated why self-esteem would play a significant mediating role in stress mediation. Literature indicates that self-esteem is related to self-worth and to an individual's perceived ability to cope with a stressor (Harrison et al., 2019a). Research also indicates that adolescents with lower levels of self-esteem will exhibit lower levels of self-control (Uzun et al., 2020). As such, when an individual's self-esteem is higher, he/she enjoys more controlling thoughts and feels a greater sense of control over his/her environment, feelings, thoughts and behaviours (Uzun et al., 2020). According to Lazarus and Folkman's stress model, an event that is evaluated as a challenge might still be appraised as resulting in personal growth — only if the individual feels confidence in his/her ability to cope with the stressor (Lazarus & Folkman, 1984). It can therefore be deduced that when an individual enjoys a higher degree of self-esteem, he/she is better able to mobilise coping in anticipation of a threat, as he/she believes in his/her ability to manage the stressor.

Literature further explains that low self-esteem is a significant contributor towards the development of depression, with diminished self-esteem leading to feelings of worthlessness, inadequacy and deficiency (Uzun et al., 2020). Conversely, adolescents who experience higher self-esteem levels are more optimistic and may perceive life events as more manageable. This renders them less susceptible to developing depression (Uzun et al., 2020).

These findings aid in understanding why self-esteem functions as a mediating effect between stress and psychological well-being, as indicated in the current study. Previous studies explain that this depreciating view adolescents have of themselves influences how they perceive their everyday situations and stressors, leading to hopelessness and eventually depression (Romojimenez et al., 1995; Stewart-Sicking, 2013; Szabó et al., 2016; Uzun et al., 2020). Findings of these studies help to explain why low self-esteem contributes to higher levels of depression and diminished well-being, and why high self-esteem contributes to better outcomes for psychological health and to the better mediation of the effects of a stressor.

6.3.3.3 Relationship between stress and psychological well-being via perceived social support

Results of the present study demonstrate that perceived social support acts as a mediator between stress and psychological well-being. Previous studies, both locally and internationally, have had similar findings. For example, in a study on resilience among urban American adolescents of Indian descent, it was found that perceived social support played a mediating factor in the subjective well-being of adolescents and was the strongest predictor of well-being (Stumblingbear-Riddle & Romans, 2012). The results further indicated that the higher the levels of perceived social support, the higher the adolescents' resilience and self-esteem, positively influencing their mental health outcomes (Stumblingbear-Riddle & Romans, 2012). In the South African context, a study by Graber et al. (2016) found that when adolescents perceived themselves to be in supportive relationships, it related to better outcomes for psychological well-being. Findings revealed a significant positive association between perceived quality of friendship and resilience, which in turn enabled participants to develop a constructive coping style (support-seeking and active coping) (Graber, Turner & Madill, 2016). Similar results were found in two other studies relating to perceived social

support in that perceived social support was found to increase adolescents' ability to cope with a stressor, elevating their psychological well-being (Graber et al., 2016; Harrison et al., 2019a). Participants indicated that social support make them feel less isolated and as if they were not facing the stressor alone. The perceived social support provides them with the confidence to manage the stressor with fewer negative impacts on their psychological well-being. (Graber et al., 2016; Harrison et al., 2019a).

There are additional studies that are partly consistent with the findings of the present study, although they have been conducted on adult populations (Casale et al., 2014; Orphen, 2001). In a study by Orphen (2001) it was found that perceived social support from significant others reduced the adverse effects on mental health for black South Africans more than they could by their superiors/boss. The study found that peer support aided in making the lives of the respondents easier in that they had someone to rely on, someone willing to listen to their problems and someone with whom it was easy to engage. Similarly, Casale et al. (2014) found social support to be a positive, health promoting and stress-buffering resource for adult caregivers. The buffering effect that social support played in that study was the same as the mediating effect that perceived social support played in the present study. Regarding adult caregivers, Casale et al. (2014) describe specific aspects of the supportive relationships to mediate stressors, such as emotional caring, concern for the individual and his/her best interests, information sharing and instrumental aid. These all decreased the caregivers' anxiety and improved their mental health (Casale et al., 2014), in the same way social support mediated stress in the current study.

The finding in the current study is in line with that of Skrove et al. (2014) in its assertion that perceived social support from loved ones, high self-esteem and living with both parents are associated with lower levels of psychological distress, as well as with fewer or no symptoms

of depression and anxiety. This underscores the mediating effects of social support on psychological well-being.

Furthermore, research has linked the construct of social support with many areas of adaptive functioning, also indicating the positive impact that perceived social support has on psychological well-being, as is the case with the current study (Osman et al., 2014; Skrove et al., 2013). Researchers from previous studies specify adaptive functioning to include interpersonal satisfaction, mental and physical well-being, feelings of social security and increased use of emotion-focused coping strategies (Osman et al., 2014).

To make sense of the findings of the current study, research indicates that perceived social support provides individuals with certain factors that help to cope with stressors and improve their psychological well-being. In one study, it became evident (through analysis of the results) that peer support made respondents' lives somewhat easier in that they had someone to rely on, someone willing to listen to their problems and someone with whom it was easy to engage (Orphen, 2001). Casale et al (2014) describe aspects of supportive relationships to mediate stress in favour of psychological well-being by including aspects such as emotional caring, concern for the individual and his/her best interests, information sharing and instrumental aid. These all decreased anxiety and improved mental health.

Results of the significant relationships between stress and the three psychological strengths (resilience, self-esteem and perceived social support) discussed above have a few implications for possible intervention. As the three psychological strengths serve as mediating factors between stress and psychological well-being, the findings could inform designs for interventions for school-going adolescents. Interventions could focus on strengthening these three psychological strengths in the adolescents. Teachers armed with the knowledge of the importance of developing these psychological strengths could encourage students to take

stock of their individual levels of resilience, self-esteem and perceived social support, in an attempt to improve each psychological strength. If students receive psychoeducation on personal value, they could experience an improvement in these three psychological strengths in their lives; an improvement could positively influence their ability to manage daily stressors and elevate their psychological well-being.

6.4 Summary of chapter

This chapter functioned as a discussion of the results presented in chapter 5. As a reminder to the reader, the researcher began by reiterating the overall aims of the study. Subsequently, the significant results, as presented in chapter 5, were discussed in relation to the literature found on the same topic. These included overall stress levels, overall use of coping strategies and the relationship between psychological well-being and stress via psychological strengths (that is, resilience, self-esteem and perceived social support). The next chapter provides a concluding discussion of major findings, theoretical frameworks, contributions, recommendations and implications for interventions.

CHAPTER 7

Conclusions

7.1 Introduction to the chapter

This mini thesis began with a discussion of the background and rationale of the present study and provided an overview of the study which included an introduction, definitions of key concepts and an expansion on the rationale of the study. The researcher then presented a literature review in relation to the concepts of the study. The main issues of psychological well-being, psychological strengths (including coping skills), depression, anxiety and hopelessness in adolescents were discussed throughout. These concepts were discussed based on the theoretical framework of the present study. Subsequently, a detailed description of the theoretical framework employed throughout the study was provided, followed by the research aims and objectives of the study. The following section then focused on a detailed description of the methods utilised throughout the study. This included a description of the research design, the sampling and sampling procedure, a description of the participants, the measuring instruments used, the procedure, the data analysis and the ethical considerations of the present study. The following chapter functioned as a discussion of the results presented in chapter 5.

The concluding chapter provides brief critical reflections into how the major findings could be seen in perspective, the applicability of the theoretical frameworks used, strengths and contributions — as well as limitations — of the study and recommendations for future research. The chapter also briefly discusses the overall implications for interventions for adolescents in the school context.

7.2 Major findings in perspective

With regards to the first aim of the study (validating the scales by means of cognitively testing their appropriateness and usability within the school-going adolescent population), the high reliability coefficients of the scales were consistent with previous analyses on the same scales in different and in the same cultures. As the scales were pre-existing and well-established, the results were unsurprising (Boduszek & Dhingra, 2016; Bruwer et al., 2008; Harrison et al., 2019b; Liebenberg et al., 2013; Lin, 2015; Muntingh, Feltz-cornelis, Penninx, & Balkom, 2011; Rizwan et al., 2017; Romojimenez et al., 1995; Theron, 2012; Thornton & Sanchez, 2010). As the present study foremost aimed to validate the scales (that is, cognitively test the scales in terms of their usability for school-going adolescents), these reliability coefficients indicated that the scales would be helpful for the next phase of the bigger study, which will employ the same scales on the same population.

Pertaining to the second aim of the study (which was to ascertain the nature of the direct and indirect relationship between variables), the results of the present study demonstrate that psychological strengths act as mediators between stress and psychological well-being. This mediating effect appears consistent with previous research involving psychological strengths (Biswas-Diener et al., 2011; Harrison, 2020; Harrison et al., 2019a, 2019b). Each of the mediating effects of psychological strengths was discussed in chapter 6 (specifically in subsection 6.3). This means that the psychological strengths of perceived social support, resilience and self-esteem play a significant role in mediating the effects of stress (depression, anxiety and hopelessness) on the psychological well-being of school-going adolescents in the Cape Metropole.

7.3 Validation of scales

One of the aims of this study was to examine the psychometric properties of the scales used in the model in a South African population of school-going adolescents. The examination of

the properties of the scales was for the purpose of validating the scales' use with the present sample. This study therefore built on the initial development and subsequent validation of the instruments for use in other settings.

The present study validated the use of the scales with South African school-going adolescents. With the goal of validating the scales, the researcher tested the scales in the following ways: Cronbach's alpha, item analysis, composite reliability, convergent validity, discriminant validity, AVE to verify the internal consistence, and validity and reliability of the scales and subscales.

Results revealed that all of the scales were valid and reliable for use in a sample of school-going adolescents. The results were consistent with those previously reported, both internationally and locally (Behavior & Lin, 2015; Erford et al., 2016; Govender et al., 2017; Harrison, 2020; Harrison et al., 2019a, 2019b; Makhubela & Mashegoane, 2015, 2016; Messick, 1989, 1995; Somhlaba & Wait, 2009).

7.4 Applicability of the theoretical frameworks

7.4.1 Lazarus and Folkman's Transactional Model of Stress

Lazarus and Folkman's Transactional Model of Stress has been used or cited in an extensive number of studies (J. H. Amirkhan, 1990; Ayala, Ellis, Grudev, & Cole, 2016; Coyne & Racioppo, 2000; Harrison et al., 2019b; Holton et al., 2016; Hulbert-Williams et al., 2013; Shawl & Mehraj, 2017). Their model, however, does not include an analysis of cognitive precedents of coping that would impact on emotional responses. Lazarus and Folkman (1993) themselves have highlighted that most of the evidence for their theory was derived from cross-sectional survey research or laboratory-based experimental designs on the experiences

of vicarious, heterogenous or acute stressors only. In the sample used in this study, it might have been useful to have distinguished between the two categorisations of stressors: chronic and acute. Longitudinal studies on the model may provide results on the impacts of change and stability. The Lazarus and Folkman transactional model, however, fitted well with the SEM model used in the present study, as it spoke to the major relationships between stress, psychological strengths, coping strategies and psychological well-being.

As the psychological strengths (resilience, self-esteem and perceived social support) were found to be significant mediators to stress and well-being, the transactional model fitted the results in that it specified that an event evaluated as a challenge might still be appraised differently or positively given the wide range of internal resources an individual possesses and makes use of — which results in personal growth. If the individual feels confident in his/her ability to cope with the stressor — that is, experiences a higher degree of resilience, self-esteem and perceived social support — it is less likely for the stressor is to be experienced as harmful. Moreover, the individual enjoys a greater sense of psychological well-being. This represents a major finding as it necessitates interventions aimed at helping school-going adolescents navigate through their stressful encounters. Interventions can be useful if they include the psychoeducation of the adolescents; teachers and school staff can assist children by training them to tap into their internal resources in order to process the challenges they experience better. Interventions should also include helping the adolescents explore avenues for enlisting social and emotional support from others in times of need.

7.4.2 Measurement theory

The concept of validity was expanded by Messick, who proposed that validity was a unitary concept of construct validity, but with six aspects of procedures, as discussed in chapter 3. The procedures could not all be quantitatively assessed in the current study, although the

detailed procedure does speak to some of the validity procedures as proposed by Messick. The other procedures were analysed and found to have proved all of the measures of validity, thus yielding positive results. The use of the measurement theory proposed by Messick worked well in the current study in that it provided a more detailed approach and understanding into assessing validity instead of the just the unitary alternative.

The validation of the scales does not indicate the construct validity of the tests themselves, but the validity of properties of test responses – functions of the individual answering the test. This means that the validity of the scales, as shown in the current study, renders the scales reliable and officially acceptable for use in the sample (Messick, 1975). Using these construct validities, as is the case with the current study, also factors in environmental and measurement context. The validation interpretation gives the measures meaning, as well as further evidence of the generality across groups and settings. The validation interpretation also provided an idea of the actual validity of the scales for the specific sample instead of merely indicating the validity of the properties of the tests themselves.

7.5 Strengths and contributions of the study

Results of this study could aid in improving our understanding of school-going adolescents' well-being, which psychological strengths contribute to the improvement of their psychological well-being and which stressors contribute negatively to their psychological well-being. The results also provide us with an idea of the overall stress and well-being levels of adolescents.

The cognitive testing aspect of the study, which preceded the survey itself (and which enabled the researcher to receive some feedback from participants regarding the appropriateness of the selected items from the measures), though not without its flaws,

provided an opportunity to gain useful information about how the scales could be deemed usable for the adolescent population.

This study succeeded in aiding the exploration and understanding of some factors that mediate the negative effects of stressors on school-going adolescents. This is the first study of its kind in that it began to explore the use of coping skills and psychological strengths employed by adolescents in the Cape Metropole specifically.

This study forms part of a larger project that will be observing more specific coping strategies and the use of psychological strengths for a specific stressor: that of sibling loss (which falls outside the scope and purvey of the present study). The present study thus provided a contribution towards the larger study. Through the use of cognitive testing of the scales, this study ensured that the questionnaire translations were understood for the population under study in order to validate the scales for the same population.

Furthermore, this study contributed towards the types of mediating variables used by school-going adolescents in the face of stressors. The research may further contribute and help guide the development of interventions to strengthen the existing ones that have the most significant influence on well-being. The study presents the possibility of further exploration as to why the coping strategies did not serve as mediating factors between stress and psychological well-being. Moreover, the study demonstrates the significant influence that psychological strengths have on the psychological well-being of school-going adolescents in relation to mediating stressors.

7.6 Limitations of the study and recommendations for future research

Foremost, the study used cross-sectional data (gathered in a once off-manner), but this rendered it impossible to ascertain whether the patterns observed in terms of the manifestation of — and relationship between — stress, coping, psychological strengths and

psychological well-being were limited to the single occasion of data collection or could be observed across different times. To overcome the shortcomings of the cross-sectional data, it is invariably recommended that longitudinal research be used to observe these patterns of relationships at different times.

Second, given the nature of the study, the quantification of the relationships between observed variables means that the subjective experiences of the variables of stress, coping, psychological strengths and psychological well-being could not be determined. Future research could make use of either qualitative research, or mixed methods, to tap into the subjective experiences for the adolescents regarding these variables. As the subsequent phases of the larger project (of which this first phase is part) involve the qualitative component, where follow-up interviews will be held with school-going adolescents, it is anticipated that the missing 'picture' of the subjective experience will be gleaned.

Third, a notable limitation of the research is that the results were obtained from a small percentage of the South African adolescent population. The research was gathered from three high schools in the Cape Metropole and, therefore, cannot be generalised, as results could be different in other contexts. Future research could include larger, representative samples to observe patterns from different geographical and socio-cultural contexts, both within and outside of the Western Cape province.

Fourth, the study was limited to the school-going adolescent population, rendering it difficult to ascertain whether the observed relationships were applicable to all adolescents or limited only to those in the school context. For this reason, future research ought to consider incorporating adolescents from different contexts, including those not at school. Having only school-going adolescents participate in the present study does not constitute a representative sample of adolescents in South Africa. Often, youth who are more disadvantaged may come

from more dysfunctional families and, consequently, become even more predisposed to school absenteeism — or to abandoning their schooling altogether. Adolescents who were absent from school could have formed part of the sample in order to for it to be more representative. Similar shortcomings were found in a study by Wilson and Somhlaba (2017) in school settings in Ghana where the paucity of research on specific groups and settings for mental health research suggested minimal application in different contexts. They further highlight that research often focuses on mental illness instead of mental health, and that the omission of certain settings, through the conducting of research in school settings and not beyond, impacts on the distribution of already scarce mental health promotion efforts (Wilson & Somhlaba, 2017). The recommendation is that attempts be made to gain access to the out-of-school cohort through community organisations or street intercept methods.

Fifth, the study is limited in that it accounts for only three coping strategies: problem-solving coping, social support seeking coping and avoidant coping. This is because the study is in line with the CSI. As these coping strategies did not prove to bear a significant mediating effect between stress and psychological well-being, it is suggested that other coping strategies — as discussed in previous literature (McWilliams, Cox & Enns, 2003) — be considered, as they may produce more compelling results.

7.7 Overall implications for interventions: Adolescent populations in the school context

Results of this study have various implications for school-going adolescents. Cognisant of the fact that psychological strengths play a major role in mediating stressors, interventions could be designed around further enhancing these strengths (that is, resilience, self-esteem and perceived social suppport). Teachers, parents and loved ones armed with this knowledge can allocate more attention to identifying students whose psychological strengths are weak and help work on improving them. Interventions could also be designed more specifically,

keeping in mind the results of the study. Such interventions could include enhancing the students' resilience and self-esteem by encouraging them to reach out for social support.

School and local psychologists could be employed to assist in working with individuals who exhibit high levels of stress (hopelessness, anxiety or depression) and utilise the results of this study to promote the psychological strengths that aid in mediating the effects of the stressors. Given the high prevalence of stress in school-going adolescents, psychologists could assist in training teachers to identify students who are at-risk of self-harm or are battling to manage their stressors in general. When teachers engage with their students, they could promote the seeking of social support from caring family members, from positive peer groups, from older youth and from other adults such as teachers and youth care workers. Such encouragement has the potential to enhance an adolescent's self-esteem, elevate his/her sense of self-worth and enhance his/her resilience so that he/she is able to manage stressors better.

In terms of what can be done practically to bolster resilience, self-esteem and perceived social support, educational psychologists could be employed in the school context. This has been done in the past, but, according to Kitching (2012), psychologists work mainly with individual adolescents who experience serious problems. It is advised that, owing to a dearth of human recourses, a cognitive shift should take place in order for educational psychologists to engage in the promotion of a more holistic school well-being. In a study by Kitching (2012), the author highlights that the role of an educational psychologist should be to promote holistic school well-being with the intention of becoming an active agent of change and transformation. A broader public understanding that psychologists are professionals who co-construct healthy environments with stakeholders in a pro-active manner with insight into the complexities of human behaviour would help to advance the cause (Kitching, 2018). Again, this can be achieved if the relevant stakeholders keep in mind that psychological strengths must receive particular attention in school, community and home settings. In a study by

Wilson and Somhlaba (2017) in a comparable sample, they indicate the importance of developing personal skills in school settings. These include life skills training to enhance resilience and self-esteem, with a focus on empowering adolescents to be better adapted both personally and socially (Wilson & Somhlaba, 2017).

7.8 Summary of chapter

In the concluding chapter, the researcher discussed the major findings in perspective, the applicability of the theoretical frameworks used, the strengths and contributions of the study, recommendations for future research, limitations of the study and overall implications for interventions for adolescents in the school context.

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Appendices
Appendix A

UNIVERSITY *of the*
WESTERN CAPE

fiYEARS
of hope, & knowledge

19 January 2021

Ms M McCaul and Prof NZ Somhlaba

Psychology

Faculty of Community and Health Sciences

Ethics Reference Number: BM20/9/18

Project Title: The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.

Approval Period: 18 January 2021 — 18 January 2024

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above-mentioned research project.

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

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

Permission to conduct the study must be submitted to the BMREC for record-keeping.

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

Ms Patricia Josias

Research Ethics Committee Officer

University of the Western Cape

Director: Research Development

University of the Western Cape

Private Bag X 17

Bellville 7535

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

Republic of South Africa

Tel: +27 21 959 4111

Email: research-ethics@uwc.ac.za

NHREC Registration Number: BMREC-130416-050

Appendix B

Western Cape Government
Education

Audrey.wyngaard@westerncape.gov.za

tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

REFERENCE: 20190903-8765
ENQUIRIES: Dr A T Wyngaard

Prof Nceba Somhlaba

Department of Psychology UWC

Private Bag X17

Bellville

7535

Dear Prof Nceba Somhlaba

RESEARCH PROPOSAL: THE PSYCHOLOGICAL FUNCTIONING OF SCHOOL-GOING ADOLESCENTS FOLLOWING SIBLING LOSS: DATA FROM TWO PROVINCES OF SOUTH AFRICA

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **05 September 2019 till 23 September 2021**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000

We wish you success in your research.

Kind regards.
Signed: Dr Audrey T Wyngaard
Directorate: Research
DATE: 26 October 2020

Lower Parliament Street, Cape Town, 8001
tel: +27 21 467 9272 fax: 0865902282
33 22
Safe Schools: 0800 45 46 47

Private Bag X9114, Cape Town, 8000
Employment and salary enquiries: 0861 92

www.westerncape.gov.za

Appendix C

UNIVERSITY OF THE WESTERN CAPE
Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959-3713 cell: 27 73-522-8239
E-mail: 3358178@myuwc.ac.za

UNIVERSITY OF THE WESTERN CAPE

17 November 2020

The Principal

Dear Sir/Madam,

Request for your permission to allow us to conduct research in your school

Title of project:

The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.

This serves to request your permission for us to conduct research in your school (As researchers based at the University of the Western Cape, we have already obtained permission from the provincial education department in the province for the project to go ahead – the letter is herewith attached). Our research seeks to validate multiple cognitive instruments within the South African context and, additionally, explore how health-promoting factors (e.g. perceived social support, resilience and self-esteem) influence or mediate the relationship between stress, coping and psychological well-being for these school-going adolescents.

With ethics clearance from the Biomedical Research Ethics Committee (BMREC) from the University of the Western Cape – where the study is registered, in addition to the permission granted by the provincial education departments of the Western Cape (WCED), and with your permission, we will be conducting research on the date(s) and time(s) convenient for your school.

Should you grant us permission, we would be conducting this research anytime in the period spanning **25 January 2021 – 30 September 2021**. We have a set of questions we would like to ask

learners (**aged between 13 and 19 years**) that are in **Grades 8, 9, 10 or 11** regarding their experience of stress, coping and their overall psychological well-being.

We acknowledge that you and your school staff are under no obligation to assist us with the research project, but if you gave us permission for the research to be conducted at your school, we would ask you, or a school teacher you recommend liaising with us, about suitable times to approach learners.

For learners younger than 18 years, we undertake to first seek consent from their respective parents or legal guardians before we make contact with them (learners) for their assent.

If aspects of the research-plan need to be adjusted, we will ensure that we discuss this with you. Contact person **Ms Megan McCaul** (Email: meganmccaul@gmail.com; Cell: 078-471-7109) or **Prof Nceba Z. Somhlaba** (Email: nsomhlaba@uwc.ac.za; Office: 021-959-3713).

Please do not hesitate to contact us in the above contact details if you have any questions or concerns.

Yours sincerely,

Ms Megan McCaul	**Prof. Nceba Z. Somhlaba**
Department of Psychology	Department of Psychology
University of the Western Cape (UWC)	University of the Western Cape (UWC)
REPUBLIC OF SOUTH AFRICA	REPUBLIC OF SOUTH AFRICA

Appendix D

UNIVERSITY *of the* WESTERN CAPE

DEPARTMENT OF PSYCHOLOGY

Private Bag X 17, Bellville 7535, South Africa,
Telephone: (021) 959-2283/2453

Fax: (021) 959-3515 Telex: 52 6661

INFORMATION SHEET

Project Title: The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.

What is this study about?

This is a research project being conducted by Megan McCaul at the University of the Western Cape, under the supervision of Prof Nceba Z. Somhlaba. We are inviting you to participate in this research project because you are between the ages of 13 -19 and currently attending school (in Grades 8-11). The purpose of this research project is to determine if the questionnaires used measures what they intend to measure, if they are reliable and what the relationship is between the variables and psychological well-being.

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

You will be asked to complete all 9 questionnaires to the best of your ability. It will take between 40-60 minutes to complete. If needed there will be a short break in between. The researcher will be present during the completion if any questions or concerns come up. The study will be conducted at your school. After the completion of the questionnaires, some participants will be asked, by the researcher, if they understood all the questions or if there was anything they struggled with.

Would my participation in this study be kept confidential?

The researchers undertake to protect your identity and the nature of your contribution. To ensure your anonymity, identifiable information will be coded, (1) your name will not be included on the surveys and other collected data; (2) a code will be placed on the survey and other collected data; (3) through the use of an identification key, the researcher will be able to link your survey to your identity; and (4) only the researcher will have access to the identification key.

To ensure your confidentiality, all the questionnaires will be locked in filing cabinets, through the use of identification codes, and using password protected computer files. If we write a report or article about this research project, your identity will be protected.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or potential harm to you or others. In this event, we will inform you that we have to break confidentiality to fulfil our legal responsibility to report to the designated authorities.

What are the risks of this research?

There may be some risks from participating in this research study. All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about how stress impacts well-being and what buffering effect coping plays in that relationship. This study will help inform further research on the topic. We hope that, in the future, other people might benefit from this study through improved understanding stress, psychological strengths, coping mechanisms and its relationship with well-being.

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

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

What if I have questions?

This research is being conducted by Megan McCaul, and supervised by Dr. Nceba Somhlaba, from the Psychology Department at the University of the Western Cape. If you have any questions about the research study itself, please contact Megan McCaul at: email: meganmccaul@gmail.com or telephone: 078 471 7109.

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof Anita Padmanabhanunni
Head of Psychology Department
University of the Western Cape
021 959 2282
apadmana@uwc.ac.za

Prof Anthea Rhode
Dean of the Faculty of Community and Health Sciences
University of the Western Cape
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Bellville 7535
chs-deansoffice@uwc.ac.za

Appendix E

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959-3713 Fax: 27 21-959-2826 **E-mail:** nsomhlaba@uwc.ac.za

CONSENT FORM

(for participants aged 18 years and above)

Title of Research Project: *The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.*

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

___ I agree to be audiotaped during my participation in this study.

___ I do not agree to be audiotaped during my participation in this study.

Participant's name……..

Participant's signature……...

Date…….

Biomedical Research Ethics Committee

University of the Western Cape

Private Bag X17

Bellville

7535

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Appendix F

UNIVERSITY OF THE WESTERN CAPE

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Tel: +27 21-959-3713 Fax: 27 21-959-2826 **E-mail:** nsomhlaba@uwc.ac.za

PARENTAL CONSENT FORM

(for parents of learners aged under 18 years)

Title of Research Project: *The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.*

The study has been described to me so that I understand what my child has to do, and I give parental consent for my child to participate in the above research study. I am happy that any questions I asked have been answered. I understand that my child's name will not be used on any form and that she / he may stop participating in the study anytime she / he chooses without giving a reason and that she / he will not be punished in any way for stopping.

___ I agree for my child to be audiotaped during her / his participation in this study.

___ I do not agree for my child to be audiotaped during her / his participation in this study.

Parent's name……
Parent's signature……..
Date……

Biomedical Research Ethics Committee

University of the Western Cape

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Appendix G

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959-3713 Fax: 27 21-959-2826 **E-mail:** nsomhlaba@uwc.ac.za

ASSENT FORM

(for participants aged under 18 years)

Title of Research Project: *The validation of the scales measuring stress, coping, psychological strengths and psychological well-being in school-going adolescents in the Cape Metropole: Cognitive testing of the measures.*

The study has been described to me so that I understand what I have to do, and I agree to participate in the above research study. I am happy that any questions I asked have been answered. I understand that my name will not be used on any form and that I may stop participating in the study anytime I choose without giving a reason and that I will not be punished in any way for stopping.

___ I agree to be audiotaped during my participation in this study.

___ I do not agree to be audiotaped during my participation in this study.

Participant's name……

Participant's signature…….

Date……

Biomedical Research Ethics Committee

University of the Western Cape

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APPENDIX H: DEMOGRAPHIC QUESTIONNAIRE

Date: _____

Instructions: Indicate by ticking the responses that are applicable to you (or by filling in the information required of you).

1. **Age:** _____

2. **Sex:** ☐ male ☐ female

3. **Population group:** ☐ African ☐ Coloured ☐ Indian ☐ White ☐ Other____

4. **School grade:** Grade 8 ☐ Grade 9 ☐ Grade 10 ☐ Grade 11 ☐

5. **Home language:** ☐ English ☐ Afrikaans ☐ isiXhosa ☐ Sesotho
☐ Other (specify)_____

6. How would you describe your (and your family's) religious affiliation?

☐ Christianity ☐ Islam ☐ African ancestry ☐ Jewish ☐ Hindu

☐ Other (specify)_____

7. Who do you live with at home?

☐ Only with mother ☐ Only with father ☐ With both parents only

☐ With mother/father and siblings ☐ Only with siblings ☐ Only with relatives

8. How do you feel about your family's financial circumstances?

We never struggle to pay the bills	
We sometimes struggle to pay the bills	
We always struggle to pay the bills	

9. Have you ever had to skip a meal or not (because of insufficient food) in the past month?

I have never had to skip a meal	
I have had to skip a meal before	

APPENDIX I

BECK DEPRESSION INVENTORY - SECOND EDITION (BDI-II)

This questionnaire consists of 21 group of statements. Please read each group of statements carefully, and then pick out the **one statement** that best describes how you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number in that group, including Item 16 (Changes in Sleep Patterns) or Item 18 (Changes in Appetite).

1. SADNESS

0	I do not feel sad.	
1	I feel sad much of the time.	
2	I am sad all the time.	
3	I am so sad or unhappy that I can't stand it.	

2. PESSIMISM

0	I am not discouraged about my future.	
1	I feel more discouraged about my future than I used to be.	
2	I do not expect things to work out for me.	
3	I feel my future is hopeless and will only get worse.	

3. PAST FAILURE

0	I do not feel like a failure.	
1	I have failed more than I should have.	
2	As I look back, I see a lot of failure.	
3	I feel I am a total failure as a person.	

APPENDIX J **BECK ANXIETY INVENTORY (BAI)**

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	NOT AT ALL	MILDLY - BUT IT DIDN'T BOTHER ME MUCH	MODERATELY - IT WASN'T PLEASANT AT TIMES	SEVERLY - IT BOTHERED ME A LOT
1. NUMBNESS OR TINGLING	0	1	2	3
2. FEELING HOT	0	1	2	3
3. WOBBLINESS IN LEGS	0	1	2	3

APPENDIX K

BECK HOPELESSNESS SCALE (BHS)

Please indicate if any of the following statements are true or false for you.

1	I look forward to the future with hope and enthusiasm	TRUE	FALSE
2	I might as well give up because I can't make things better myself.	TRUE	FALSE
3	When things are going badly, I am helped by knowing they can't stay that way forever.	TRUE	FALSE

Appendix L **COPING STRATEGY INDICATOR (CSI)**

We are interested in how people cope with the problems and troubles in their lives. Listed below are several possible ways of coping. We would like you to indicate to what extent you, yourself, used each of these coping methods. All of your responses will remain anonymous. Try to think of one problem you have encountered in the last six months or so. This should be a problem that was important to you, and that caused you to worry (anything from the loss of a loved one to a traffic citation, but one that was important to you. please describe this problem in a few words (remember, your answer will be kept anonymous):_____

With this problem in mind, indicate how you cope by checking the appropriate box for each coping behaviour listed on the following pages. Answer each and every question even though some may sound similar. Did you remember to write down your problem? If not, please do so before going on.

	A lot	**A little**	**Not at all**
1. Let your feelings out to friend?	3	2	1
2. Rearranged things around you so that your problem had the best chance of being resolved?	3	2	1
3. Brainstormed all possible solutions before deciding what to do?	3	2	1

APPENDIX M Multidimensional Scale of Perceived Social Support

Instructions

Please read each statement and **circle** a number 1, 2, 3, 4, 5, 6 or 7 which indicates how much the statement applies to you (regarding your important relationships).

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly Agree
1. There is a special person who is around when I am in need	1	2	3	4	5	6	7
2. There is a special person with whom I can share joys and sorrows	1	2	3	4	5	6	7
3. My family really tries to help me	1	2	3	4	5	6	7

APPENDIX N Child and Adolescents Resilience Measure

Instructions

Please read each statement and **circle** a number 1, 2, 3, 4, or 5, which indicates how much the statement applies to you.

	1 **Not at all**	**2** **A little**	**3** **Somewhat**	**4** **Quite a bit**	**5** **A lot**
1. I have people to look up to	1	2	3	4	5
2. Getting an education is important to me.	1	2	3	4	5
3. My parent(s)/ caregiver(s) know a lot about me.	1	2	3	4	5
4. I enjoy my community's traditions.	1	2	3	4	5

APPENDIX O	**Rosenberg Self-Esteem Scale**
Instructions Please read each statement and **circle** a number 1, 2, 3, or 4, which indicates how much the statement applies to you.	

	1 **Strongly agree**	**2** **Agree**	**3** **Disagree**	**4** **Strongly disagree**
1. I feel that I am a person of worth, at least on an equal basis with others.	1	2	3	4
2. I certainly feel useless at times.	1	2	3	4
3. At times I think I am no good at all.	1	2	3	4

APPENDIX P Psychological Well-Being Scale (PWB)*

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

	1 **Strongly disagree**	**2** **Disagree**	**3** **Slightly disagree**	**4** **Mixed (Neither agree nor disagree)**	**5** **Slightly agree**	**6** **Agree**	**7** **Strongly agree**
1. My life is full of purpose and meaning.	1	2	3	4	5	6	7
2. My friends and other people give me support and rewards.	1	2	3	4	5	6	7
3. I have interest and participate fully in my daily activities.	1	2	3	4	5	6	7

**With permission from the author (Prof Ed Diener), some items have been slightly adapted for, and 'toned down' to, the adolescents' understanding.*

Appendix Q