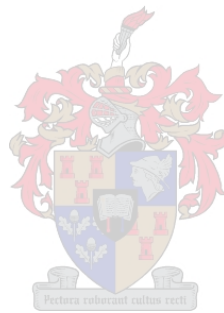


**PSYCHOLOGICAL STRENGTHS MEDIATING THE STRESS-COPING
EXPERIENCE: IMPLICATIONS FOR MENTAL HEALTH IN
SCHOOL-GOING ADOLESCENTS FROM LOW-INCOME
COMMUNITIES OF THE CAPE METROPOLE**

by

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*Dissertation presented for the degree of Doctor of Philosophy in the Faculty of Arts and
Social Sciences at Stellenbosch University*

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March 2020

Declaration

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March 2020

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Abstract

South African research has paid scant attention to the role of psychological strengths in coping with stress and the impact these have on the overall mental health of adolescents living low-income communities. However, an understanding of the role of psychological strengths in mediating the impact of stress on the mental health of adolescents is necessary as it could indicate those factors that may be pivotal to interventions targeting mental-health promotion and mental-illness prevention for vulnerable adolescents. The present study investigated the mental health of school-going adolescents who reside in low-income communities of the Cape Metropole (Western Cape, South Africa), with a specific focus on psychological strengths (in particular self-esteem, perceived social support and resilience) and their mediating role on the stress-coping process.

The first manuscript of the study focuses on providing a synthesis of current literature, existing gaps in the literature and identifying avenues for mental-health promotion for at-risk adolescents.

I used randomised cluster sampling to select six no-fee paying schools situated in low-income communities of the Cape Metropole as the sites for data collection. For the second (quantitative) manuscript, the questionnaire-responses of 347 participants (aged 12 to 21 years), were used. I used Structural Equation Modelling to test a hypothesised model including the latent variables of mental health, psychological stress, psychological strengths (self-esteem, perceived social support and resilience) and various coping strategies. The hypothesised measurement model fit the data and the structural relations revealed that the relationship between psychological stress and mental health was fully mediated by psychological strengths. Therefore psychological strengths had a protective impact on the mental health of adolescents who experienced psychological stress in the context of socio-economic adversity.

The third (qualitative) manuscript of the study focused on highlighting participants' personal narratives of stressors, stress, coping, psychological strengths and mental health that were explored by means of individual semi-structured audio-recorded interviews with 14 participants (aged 13 to 17 years) from four schools. Following the thematic analyses of the data the following themes were evident: the community as a source of stress and support, peer relationships as a source of stress, fear of failure at school, avoidant coping as a risk factor, self-esteem as a protective factor, perceived social support and support networks as protective factors and problem-solving coping as a protective factor.

I have included a fourth qualitative manuscript to underscore the numerous violence-related stressors that the adolescents who participated in the study encountered. Thus, the latter descriptive manuscript explored the written responses of 150 school-going adolescents (aged 13 to 21 years), drawn from three schools situated in three different low-income areas of the Cape Metropole regarding the violence they had witnessed in their communities. Thematically analysed written responses that emerged from the adolescent voices, could be subsumed under five violence-related themes discussed in Chapter 6.

This study adds to the knowledge on South African adolescents' mental health, in the context of socio-economic adversity. The findings can be used to inform strategies aimed at enhancing mental health and preventing mental illness in at-risk adolescents.

Opsomming

Suid-Afrikaanse navorsing het tot dusver weinig aandag geskenk aan die rol van sielkundige sterkpunte in die hantering van stres, en die impak daarvan op die algehele geestesgesondheid van adolessente in lae-inkomstegemeenskappe. Tog is dit noodsaaklik om te verstaan hoe sielkundige sterkpunte die impak van stres op adolessente se geestesgesondheid bemiddel. Dít kan immers op kernfaktore vir intervensies ter bevordering van geestesgesondheid en ter voorkoming van geestesiekte by kwesbare adolessente dui. Hierdie studie het die geestesgesondheid van skoolgaande adolessente in lae-inkomstegemeenskappe van die Kaapse metropool (Wes-Kaap, Suid-Afrika) ondersoek, met 'n bepaalde klem op sielkundige sterkpunte (veral selfagting, veronderstelde maatskaplike steun, en veerkragtigheid) en die bemiddelende rol daarvan in die streshanteringsproses.

Die eerste manuskrip van die studie bied 'n sintese van huidige literatuur, bestaande leemtes in die literatuur, en moontlikhede om die geestesgesondheid van adolessente-in-gevaar te bevorder.

Verewekansigde trosssteekproefneming is gebruik om ses nie-skoolgeldskole in lae-inkomstegemeenskappe van die Kaapse metropool as data-insamelingsterreine te kies. Vir die tweede (kwantitatiewe) manuskrip is die vraelysantwoorde van 347 (12- tot 21-jarige) deelnemers gebruik. 'n Gehipoteseerde model met die latente veranderlikes van geestesgesondheid, sielkundige stres, sielkundige sterkpunte (selfagting, veronderstelde maatskaplike steun en veerkragtigheid) en verskeie hanteringstrategieë is met behulp van strukturele vergelykingsmodellering getoets. Die gehipoteseerde metingsmodel was 'n goeie passing vir die data, en die strukturele verbande het aan die lig gebring dat die verwantskap tussen sielkundige stres en geestesgesondheid ten volle deur sielkundige sterkpunte bemiddel word. Sielkundige sterkpunte het dus 'n beskermende impak op die geestesgesondheid van adolessente wat teen die agtergrond van sosio-ekonomiese teenspoed stres ervaar.

Die derde (kwalitatiewe) manuskrip van die studie handel oor deelnemers se persoonlike verhale van stressors, stres, streshantering, sielkundige sterkpunte en geestesgesondheid, wat deur middel van individuele, semigestruktureerde onderhoude met 14 (13- tot 17-jarige) deelnemers van vier skole ondersoek en op band opgeneem is. Die volgende temas het uit die tematiese data-ontledings geblyk: die gemeenskap as 'n bron van stres en steun, portuurverhoudings as 'n bron van stres, vrees vir mislukking op skool, vermydingshantering as 'n risikofaktor, selfagting as 'n beskermende faktor, veronderstelde maatskaplike steun en steunnetwerke as beskermende faktore, en probleemoplossingshantering as 'n beskermende faktor.

Daarbenewens word 'n vierde kwalitatiewe manuskrip ingesluit om die menigte geweldverwante stressors te beklemtoon waarvoor die adolessente studiedeelnemers te staan kom. Hierdie deskriptiewe manuskrip verken 150 skoolgaande (13- tot 21-jarige) adolessente se geskrewe reaksies oor die geweld wat hulle al in hulle gemeenskappe moes aanskou. Die 150 adolessente is uit drie skole in drie verskillende lae-inkomstegebiede van die Kaapse metropool gekies. Die tematies ontlede reaksies van hierdie adolessente kan onder vyf geweldverwante temas ingedeel word, wat in hoofstuk 6 aan bod kom.

Hierdie studie dra by tot kennis oor die geestesgesondheid van Suid-Afrikaanse adolessente teen die agtergrond van sosio-ekonomiese teenspoed. Die bevindinge kan gebruik word as 'n grondslag vir strategieë om die geestesgesondheid van adolessente-in-gevaar te verbeter en geestesiekte by dié groep te voorkom.

Statement Regarding Scholarships and Manuscripts in the Dissertation

The organisations listed below supported this doctoral study. Opinions expressed and conclusions arrived at, are those of the author and are not to be attributed to the organisations below:

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It should be noted that manuscript 1 (Chapter 3) was published in *Child Care in Practice*. The manuscripts presented in Chapters 4, 5, and 6 are currently (January 2020) unpublished. There is some duplication in the dissertation and manuscripts pertaining to the literature review, methodology and results sections.

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Chapter 1: Introduction

It is worth noting that the following dissertation is in the format of a range of traditional chapters as well as a collection of scholarly articles. The present chapter introduces the focus of this dissertation. In brief, this dissertation is based on a doctoral research that I undertook which focused on the aspects of mental health of school-going adolescents who reside in Cape Town, South Africa's socio-economically adverse communities. The inquiry was focused on an investigation of the psychological strengths that may mediate the impact of psychological stress on adolescents' mental health. The present chapter introduces this topic by providing the background to the study, the motivation and rationale for the study, the problem statement which is followed by a presentation of the aims and objectives of the study. This discussion is followed by an outline of the scope of the study and the chapter will conclude with an outline of the layout of the dissertation.

1.1. Background of the Study

Adolescence is described as a period of psychosocial transition (Gouws, 2014; Louw & Louw, 2014), with its unique biopsychosocial demands that include puberty, cognitive changes, facing the demands of peer and parent relationships (Dashiff, Dimicco, Myers, & Sheppard, 2009; Gouws, 2014; Najman et al., 2010), and grappling with identity and the different roles of this stage of life (Erikson, 1968). In addition to coping with these potentially psychological stress-inducing demands, adolescents residing in South Africa's low-income communities are exposed to an array of poverty-related stressors (Harrison, Loxton, & Somhlaba, 2019a) as they are particularly vulnerable to experiencing the scourge of poverty affecting more than half of the South African population (Statistics South Africa, 2017). Notably, living in socio-economically adverse communities has been found to be contributing to the symptoms of depression (De Carlo Santiago, Wadsworth, & Stump, 2011; Najman et al.,

2010; Wadsworth & Berger, 2006) and anxiety (De Carlo Santiago et al., 2011; Mostert & Loxton, 2008), all which may adversely impact on adolescents' biopsychosocial health, and in the context of this study, their overall mental health state.

As stated above, poverty affects more than half of the South African population, and children and adolescents under the age of 17 are most vulnerable to being affected by virtue living in conditions characterised by poverty (Statistics South Africa, 2017). Concerningly, numerous South African adolescents are affected by a vast range of cumulative stressors as summarised by Harrison et al. (2019), including teenage pregnancy, substance abuse, violence, HIV/AIDS and school drop-out alongside their experience of limited resources. The exposure to, and experience of, various stressors embedded in the adolescents' socio-economically adverse environments may manifest in psychological stress symptoms such as depressive- (Najman et al., 2010; Wadsworth & Berger, 2006) and anxiety symptomology (De Carlo Santiago et al., 2011; Mostert & Loxton, 2008; Muris et al., 2006), both of which threaten the mental health state of these vulnerable adolescents.

It is noteworthy that the available literature on stress and coping, suggests that the management of a stressful encounter for at-risk adolescents facing adversity, is deemed as contingent on the use of, and reliance on, psychological strengths, which mediate the negative impact of stress on mental health, resulting in healthy psychological outcomes (Nepomuceno, Cardoso, Ximenes, Barros, & Leite, 2015). Evidently, research has focused on psychological strengths, such as self-esteem (Behnke, Plunkett, Sands, & Bámaca-Colbert, 2011), resilience (Skrove, Romundstad, & Indredavik, 2013), perceived social support (Smokowski, Evan, Cotter, & Guo, 2014) and certain coping abilities (Wadsworth & Berger, 2006), as being inversely related to mental ill health. However, research has paid scant attention to the role of these psychological strengths in coping with psychological stress and the impact that these psychological strengths may have on the overall mental health of adolescents who experience

socio-economic adversity. Such an investigation is warranted, as it could shed light on the psychological strengths that may act as protective resources to the mental health of adolescents experiencing stress, which may contribute to mental health promotion and strategies focused on the prevention of mental illness for adolescents living in socio-economically adverse contexts. It is worth underscoring that this view of adolescent mental health acknowledges the role of the adolescents in effecting their own developmental outcomes, namely through their coping efforts and via their psychological strengths.

In light of the international and local research gap on the relationship between stress, psychological strengths and coping for adolescents living in socio-economically adverse South African contexts, the aim of the present study was to explore the mental health of school-going adolescents residing in socio-economically adverse communities of Cape Town in the Western Cape, with specific focus on the mediating role of psychological strengths on the stress-coping experience.

1.2. Significance of the Research Study: A Glimpse into the Potential of Investigating the Role of Psychological Strengths for Vulnerable Adolescents in Cape Town

The multiple theoretical frameworks that will be presented in the dissertation seem to suggest that mental health is influenced by the dynamic interaction between risk and protective factors that have an impact on adolescents. For example, the Ecological Model (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2007) suggests that the pathways to mental health are influenced by a dynamic interplay between risk and protective factors that are either individual or environmental. The examination of these risk and protective factors is argued as requiring consideration on various levels (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2007). As noted earlier in this chapter, the present study acknowledges the interplay between various factors affecting vulnerable adolescents and focuses particularly on identifying those

psychological strengths that may have a positive influence on coping efforts and mental health outcomes. Below I discuss the rationale for investigating the mediating role of psychological strengths on the mental health of vulnerable adolescents.

The study of the individual and collective impact of psychological strengths is warranted for adolescents living in high-risk socially-economically adverse contexts in Cape Town, South Africa particularly because there is a dearth of research focused on this subject. For psychology in Africa to be applied and relevant, and especially because of the high prevalence rate of poverty in the country (Statistics South Africa, 2017), a study of this nature is necessary.

It is also important to consider the unique context in which these vulnerable South African adolescents find themselves, and the potential impact this has on the adolescents' mental health. For instance, while the World Bank (2016) categorises South Africa as an upper, middle-income country, the many adolescents' daily lives are characterised by socio-economic adversity (Statistics South Africa, 2014, 2017). In the low-income communities of South Africa, which include the Cape Metropolitan area, adolescents may find it challenging to focus on their school-work, as they may be preoccupied with concern for their families' well-being (Gouws, 2014), or may feel responsible for and might end up seeking employment that they believe would help them in contributing financially to their households and families (Harrison, 2014). These thoughts as well as the limited employment opportunities and high rates of community unemployment (Gouws, 2014), as well as the other social stressors (e.g. the impact of HIV/AIDS on family life) may render adolescents despondent and distressed.

Adolescents residing in low-income communities of the Western Cape also experience high exposure to violence (at school, in the neighbourhood, and gang and police violence), which is related to distress (Shields, Nadasen, & Pierce, 2008), with these communities in the Cape Metropole having some of the highest reported incidents of drug-related crime in South

Africa (Haefele, 2011). These findings suggest the importance of research that fosters an understanding of the stress-coping experiences for adolescents in this context, as outcomes of mental illness may negatively affect their holistic well-being (Patel, Flisher, Hetrick, & McGorry, 2007).

An understanding of the impact of psychological strengths on psychological functioning, may assist in decreasing the adverse impact of psychological stress on the mental health of at-risk adolescents (Amone-P'Olak et al., 2009), through interventions that strengthen psychological resources. It should be acknowledged that, while previous research enquiries have underscored the promotion of mental health and the prevention of mental illness in communities affected by socio-economic adversity (Flisher & Gevers, 2010), no study was located that focused primarily on the individual and collective impact of the variables, self-esteem, perceived social and resilience (as psychological strengths) on at-risk South African adolescents' stress-coping processes. This enquiry has the potential to advance research into which strategies can be employed to aid adolescents' mental health in at-risk South African contexts. Moreover, I argue that if these psychological strengths mediate the impact of stress on adolescents' mental health states, these strengths can be enhanced via structured, cost-effective, and short-term interventions. This study therefore was motivated by its potential impact on interventions that would promote mental health or prevent mental illness among vulnerable adolescents in socio-economically adverse communities in South Africa.

1.3. Operational Definitions of Key Concepts

This section presents the operational definitions of the key concepts used in this study.

1.3.1. Adolescence.

As noted, adolescence involves several changes as the adolescent transitions to adulthood (Gouws, 2014; Louw & Louw, 2014), with these changes being both intrapersonal

and interpersonal in nature. Adolescents experience pubertal changes (Santrock, 2001) marked by rapid body growth, the enlargement and maturation of sexual organs and physical characteristics of sexual maturation appear (Gouws, 2014). Moreover, adolescence is also associated with cognitive changes such as the development of abstract thought, hypothetical-deductive thinking, and the development of concerns regarding identity (as part of Piaget's conceptualisation of the formal operational phase that occurs between approximately 11 to 15 years of age) (in Gouws, 2014).

Moreover, identity formation is pertinent in adolescent psychosocial development, with adolescents examining who they are, while simultaneously grappling with what direction their lives will take (Santrock, 2001). This is part of Erikson's (1968) conceptualisation of the fifth stage of development, with the psychosocial crises being *Identity vs Role Confusion*. During this stage, adolescents grapple with the different roles that they fulfil during this phase of life and should they adapt successfully to the different roles they are faced with, then they would have a renewed sense of self. In contrast, when adolescents do not resolve this crisis, they are termed as having *role confusion*, which may manifest in withdrawal from peers and family or in adolescents becoming part of peer-network in which they lose their sense of identity in this group (Santrock, 2001). Adolescence is further argued as a period when adolescents need to:

...adapt socially, manage sound relationships with others, control emotions and express both their emotions and themselves as individuals in socially acceptable ways. They have to develop a personal set of values in a world of conflicting values. They have to make moral decisions and decide whose values are right and whose are wrong. Sound emotional development is a prerequisite for this (Gouws, 2014, p. 112).

These typical relationship-focused, emotional, value-focused and moral-focused tasks also need to be navigated by the adolescent as they transition from childhood to adulthood.

In the present study, we acknowledge that adolescence is a phase characterized by various developmental changes and suggest that adolescence involves the time period spanning from approximately age 12 to 18 years as conceptualised by Newman and Newman (1995), but we also acknowledge that some adolescents may be up to 21 years of age, which is a stage that some of the participants in the current study was a part of.

1.3.2. Mental health.

Conceptualisations of mental illness can be traced back to the pre-historic age when supernatural entities (i.e. evil spirits or demons) were believed to have taken control of an individual when they displayed abnormal behaviour (Bridley & Daffin, 2018). In contrast, 19th century Western ideologies positioned mental illness as physical, and as always tied to physical health (i.e. John P. Grey as discussed by Bradley & Daffin, 2018). In subsequent years (and largely dominant and characteristic of current positioning of mental health), psychological views emerged and conceptualised emotional or psychological factors as resulting in mental illness (Bridley & Daffin, 2018). At present, a conceptualisation is offered by the American Psychiatric Association (APA, 2018) which defines mental illness as those “...health conditions involving changes in emotion, thinking or behaviour (or a combination of these). Mental illnesses are associated with distress and/or problems functioning in social, work or family activities” (APA, 2018, para.1).

The APA further offers a conceptualisation of what a healthy mental health state refers to and outlines mental health as related to effective daily functioning, forming healthy relationships and adaptability in the face of changes and adversity (APA, 2018). This definition touches on some of the key aspects of the holistic theory of a mental health state that will be used in this dissertation. Notably, the World Health Organisation (2014) defines mental health as “a state of well-being in which every individual realizes his or her own potential and can

cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (World Health Organization, 2014, para.1). This definition is utilised in the present study as it is characteristically holistic in its approach to mental health and assumptions regarding what are considered deviations from healthy functioning. What is of particular importance in this definition is that mental health is referred to as a state of well-being and symptoms of psychological stress such as depressive and anxiety symptoms are risk factors that threaten the state of mental health in adolescents, but itself does not constitute their level of mental health.

1.3.3. Psychological stress.

The following dissertation makes reference to psychological stress throughout as it acts as one of the key variables. Psychological stress is a concept that does not simply refer to what has been commonly referred to as “stress”, such as feeling overwhelmed, significantly worried and having an emotional reaction with particular biochemical, physiological and behavioural changes (American Psychiatric Association, 2019). Instead, psychological stress is a term used by Lazarus and Folkman to describe “...a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p.19). It is imperative to note that explicit reference to psychological stress/ stress throughout the dissertation refers to the latter definition.

The experience of psychological stress is informed by a process of cognitive appraisal: primary and secondary appraisal (Lazarus & Folkman, 1984). Through primary appraisal the individual makes a judgement about the impact that a specific circumstance or event in their environment may have on their well-being. When an individual perceives their transaction with the environment as a challenge, manifesting in harm or loss or threatening their well-being,

this leads to what is termed “stress appraisals” but which I will refer to as “psychological stress appraisals”. The cognitive appraisal process also involves an individual’s evaluation of the coping options they have available (secondary appraisal), the likelihood that using that coping strategy will accomplish coping goals and the likelihood that they can effectively apply specific coping strategies.

Psychological stress can manifest as different symptoms that constitute a problematic person-environment transaction that an individual perceives as having a threatening impact on their well-being (i.e. anxiety symptoms related to high levels of gang violence in the community). It has also been suggested that this (person-environment) transaction may also take its toll on the individual (i.e. depressive symptoms following the loss of a friend due to gang violence; Harrison, Loxton and Somhlaba, 2019b).

1.3.4. Depression and anxiety symptoms as indicators of psychological stress.

It is important to acknowledge that the present study makes reference to psychological stress, which may manifest in depression and anxiety symptoms. A continuum exists between psychological stress symptoms (i.e. depressive symptoms or anxiety symptoms) and mental health disorders. In this case symptoms of depression/ anxiety do not necessarily constitute a mental disorder. Brief definitions of depressive and anxiety symptoms follow below.

1.3.4.1. Symptoms of depression

Depression is deemed the global cause of disability worldwide (World Health Organization, 2018). Many adolescents may be one of the 300-million individuals globally who suffer from depression (World Health Organization, 2018). Moreover, due to the risk that depression and its associated symptomology poses on the overall mental health and well-being of adolescents, it is imperative to investigate this symptomology. This study explored the

presence of depressive symptoms in adolescents and essentially these symptoms may allude to some adolescents who are currently experiencing diagnosed or undiagnosed depression, or it may act as risk factors for developing depression. Symptoms of depression may manifest in individuals experiencing "...a lack of interest and pleasure in daily activities, significant weight loss or gain, insomnia or excessive sleeping, lack of energy, inability to concentrate, feelings of worthlessness or excessive guilt and recurrent thoughts of death or suicide" (American Psychological Association, 2019).

Socio-economic adversity has been found to be associated with depressive symptomology (De Carlo Santiago et al., 2011; Najman et al., 2010), which holds negative consequences for adolescents' mental health. This study explores the depressive symptomology experienced by adolescents who endure socio-economic adversity and intends to investigate whether psychological strengths may buffer the impact of these symptoms on adolescents' mental health. When depressive symptomology is referred to in this dissertation, it relates to the previously mentioned symptoms of depression.

1.3.4.2. Symptoms of anxiety

As noted previously, the present study explored levels of anxiety symptomology instead of diagnosing any anxiety disorder. The literature alludes to a challenge in defining anxiety as a normal reaction as opposed to considering it as a form of pathology (Evans et al., 2012). Moreover, anxiety may play a protective and adaptive role in reaction to danger (APA, 2017b; Evans et al., 2012).

Certain developmental challenges faced by adolescents may manifest in anxiety but some may be able to cope with these challenges adaptively, while other adolescents may have pathological reactions. For example, while an adolescent may be concerned about social encounters involving peers, excessive worry and rumination about events of this nature may

be an indicator of pathology (Evans et al., 2012). The levels of anxiety symptomology, the context in which these emerge and the nature and impact it has on adolescents are therefore important considerations related to the study of anxiety. This is mirrored in the APA's (2017b) contention that an anxiety diagnosis is related to fears or anxiety symptoms that are out of proportion with regard to the context, are inappropriate or interfere with normal functioning.

Socio-economic adversity has been linked to anxiety symptomology (De Carlo Santiago et al., 2011; Mostert & Loxton, 2008; Muris et al., 2006), which has adverse implications for adolescents' mental health states. The present study sought to ascertain the impact that levels of anxiety symptomology have on adolescents who endure socio-economic adversity and intended to broaden an understanding of individual-level resources that may counteract these symptoms and be instrumental in the prevention of anxiety disorders. The conceptualisation of anxiety presented in this section has been used throughout this dissertation.

1.3.5. Coping strategies.

Coping is a key component of the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), which has already been referred to previously. Lazarus and Folkman (1984) define coping as a process entailing the "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). The appraisal process that activates the coping process has already been described in the sub-section of 'psychological stress'.

The constantly evolving cognitive and behavioural attempts to manage a stressor/ stress response may manifest in two forms of coping (Lazarus & Folkman, 1984), emotion-focused coping and problem-solving coping. The adolescents' cognitive processes that are aimed at decreasing their emotional stress is referred to as emotion-focused coping. Through these

cognitive strategies, adolescents can alter the way that they perceive an event through a form of cognitive reframing, which may result in a decrease of their threat/ harm perceptions. It is worth noting that this process does not involve changing any aspects of the circumstance or event encountered, but rather perceptions related to the circumstance or event. Adolescents may also cope by means of avoidance, withdrawal, distancing and minimisation (Lazarus & Folkman, 1984).

In contrast to emotion-focused coping, problem-focused coping has been conceptualised as a process in which the individual actively manages their psychological stress symptoms and/or aspects of the circumstance or event they are encountering (Lazarus & Folkman, 1984). These coping strategies may be focused on the individual's context of interaction, such as addressing a stressor or activating a social support resource. Moreover, these efforts may be self-directed such as the individual learning new skills to aid their coping. The pertinent feature of problem-focused coping is that the individual applies certain coping behaviours in order to actively address psychological stress symptoms or a stressor, while emotion-focused coping involves cognitive strategies for managing psychological stress symptoms or perceptions regarding a circumstance/ event. There is, therefore, a range of responses to stress/ stressors that can be activated by an individual when deemed necessary (Freydenberg, 1997). In this dissertation, I make reference to three coping strategies, namely *problem-solving coping*, *social support-seeking coping* and *avoidant coping*. These are the coping strategies proposed in Amirkhan's (1990, 1994) taxonomy of coping, which forms the basis of the Coping Strategy Indicator (CSI), a measure that was used in the present study.

It should be acknowledged that an individual's coping process is informed by psychological strengths, which can act as a buffer in the context of psychological stress experiences. These psychological strengths are described in the following sub-section.

1.3.6. Psychological strengths.

An individual's management of the stress-coping process is informed by the resources that they perceive as available to them, with Lazarus and Folkman making reference to problem solving skills, social skills, material resources and beliefs about control as examples of these resources (Lazarus & Folkman, 1984). Seiffge-Krenke (1995) corroborates this and notes that there are certain resources that act as determinants that influence the manner in which stress is addressed, either through problem-focused (active reflection on possible solutions) or emotion-focused strategies (withdrawal and focus on the negative impact of the psychological stress experienced).

In agreement with the aforementioned notions, I also hold the view of Lazarus and Folkman about there being a constant, dynamic interaction between the individual and their environment (Lazarus & Folkman, 1984), which I argue affects development, adaptation and the overall mental health states of adolescents in the present study. This view on mental health outcomes is based on the lens provided by the developmental psychopathology approach, namely that in order to understand the complexity of development there should be an acknowledgement of the individual and contextual risk and protective factors that impact on mental health outcomes (Causadias & Cicchetti, 2018). Moreover, my assumption of mental health outcomes is also aligned to a Systems Theory positioning of a reciprocal relationship between an individual and their environment, and the risk and protective resources affecting well-being at different levels (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2007). Certain theorists have emphasised the importance of maintaining an holistic approach to the study of development, adaptation and mental health (for example. Bronfenbrenner & Morris, 2007; Causadias & Cicchetti, 2018; Lazarus & Folkman, 1984). The present study, therefore, did not only focus on individual and environmental risk factors that affect vulnerable adolescents, but

also focused on the individual-level psychological strengths that may positively impact on mental health.

I argue that there are multiple risk factors that may affect adolescents, at the appraisal level (i.e. considerations of the impact of a stressor, such as limited food resources and food insecurity) as well as when psychological stress is appraised (i.e. and manifests in symptoms of depression). However, certain individual-level protective resources can be argued as exerting a mediating role on the stress-coping process. In other words, protective resources are those internal strengths (i.e. self-esteem) possessed by an adolescent, or strengths utilised by them that informs their coping process and therefore may mediate the impact of psychological stress symptoms (i.e. of depression and anxiety) on their overall mental health state. I have termed these individual-level resources as psychological strengths and I have positioned self-esteem, perceived social support and resilience as the psychological strengths that may mediate the impact of psychological stress on adolescents' mental health states. Notably, I acknowledge below that resilience is not a trait, but a process and acts as a psychological strength when activated in the context of a certain stressor or psychological stress.

Below, I will provide definitions of the three psychological strengths that will be central in the study, these are *self-esteem*, *perceived social support* and *resilience*. Because these constructs will be discussed at length in the chapters throughout this dissertation, the sections below only provide brief definitions, in order to avoid redundancy.

1.3.6.1. Resilience

A consideration of the role of psychological strengths mediating the relationship between psychological stress and mental health is premised on the idea that the successful adaptation in the context of adversity (known as resilience; Garmezy, 1991) may positively affect the mental health of distressed adolescents. Resilience involves the process of adapting

well and withstanding the stressors experienced, which could explain its relation to reduced depression and anxiety in adolescents (Skrove et al., 2013). This positions resilience as instrumental in the stress-coping process of adolescents and consequently, the present study explored the role of resilience as mediating the stress-coping process. The definition of resilience as described in this paragraph was used throughout the study.

1.3.6.2. Perceived social support

Also tied to the consideration of psychological strengths in stress, coping and mental health are the perceptions of available social support when confronted with stress, which refer to an individual's appraisal of, and belief that, help from others will be available to them if they are in need (Norris & Kaniasty, 1996). Through perceived social support, individuals are able to determine the available avenues for enlisting support from, sharing with, and confiding in, significant others in times of need and, with the perceived availability of others to help, perceive the ability to cope with a stressor (Dunkel-Schetter & Bennet, 1990; Lewis, Abramovitz, Koenig, Chandwani, & Orban, 2015; Smokowski et al., 2014). The present study explored the role of perceived social support as mediating the relationship between psychological stress and mental health, and was hypothesised to have a positive impact on adolescents' mental health (as it would act as a psychological strength). Informing this inquiry was the conceptualisation of perceived social support described in this sub-section.

1.3.6.3. Self-esteem

Self-esteem (perceptions of one's own competence in the face of challenges, which contributes to their views on self-efficacy; Rosenberg, 1965) is another valuable psychological strength that may aid an adolescent when they experience stress. The protective role of self-esteem is evident in the research that contends that high self-esteem positively influences

adolescent mental health, with low-self-esteem being a risk factor for depression – as those with low self-esteem are likely to have deficient perceptions of worth and adequacy, increasing their vulnerability to experiencing psychological stress (Behnke et al., 2011). An exploration of the role of self-esteem, particularly for at-risk adolescents is necessary, given the critical role self-esteem-enhancing interventions could play in uplifting adolescents from low-income communities. The definition of self-esteem described in this paragraph will be used throughout this dissertation.

1.4. Aims of the Study

The main aim of the proposed study was to explore the mental health of school-going adolescents residing in low-income communities of the Western Cape, with specific focus on the mediating role of psychological strengths (including self-esteem, perceived social support and resilience) on the stress-coping experience (see Figure 1 for hypothesised relationships among variables). To achieve this aim, the following research questions were central:

- 1.4.1. What is the nature of the relationship between the variables (psychological stress, coping strategies and psychological strengths) and the mental health of school-going adolescents from low-income communities of the Cape Metropole?
- 1.4.2. What are the subjective experiences of stress and coping for adolescents who reside in the Cape Metropole's low-income communities and what psychological strengths (if any) do they make use of in coping with psychological stress?

1.5. Objectives

To achieve the aim of the proposed study, quantitative and qualitative methods (as to be discussed in the methodology chapter) were used to fulfil the objectives below (see Figure 1 for predicted relations among variables):

The quantitative method was used to meet the following objectives:

- 1.5.1. To determine if psychological stress is positively related to mental health, with problem-solving coping having mediating effects.
- 1.5.2. To ascertain if psychological stress is positively related to mental health, with social support-seeking coping having mediating effects.
- 1.5.3. To determine the relationship between psychological stress and avoidant coping.
- 1.5.4. To determine if psychological strengths (self-esteem, perceived social support and resilience) mediate the relationship between psychological stress and mental health.
- 1.5.5. To ascertain whether psychological strengths (self-esteem, perceived social support and resilience) are positively related to mental health, with problem-solving coping as having mediating effects
- 1.5.6. To determine if psychological strengths (self-esteem, perceived social support and resilience) are positively related to mental health, with social support-seeking coping as having mediating effects
- 1.5.7. To determine the relationship between psychological strengths and avoidant coping.

Through the follow-up interviews (as outlined in the qualitative method), the study had the following objectives:

- 1.5.8. To explore adolescents' subjective experiences of stress and coping within their socio-economic adverse context.
- 1.5.9. To ascertain which psychological strengths and resources adolescents perceive as aiding their ability to manage stress, and reinforcing their mental health.

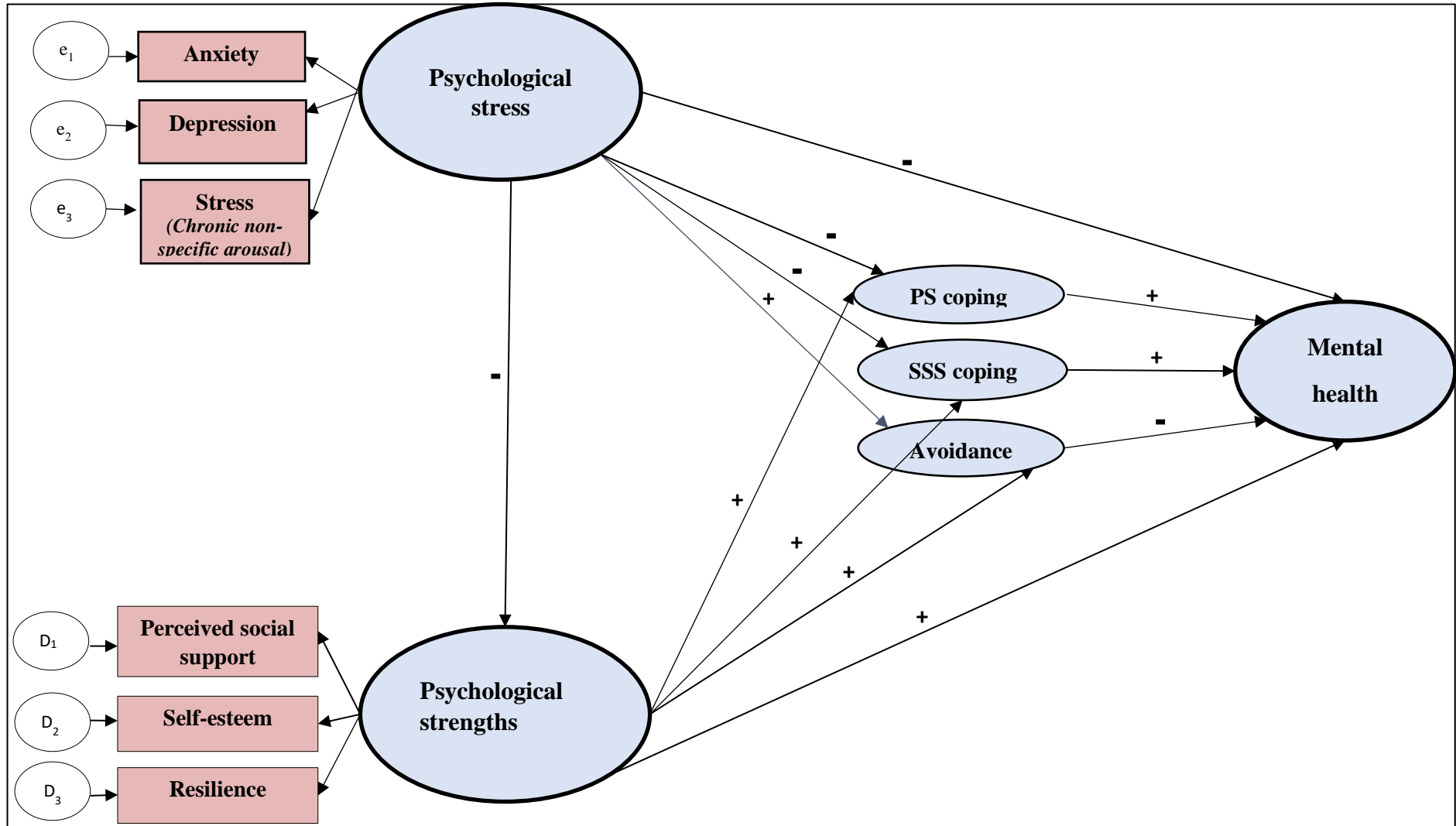


Figure 1. Hypothesised model depicting relationships among variables (while PS refers to problem-solving coping, SSS refers to social support-seeking coping and avoidance refers to avoidant coping). Please note that due to the size of the graph the manifest variables for the three coping strategies and mental health are not shown.

*The scale that measures psychological stress includes depression, anxiety and non-specific emotional arousal (stress)

1.6. Theoretical Frameworks Guiding the Study

1.6.1. The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984).

The transactional model of stress and coping developed by Lazarus and Folkman (1984, 1987) stipulates that the dynamic interaction between an individual and their environment influences their experience of psychological stress and well-being. As this model considers both the role of the individual and their environment as shaping mental health outcomes, it was considered well suited to the study of adolescents within their at-risk contexts.

The dynamic interaction between the individual and the environment is mediated by two central processes - *cognitive appraisal* and *coping* (Lazarus & Folkman, 1987). Psychological stress, cognitive appraisal and coping are core concepts of the transactional model of stress and coping. The first concept, psychological stress is viewed as dependent on the relationship between the individual and their environment and ensues when an individual perceives their relationship with their environment as taxing, exceeding their resources to cope and as endangering their health/ well-being (Lazarus & Folkman, 1984). This experience of stress is affected by two processes that mediate the relationship between the individual and their environment, these processes are referred to as cognitive appraisal and coping (Lazarus & Folkman, 1984).

Cognitive appraisal refers to “the process of categorising an encounter and its various facets, with respect to its significance for well-being” and involves the process of primary and secondary appraisal (Lazarus & Folkman, 1984, p. 31). During primary appraisal an individual subjectively evaluates the impact that an encounter in their environment may have on their well-being. While an individual may appraise some encounters in their environment as exerting no influence on their well-being (appraised as irrelevant) they may appraise some encounters

as holding positive implications for their well-being, such as the preservation or enhancement of their well-being. In contrast, stress appraisals manifest themselves when an individual evaluates an encounter in their environment as presenting a challenge, manifesting in harm or loss, and/ or perceived threat (Lazarus & Folkman, 1984).

A challenge refers to an encounter which an individual may feel confident about coping with and that result in personal growth. In contrast, harm and loss refers to the damage that a person has already experienced, such as the damage to their self-esteem or the loss of a close friend. In contrast, threat appraisals relate to anticipated harm or loss in future and which may mobilise coping efforts in preparation for future difficulties (Lazarus & Folkman, 1984).

When stress is appraised and an individual perceives an encounter as endangering their well-being, the individual will evaluate the coping resources that they possess or that are available to them that may be used in response to their stress appraisal – this process is termed secondary appraisal. According to Lazarus and Folkman (1984), secondary appraisal therefore involves the process whereby an individual “takes into account which coping options are available, the likelihood that a given coping option will accomplish what it is supposed to, and the likelihood that one can apply a particular strategy or set of strategies effectively” (Lazarus & Folkman, 1984, p. 35).

The transactional model of stress and coping emphasizes that stressful appraisals be viewed within the context of a dynamic interaction between an individual (with their own personal attributes) and the environment (with its unique characteristics). Stress appraisals are therefore influenced by both individual and situational factors. Certain individual factors (person-factors) influence the process of cognitive appraisal, and the theory particularly underscores the role of the interdependent individual factors of commitment and beliefs as determinants of appraisal. According to the theory, a commitment refers to what an individual

ascribes meaning to (what is important to them), and also influences the choices that people make (Lazarus & Folkman, 1984). In relation to appraisal, these commitments shape an individual's evaluation of what is "at stake" in a given stressful encounter (1984). Stress appraisal is, therefore, influenced by the individual's perception of the extent to which an encounter adversely impacts on (or may impact on) what is important to them. Commitment is emphasised as guiding people either towards or away from encounters that may threaten, challenge or harm them. Moreover, commitment also affects an individual's sensitivity to interpreting certain cues within a given situation while it is also emphasised as having an impact on an individual's vulnerability to experiencing psychological stress. In terms of the latter, greater commitment is related to elevated risk for threat and challenge, rendering the individual vulnerable to psychological stress. In contrast, greater commitment is also related to increased coping efforts in response to a stressful encounter.

Beliefs constitute the second individual factor considered a determinant of appraisal. The individual's beliefs are argued as influencing their evaluation of what is occurring in a given encounter as well as what may happen. General beliefs about personal control may refer to the perceived personal control a person holds about their ability to control events and control outcomes of importance to the individual. Moreover, an individual may also hold certain "existential beliefs" which inform his or her ability to "create meaning and maintain hope" in challenging circumstances (Lazarus & Folkman, p. 80).

While commitments and beliefs interdependently affect the stress-coping process, they should not be considered in isolation from the situational factors that also affect the intensity of an individual's stress-appraisals (1984). Stress appraisals can be influenced by a range of situational factors. Firstly, the novelty of the circumstances encountered will influence threat appraisals on the basis of previous experiences of the event relating to harm or through general knowledge (Lazarus & Folkman, 1984). Secondly, it is suggested that uncertainty relating to

an event would influence stress appraisals. Moreover, temporal factors are also related to stress appraisals. Notably, the imminence (i.e. imminence of an event/ circumstance), duration (i.e. the length of time of an event or circumstance) and temporal uncertainty (i.e. when there is no knowledge of when an event will occur) of a circumstance or event would influence stress appraisals. Moreover, the ambiguity and the timing of an event over the life course are also deemed to affect stress appraisal. It is noteworthy that there are several person and situation factors that influence the appraisal of events and it should be emphasised that these factors operate interdependently to affect appraisal (Lazarus & Folkman, 1984).

Other than cognitive appraisal, the process of coping is a central aspect of Lazarus and Folkman's (1984) transactional theory of stress and coping. Coping is the process defined as "...the constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person..." (Lazarus & Folkman, 1984, p. 141). Coping is a dynamic process that impacts on stress reactions (Lazarus, 1993). The process of coping can be characterized by both problem-focused and emotion-focused coping. Problem-focused coping involves efforts to alter the problematic person-environment relationship that has manifested in stress (Lazarus & Folkman, 1987). Through problem-focused coping the circumstances that the individual may be facing can therefore be altered, which may therefore affect their experiences of stress (Lazarus, 1993). If an adolescent experiences ongoing stress due to experiencing conflict with their friend, should they speak to their friend and manage to resolve this conflict, this would consequently affect the stress that the adolescent may be experiencing. In this way the problematic circumstance in the adolescents' context of interaction has been altered, leading to reduced or eliminated stress symptoms.

In contrast to problem-focused coping, emotion-focused coping is the regulation of emotional responses to problems encountered (Lazarus & Folkman, 1984). Emotion-focused

coping is therefore a cognitive process focused on regulating the emotional stress encountered (Lazarus & Folkman, 1987). Avoidant coping strategies, denial and distancing are examples of strategies used to regulate stress. For example, if an adolescent experiences psychological stress stemming from a hurtful comment made by their friend, they may attempt to avoid thinking about the comment made by their friend as a means of avoiding the emotional stress response that is experienced when thinking about the comment. Through this form of emotion-focused coping, the specific person-environment stressor encountered in the adolescents' context of interaction is not altered itself but the emotional response relating to this stressor is managed.

It should be noted that similar to the appraisal process that was influenced by person and situational factors, an individual's personal characteristics/ resources such as health energy, existential beliefs, beliefs about control, commitments, problem-solving skills, social skills, social support, material resources, personal constraints, environmental constraints and high levels of threat are all factors that influence the coping process.

The present section has been an account of Lazarus and Folkman's (1984) transactional theory of stress and coping which is one of the underlying theories guiding the present study. I argue that psychological strengths, including self-esteem, perceived social support, and resilience will inform adolescents' stress appraisals and inform their coping processes. If the role and impact of these strengths for at-risk adolescents can be identified, these could inform interventions that may enhance or develop these strengths in those affected by adversity.

1.6.2. Bronfenbrenner's Ecological Model (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2007).

Another framework that guided the proposed study is Bronfenbrenner's (1994) conceptualisation of human development, which is espoused in the ecological model that also integrates the Process-Person-Context-Time model (PPCT) (Bronfenbrenner & Morris, 2007).

Bronfenbrenner conceptualises development outcomes as affected by the transactions between the individual and their environment, which take place over time (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2007). Bronfenbrenner and Morris explicate the bio-ecological model and describe four components that are central to the model, which are the: process, person, context and time (Bronfenbrenner & Morris, 2007). These four components are said to operate interdependently to affect development. Firstly, the process refers to the interactions that occur between the individual and their environment and these are termed proximal processes, which are central to human development. These proximal processes are also influenced by the individual and their unique characteristics, the individual's context of interaction and the dimension of time (Bronfenbrenner & Morris, 2007).

Pertaining to the individual characteristics that are central to influencing development, three characteristics are argued to influence proximal processes. These characteristics include an individual's disposition, their bio-ecological resources, and demand characteristics.

First, dispositions can set proximal processes in motion in a particular developmental domain and continue to sustain their operation. Next, bioecological resources of ability, experience, knowledge, and skill are required for the effective functioning of proximal processes at a given stage of development. Finally, demand characteristics invite or discourage reactions from the social environment that can foster or disrupt the operation of proximal processes... (Bronfenbrenner & Morris, 2007, pp. 795–796).

The transactions that are termed ‘proximal processes’ are also captured in two core propositions of the bio-ecological model. The first proposition notes that human development over the life course occurs through processes of progressive, complex and reciprocal transactions between an individual with their own biopsychological characteristics and any objects or persons in his/ her context. To be effective, the interaction must occur on a regular basis over extended periods of time; this interaction refers to the proximal process that were discussed previously.

The second proposition notes that it is the characteristics of the individual, and the contexts that they are a part of that affects the form, power, content and direction of the proximal processes that affect development. Proximal processes are further also affected by the developmental outcomes, social factors, and the historical period during which the person has/ is living (Bronfenbrenner & Morris, 2007).

Bronfenbrenner’s (1994) ecological model is further focused on multiple layers of the individual’s environment which affects their development. Five “layers”, known as subsystems, capture the multiple factors influencing development, as posed by the theory.

The *microsystem*, in which proximal processes operate, refers to the individual’s immediate context of interaction, wherein their engagements with others occur and wherein a range of activities that involve others take place. For adolescents, these include the family, school and peer group (Bronfenbrenner, 1994). The activities involving others and relationships that the individual has within their immediate environment (such as with parents and siblings in the home context or peers and teachers in the school context) exerts an influence on the development of the individual. These relationships and activities are characterised by physical, social and symbolic features that may inhibit or promote the dynamic interaction between individuals or in activities within the immediate environment (Bronfenbrenner, 1994).

Notably, a supportive relationship may exist between an adolescent and their sibling at home, which may arguably contribute to their perceptions of support – which may be argued as having implications for their coping abilities and their well-being. The microsystem in this case may promote healthy adaptation when dealing with daily challenges (i.e. peer conflict), which may render the adolescent in need of a support system. In contrast, microsystems may also be characterized as risk factors should, for example, the adolescent experience ongoing conflict with their sibling, friend or parent, which may cause them to experience psychological stress.

In some cases, two or more microsystems may have linkages that may be either beneficial to healthy development or may pose a risk to adolescents' well-being, these linkages are called *mesosystems* (Bronfenbrenner, 1994). For example, an adolescents' risk is elevated when they lack perceived social support from both their peers at school as well as their family and siblings at home. These low appraisals of support may arguably affect the adolescents' engagement with stress they may be experiencing and their ability to address the emotions they may have. In this way, the collective impact of the overlap/ linkage between microsystems posed a risk factor to adolescent development, but the reverse is also possible, whereby the linkages may buffer the mental health of adolescents who experience stress.

The *exosystem* is a system that the developing adolescent is not a part of, but which has a direct impact on the adolescents' system of interaction (Bronfenbrenner, 1994). An example of the exosystem is the case of a parent who is retrenched and struggles to find employment. This may not only affect the quality of life or livelihood of the adolescent but may also affect the morale and well-being of the parent, to the extent that the parent-child relationship may become strained.

The *macrosystem* is an overarching pattern of the micro, meso- and exosystems unique to a certain culture or subculture (Bronfenbrenner, 1994). The macrosystem takes into account

the role of belief systems, bodies of knowledge, resources, customs, opportunities, hazards, lifestyles and life course options of each macrosystem and how it affects development (Bronfenbrenner, 1994). Within the community which an adolescent is a part of there may be a range of the macrosystem elements to take into account, an example of which may be a generational cycle of gang violence and gang related activities and rituals that have become part of the community over time, and the influence these elements may have on development across the life trajectory.

The *chronosystem* incorporates the element of time; change and stability over the life course (Bronfenbrenner, 1994). While the individual experiences change as they develop, the environment may also be affected by time. For example, development may be affected by changes throughout life, such as a change in the family structure (i.e. divorce, death of a parent, introduction of a step-parent) or socio-economic changes (i.e. poverty following the death of a parent and the loss of income from them) or persistence (i.e. poverty over the life-course) (Bronfenbrenner, 1994). The impact of changes throughout the lifespan and its impact on the individual would be affected by the individual and their characteristics, and vice versa.

Given that the framework takes consideration of the adolescent and their development within context, it is hoped that it will provide a holistic understanding of the multiple factors that have an impact on adolescent development over time (in the context of the low-income community). It will of interest to note if, against the backdrop of multi-level risk factors that potentially evoke psychological stress in school-going adolescents from low-income communities, the presence of psychological strengths or certain coping strategies helps them to manage such psychological stress. Knowledge of the role of these strengths and any adaptive coping strategies in the context of the low-income community and its risk factors, is essential for mental-health-promotion strategies, which can target the enhancement of psychological strengths and adaptive coping strategies in at-risk adolescents.

1.7. Scope of the Present Study

This exploratory mixed-methods study had four phases, including a cognitive-testing phase, a pilot study (these first two constituting the validation of the measuring instruments), the quantitative phase (survey) and the qualitative phase (follow-up individual interviews with selected participants). The cross-sectional study was primarily focused on studying the impact of psychological strengths on the psychological stress and coping processes of adolescents who attended no-fees schools in the Cape Metropole of the Western Cape. Findings from both quantitative and qualitative phases of the study were regarded as central to achieving the aim of the study and answering the relevant research questions.

While it would have been preferable to ascertain the socio-economic level of participants via written statements from their parents, this was not done as it was considered to be out of the scope for the present study. The low socio-economic profiles of adolescents were, therefore, derived from the fact that they were all attending the no-fees schools, which were classified as such due to the low socio-economic profile of the communities in which these schools were situated. Moreover, the majority of participants who responded to the question asking them about the area in which they live, indicated that they lived in the same area in which the school was situated or in areas close to the school. A further means of understanding the socio-economic position of the adolescents was to ask them about socio-demographic information, including food insecurity, perceptions of financial challenges, home types, access to water and toilet facilities. These results are captured in Chapter 2: Methodology.

The participants of the study were recruited from the no-fees Cape Metropole schools that were identified, following the randomised cluster sampling. The study was limited to 7 no-fees schools that represented the no-fees schools in the Cape Metro attended by secondary school level adolescents. The present study was, therefore, limited only to the population of adolescents in Cape Town in the Western Cape, than to the rest of South Africa.

1.8. Dissertation Structure

The following dissertation is presented in the “dissertation by publication” format. This dissertation, therefore, consists of three traditional dissertation chapters (Introduction, Methodology and Conclusion) as well as four scholarly articles that act as Chapters three, four, five and six respectively (this is in line with the Stellenbosch University regulations).

1.8.1. Chapter 1: Introduction.

This first chapter, the introduction, provides a background to the study, emphasizes the significance of the study and mapped the research questions, aims and objectives of the study. Moreover, this chapter also presents the theoretical frameworks that guide the study and is concluded with an outline of the scope of the dissertation and outline of the dissertation.

1.8.2. Chapter 2: Methodology.

The second chapter, the methodology, is focused on capturing the philosophical assumptions and research design of the dissertation, describing the research setting, the sampling and the various phases of the study (cognitive testing phase, pilot study, quantitative phase and qualitative phase). Moreover, the methodology is also focused on outlining the participants, measures, data collection procedures, ethical considerations and data analyses.

1.8.3. Chapter 3: Scholarly article 1.

The first scholarly article is a conceptual article entitled: *Stress and coping: Considering the influence of psychological strengths on the mental health of at-risk South African adolescents*, which was published with the international journal, *Child Care in Practice*. This conceptual article includes a review of the literature pertaining to the present study and intends on making a case for research to be focused on the topic of psychological

strengths that impact on the stress and coping processes of adolescents who live in socio-economically adverse contexts.

1.8.4. Chapter 4: Scholarly article 2.

The second scholarly article is an empirical quantitative manuscript entitled: *Psychological strengths as mediators of the psychological stress and coping process for South African adolescents living in low-income communities* and is currently (January 2020) unpublished. The manuscript is focused on whether psychological strengths mediate the impact of psychological stress on the mental health of adolescents who live in low-income communities and intends to inform mental-health-promoting and mental-illness-preventing interventions.

1.8.5. Chapter 5: Scholarly article 3.

The third scholarly article is an empirical qualitative manuscript entitled: *The factors affecting the mental health of South African adolescents living in low-income communities*. The manuscript is currently (January 2020) unpublished. The manuscript is focused on capturing the adolescents' subjective experiences of stress and coping and intends on shedding light on the risk and protective factors affecting the daily lives of adolescents who live in low-income communities.

1.8.6. Chapter 6: Scholarly article 4.

The fourth scholarly article is an empirical qualitative manuscript entitled: *Adolescents' "written voices" of witnessed violence in Cape Town, South Africa's low-income communities*. The manuscript is currently (January 2020) unpublished. The manuscript is focused on capturing the at-risk adolescents' narratives of witnessed and experienced daily violence and

intends to add to the literature focused on understanding the risk factors that many South African adolescents are exposed to or experience. It is noteworthy that the present article was not conceptualised as part of this dissertation and therefore notably does not form part of the research questions, aims and objectives or the methodology. It was however important to capture the valuable responses of witnessed violence that emerged in the study and therefore this fourth manuscript was included in the dissertation.

1.8.7. Chapter 7: Conclusion.

The conclusion presents a synthesis of the findings of both the qualitative and quantitative inquiries. The implications for interventions focused on mental health promotion and mental illness prevention are discussed. In addition, a section on self-reflexivity is included. Moreover, the limitations of the study are presented along with directions for future research.

1.8.8. References: an important notice.

All the scholarly articles included as chapters of the manuscript have their own reference list that are presented at the end of each article chapter. This is because all articles should appear exactly as they were published by or submitted to relevant journals. The reference list at the end of the dissertation therefore only captures the references for the traditional dissertation chapters, the Introduction (Chapter 1), Methodology (Chapter 2) and the Conclusion (Chapter 7).

Chapter 2: Research methodology

The present chapter is focused on providing an overview of the research methodology of the study. The philosophical assumptions and research design are discussed, and these are followed by a snapshot of the research setting. The setting itself is followed by an outline of the sampling procedures, the measuring instruments, data collection procedures, data and ethics considerations.

2.1. Philosophical Assumptions and Research Design

To meet the objectives of the study, the mixed-methods approach with an explanatory sequential research design was deemed appropriate (Creswell & Plano Clark, 2011). The explanatory sequential design (depicted in Figure 2) enabled the researcher to collect and analyse quantitative data and to capture the findings in the form of an article. This was followed by a qualitative phase in which data were collected, analysed and discussed in another article. In addition, results from the quantitative and qualitative approaches were also interpreted collectively in order to answer the research questions of the present study, with the synthesis being captured in Chapter 7.

Quantitative elements were pivotal to understanding the nature and strength of relationships between the variables and enabled the researcher to test the hypothesised relationships via Structural Equation Modelling (SEM). The quantitative approach, grounded in the positivist paradigm, is characterised by objectivity whereby phenomena are factual and separate from the subjective, human view of them (Bryman, 2012), but does not gauge the subjective experiences of the phenomena under study. In contrast, the qualitative approach uses a constructivist paradigm, emphasising subjective experiences as central to understanding phenomena (Bryman, 2012), but cannot quantify the statistical relationships between variables. Using a mixed-methods approach with an explanatory sequential design allows the qualitative

and quantitative research methods to operate collectively, in this way weaknesses associated with each approach (for example, the critique that qualitative research is too subjective, on the one hand, and that quantitative research fails to account for subjective experiences of people, on the other) are mitigated (Bryman, 2012).

Using a mixed-methods approach allowed the researcher to answer both research questions of the study. The first research question was focused on the nature of the relationship between the variables – psychological stress, psychological strengths, coping strategies and the mental health of school-going adolescents from low-income communities of the Cape Metropole, with the researcher capturing the hypothesised relationships among these variables in a model that was tested using Structural Equation Modelling. The quantitative method was therefore essential to answering the first research question. Moreover, the second research question of the present study was focused on school-going adolescents' subjective experiences of stress and coping, and was aimed at delving into the nature of psychological strengths (if any) adolescents made use of in coping with psychological stress. Given that the second research question was focused on the subjective experiences of school-going adolescents, the qualitative method was essential to answer the research question.

Given the focal points of the study (as captured in the aim, research questions, objectives and hypotheses illustrated in the hypothesised model), both the quantitative and qualitative methods were given priority when interpreting the data – following the collection and analyses of data for both independent phases of the study.

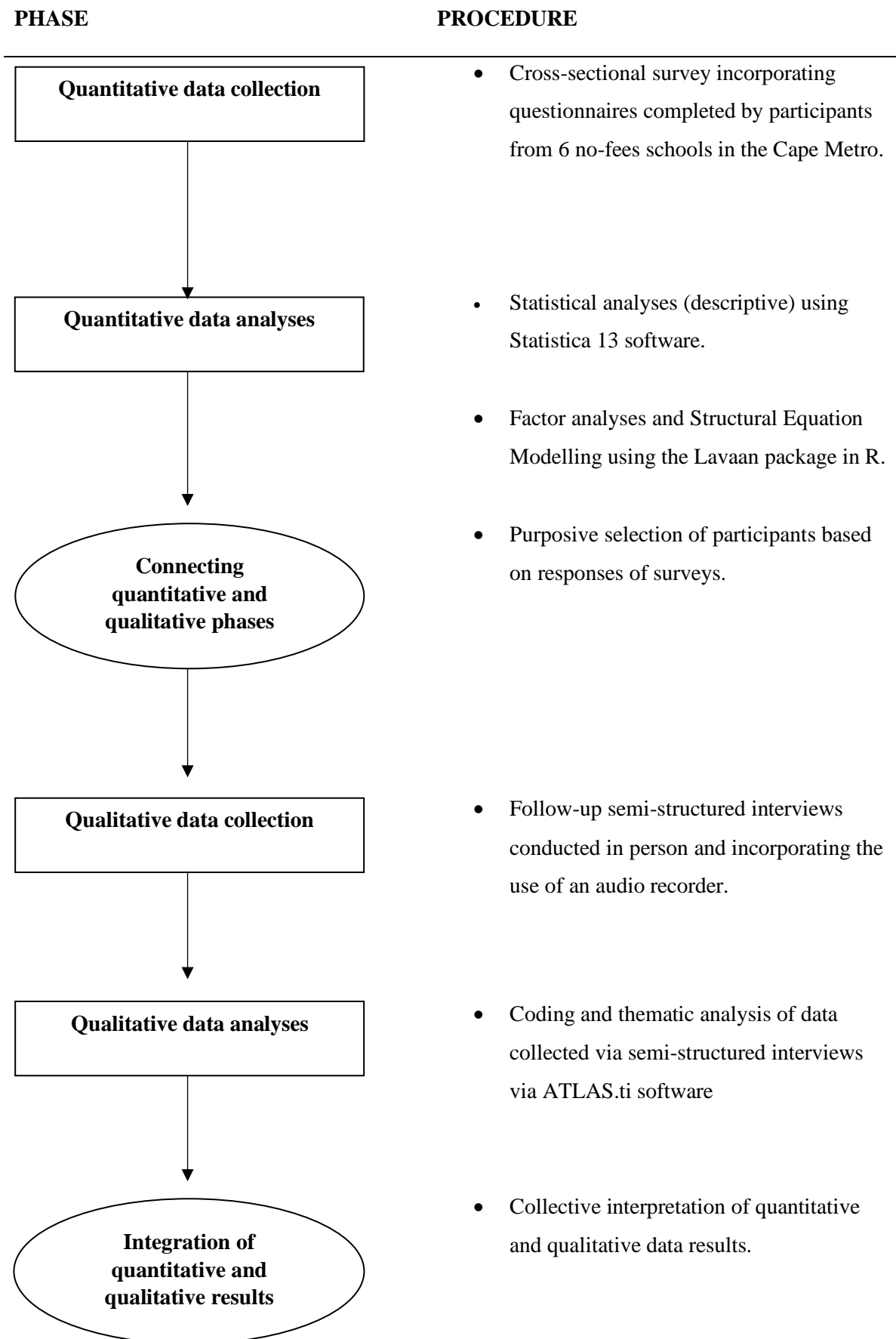


Figure 2. Visual model for mixed-methods explanatory sequential design used (adapted from the original model by Ivankova, Cresswell, & Stick, 2006)

2.2. Research Setting

2.2.1. The City of Cape Town, South Africa.

South Africa is a country with an estimated population of 57.73-million people (Statistics South Africa, 2018). The country also has 9 provinces, with the province in which the study was located (Western Cape) having an estimated population of 6.3-million people (Statistics South Africa, 2019). Located in the Western Cape, is the City of Cape Town municipality, where the no-fees schools that were included in the study are situated. The City of Cape Town is estimated to have a population of 4 232,276 (Western Cape Government, 2017) with the distribution of the population being Coloured people (43.2%), followed by African people (39.4%), White people (16.0%) and the remaining 1.4% constituting the Indian/Asian people, as captured in the Census conducted in 2011 (Statistics South Africa, 2012). I acknowledge and understand that describing people by race in South Africa is a sensitive topic. I have used these terms as a means of capturing the different experiences of different population groups (although I acknowledge that describing members of the population in these terms is controversial). I have used these terms without the intention of being discriminatory.

The age distribution of this population was as follows: those aged 0 – 14 years account for 24.8%, those aged 15 – 64 years account for 69.6% and those who are 65 years and older account for 5.5% of the population (Statistics South Africa, 2012).

The Western Cape is described as an economic hub, which contributes to it being one of the provinces (alongside Gauteng) that has the lowest rates of poverty (Statistics South Africa, 2017). For the City of Cape Town, the proportion of the population affected by poverty is estimated to be 2.6% (Statistics South Africa, 2016). However, children and adolescents (aged 0 - 17 years) across South Africa are reported to be most affected by poverty (Statistics South Africa, 2017) – these include children in the scarce-resource areas of Cape Town. It is reported that a startling 51% of South African children are living below the lower-bound

poverty line (LBPL), while 43.6% of adolescents and youth aged 18 to 24 years also experience this form of poverty.

Notably, Cape Town also has a high rate of crime (including murder, home robbery, housebreaking and theft; Statistics South Africa, 2016) and specifically sexual offences/violence (Hymon, 2017; Western Cape Government, 2017). As already indicated, children and adolescents may be unable to focus at school, as they are preoccupied with concern for their families' overall well-being (Gouws, 2014), or feel that they may need to contribute financially to their households (Harrison, 2014). These thoughts, coupled with the reality of limited employment opportunities and high rates of community unemployment (Gouws, 2014), may render some adolescents despondent and distressed.

2.3. Sampling

The sampling procedures below pertain to the four phases of the study, namely, the validation of the scales (which included both the cognitive testing phase and the pilot study), the quantitative phase (survey) and the qualitative phase (follow-up one-on-one interviews with selected participants). The randomised cluster sampling process is depicted in detail in Figure 3 and, as illustrated, participants were eventually recruited from 7 no-fee paying high schools (clusters) situated in the Cape Metropolitan area of the Western Cape Province (Metro East, Metro South, Metro North and Metro Central). These no-fee paying schools have been classified as such due to the low socio-economic status of the communities in which the schools are situated (Department of Basic Education, South Africa, 2019). Participants who were recruited were all in Grades 8, 9, 10 or 11 and their ages ranged from 12 years to 21 years.

2.3.1. Cognitive testing phase: sampling and procedure.

Prior to the cognitive testing and pilot testing, the translated Afrikaans and isiXhosa versions of the research questionnaire were back-translated (Brislin, 1976) and compared to the English version in order to identify any ambiguities and/or inconsistency across items. Following all ethical procedures (institutional permission, ethics clearance, obtaining parental consent for participants younger than 18 years, assent from these participants aged below 18 years, and consent from participants aged 18 and older), a total of 14 Grade 11 learners agreed to participate in the cognitive-testing interviews. These participants all attended one of the no-fee schools.

Participants' first languages included isiXhosa (7 learners; or 50%), Afrikaans (4 learners, or 29%) and English (3 learners, or 21%). While I conducted 13 interviews (with an isiXhosa translator assisting with translation for isiXhosa speakers), 1 interview was conducted by a trained Masters student (the research assistant).

The cognitive testing phase involved the researcher/ research assistant reading out a few selected questions/ statements of the research questionnaire to participants and ascertaining their level of understanding or comprehension of the questions/ statements. The response options for these questions/ statements were also read out to learners so that the researcher could determine whether these were clear and that participants understood the response options of each scale. The cognitive testing phase elicited valuable responses from participants regarding the items and response scales of the research questionnaire, specifically regarding the appropriateness of the language used, ambiguity, comprehensibility and level of understanding. The researcher used the information to modify the research questionnaire accordingly (minor linguistic modifications).

2.3.2. Pilot testing of the questionnaire: sampling and procedure.

The adapted research questionnaire was piloted on a further 37 participants from the same school site where the cognitive testing took place (English, Afrikaans and isiXhosa speakers in Grades 8 to 10, and aged between 14 and 19 years). The pilot testing involved participants completing the questionnaire, followed by a feedback session, during which they were asked to provide feedback regarding the questionnaire comprehensibility, challenges faced with instructions, items or response scales and general feedback. A benefit of the pilot-testing phase was that it informed me of logistical challenges and the feasibility of the study in the school setting.

Prior to the pilot testing phase, I planned to ask participants to complete the questionnaire in sessions allocated by the school, however as the pilot phase revealed (regardless of the permission of the school principal), that there were challenges with participants completing the questionnaires at school. For example, not all teachers permitted research to be conducted during their class periods (a right that I respected given that the Western Cape Education Department [WCED] stipulates that no teacher is obligated to assist with research activities); unexpected adjustments to school periods may be made by the school leaving limited time for the completion of questionnaires; the researcher needed to be mindful of not interrupting regular class activities (also a stipulation explicitly spelled out in the WCED permission letter). Moreover, safety concerns for learners to remain after school to complete the questionnaire, meant that questionnaires could not be completed after school. Being mindful of these factors (and following a walkthrough of ethical procedures and the questionnaire) participants were asked to complete the questionnaires at home, as a homework activity.

Available learners were approached to participate, and this phase yielded 37 participants. The combined results from the cognitive testing (14 participants) and pilot-testing

phase (37 participants) contributed to the quality, appropriateness and comprehensibility of the research questionnaire for the population of interest.

As many learners of the school were approached by the research team during the cognitive testing and pilot testing phases, I decided to exclude this school as a site for Phase 3 (the quantitative phase of the study) and Phase 4 (qualitative phase of the study). Therefore, this meant that none of those learners who participated in the cognitive testing or pilot survey participated in the quantitative and qualitative phases of the study.

2.3.3. Sampling for the quantitative and qualitative phases.

As already indicated, randomised cluster sampling was used to identify the no-fee schools at which participants would be recruited. The randomised cluster sampling involved me, as the researcher, first identifying all the no-fee schools in the Cape Metropole (71 schools). Thereafter, I created clusters that represented all the no-fee schools for each region of the Cape Metro, that is, Metro North (21 schools), Metro South (12 schools), Metro East (24 schools) and Metro Central (14 schools). After this, I randomly selected 3 schools from each cluster, which were to form the 12 from which participants would be recruited. However, as illustrated in Figure 3, while 12 schools were earmarked for inclusion in the study, 5 schools in total were excluded from the study. Notably, while 2 schools were excluded due to serious safety concerns (with adverse implications for collecting data at these school sites), one school principal did not permit the data to be collected at their school. Although the researcher and the school principals of 2 additional schools attempted to find suitable data collection times, there appeared to be no suitable time for data collection. Other than the 5 excluded schools, the school that served as the site for cognitive testing and pilot testing was also not part of the final 6 schools of the quantitative phase. The final 6 schools consisted of 3 schools from the Metro East region, 1 school from the Metro North region, 1 school from the Metro Central region and

1 final school from the Metro South region. The participants section describes the details of the participants for the quantitative phase.

Using purposive sampling, a further 14 school-going adolescents were approached to volunteer to be part of the audio-recorded follow-up interviews. Through purposive sampling,

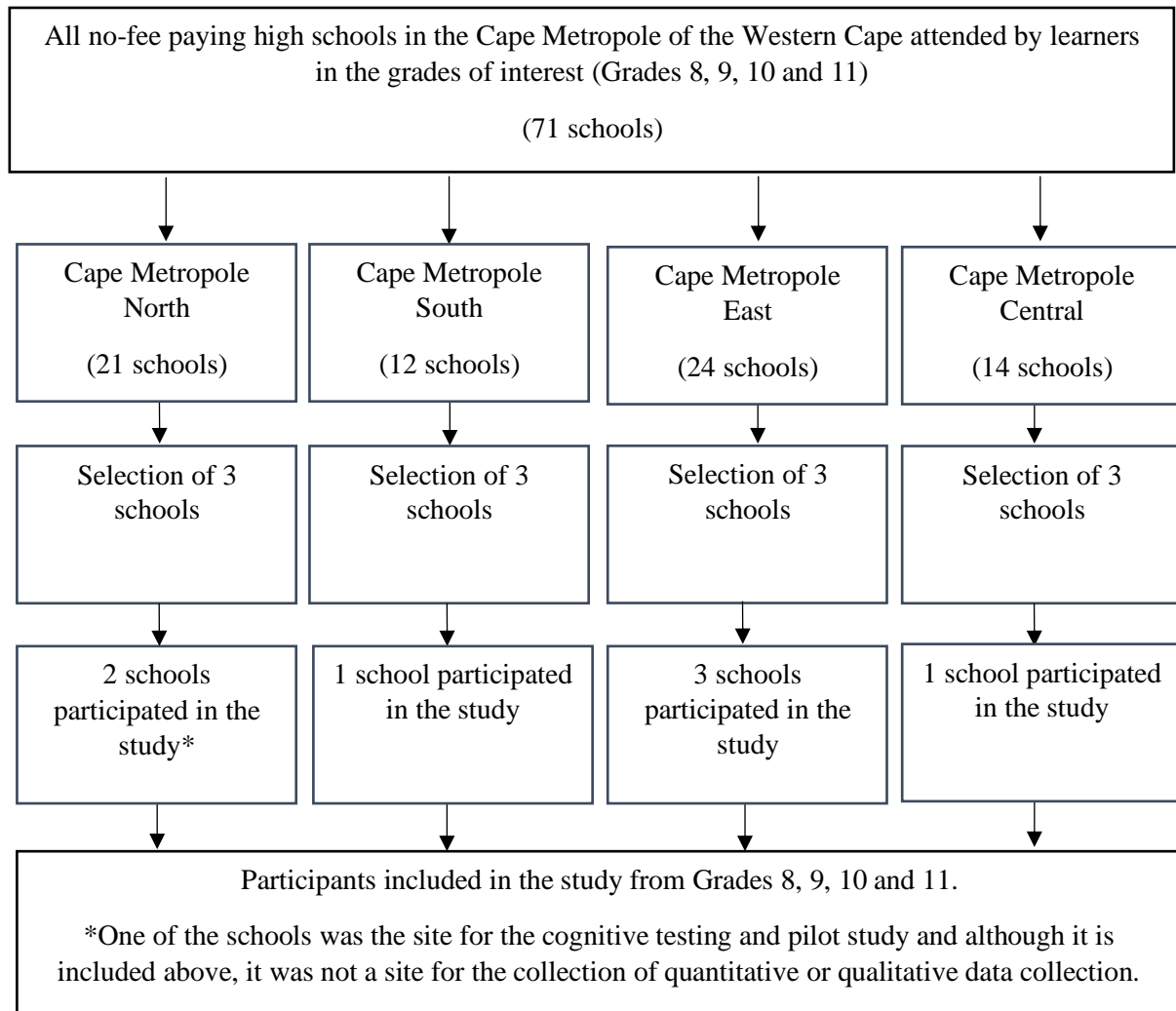


Figure 3. Randomised cluster sampling procedures for quantitative data collection

these participants were approached at 4 schools situated in the Metro East and Metro North regions, and their selection for this phase of the study was based on sex, grade and scores on the Mental Health Index (MHI, which measures aspects relating to mental health). This selection criterion was used in order to ensure that both males and females, from different

school grades and from a range of schools were selected. Moreover, the selection criteria also allowed for participants with higher or lower scores of mental health to be included.

2.4. Participants

2.4.1. The quantitative phase.

The final sample comprised 446 participants. The inclusion criteria for participants was that they were school-going adolescents attending the 6 randomly selected no-fee schools situated in low-income communities across the Cape Metropole (with the 7th school forming the site for cognitive testing and piloting). Participants needed to be in either Grade 8, 9, 10 or 11 at these schools.

It is noteworthy that a number of participants were excluded from this final sample, with the study having had a sample of 545 participants initially. Firstly, while the researcher expressly informed participants under the age of 18 that they may not complete the questionnaire without having submitted their parental consent form, several learners still completed the questionnaires and submitted it to the researcher. In this case, 52 questionnaires were excluded from the study. A further 7 participants were excluded because they submitted their completed questionnaire with an incomplete assent form, while 14 participants did not submit a signed assent or parental consent form. A number of 25 participants were also excluded because the researcher could not identify the participants from their submissions, and one final participant withdrew from the study. As a result, a total number of 99 participants were excluded from the final sample of 446 participants for the quantitative phase.

For the final sample of 446 participants, the distribution of participants per school for each of the Cape Metro regions is captured in Table 1. As illustrated, most participants (253 adolescents) were attending schools in the Metro East, 125 participants were attending a school

in the Metro South region, 64 participants were attending a school in the Metro North region, while the remaining 4 participants attended the school situated in the Metro Central region.

With regards to participants' sex, 264 females (59%) participated, in contrast to 180 males (41%) who participated. Moreover, pertaining to age, participants were between the ages of 12 and 21 years, with one participant noting that they were 31 years old – although the researcher was not aware of any participant that was 31 years of age. The mean age for participants was 14.4199 (SD = 1.6642). Regarding language, it was evident that most participants (85%) reported that isiXhosa was either a first language or a shared first language (for bilingual speakers), with English being reported as a first or shared first language by 18% of participants, and Afrikaans being reported by 14% of participants. The other languages reported as first languages included isiZulu, Sepedi and Sesotho.

Table 1

Number of participants per school in each Cape Metro region (N = 446)

		Participants (N)	Percentage (%)
Metro East	School 1	166	(37.2)
	School 2	31	(7)
	School 3	56	(12.6)
Metro North	School 4	64	(14.3)
Metro South	School 5	125	(28)
Metro Central	School 6	4	(.9)

Regarding the number of people living in their households, the number of people reported by learners ranged from 0 to 20 people in the home (M = 5.4313 people; SD = 2.5971). With regard to which parent (s)/ guardians participants lived with, 109 participants (24.4%) specified living with their mother and their father, while 25 participants (5.6%) reported living with “both parents”, although the sex of the parents were not specified, and 4 participants (.9%)

indicated that they lived with their “whole family”. A total of 138 participants (30.9%) reported residing with their mother only, while 10 participants (2.2%) indicated they lived with their father only, and a remaining 9 participants (2%) indicated that they lived with a parent, whom they did not specify as their mother or father. Other participants also reported residing with a parent and a step-parent (10 participants), a guardian/ guardians (19 participants), a family member/ members (63 participants) and a guardian and family member (1 participant).

The number of brothers, sisters and close friends, participants reported was also explored. The number of brothers participants had was reported on with a mean score of and a range from 0 to 18 brothers ($M = 1.7113$ brother(s), $SD = 1.5518$), Moreover, the mean number of sisters reported with a range from 0 to 16 ($M = 1.6814$ sister(s), $SD = 1.6211$). In addition, participants reported having between 0 and 25 close friends ($M = 3.3583$ close friends; $SD = 2.8738$).

As illustrated in Table 2, participants were also able to capture their perceptions of their mental health, through a specific question in the demographic questionnaire. Results obtained indicated that a large majority of participants (329 participants, 77%) reported feeling psychologically healthy, mentally stable and well, although they may have experienced the daily stressors associated with living in Cape Town’s low-income communities as well as the challenges associated with adolescence. In contrast, only 27 participants (6%) who reported that they did not feel psychologically healthy and felt mentally unstable and unwell. Further results are captured in Table 2.

In terms of perceived general coping abilities, the majority of participants (201 participants, 46%) reported that feeling that they were sometimes able to cope well when they needed to, in contrast to 20 participants (5%) who reported that they were never able to cope well when they needed to. Further results are also captured in Table 2.

Perceptions about feeling safe in the community, community violence and witnessed or experienced violence were also explored by means of the demographic questionnaire. Of the

participants who responded to the question asking about perceptions of safety in the community, it was evident (as captured in Table 3) that most participants (187 participants, 43%) reported that they had ‘a lot of safety concerns’ in their community. In contrast, a smaller number of participants (94 participants, 22%) reported that they had ‘no safety concerns’ in their community.

Notably, participants were also asked to report on their perceptions of violence in their community and most participants (204 participants, 46%) reported perceptions of ‘a high rate of violence’ in their community, followed by 158 participants (36%) who noted that there was ‘some violence’ in their community, while 76 participants (17%) perceived ‘no violence’ in their communities.

Table 2

Perceptions about mental health and general coping abilities among school-going adolescents

	Participants (N)	Percentage (%)
Perceptions about mental health		
I am psychologically healthy, I feel mentally stable and well.	329	(77)
I feel a little psychologically healthy, a little mentally stable and well.	56	(13)
I am not psychologically healthy, mentally stable or well.	27	(6)
I feel a little psychologically ill, mentally unstable and unwell.	13	(3)
Multiple options selected	4	(1)
Perceptions about coping abilities		
I am always able to cope well when I need to	182	(42)
I sometimes am able to cope well when I need to	201	(46)
I am never able to cope well when I need to	20	(5)
I am sometimes unable to cope well when I need to	28	(6)
Multiple options selected	3	(1)

Perceptions of perceived safety and violence in the community also ties into the question asking participants whether they had witnessed or experienced crime in their community. As also captured in Table 3, a large majority of participants (236 participants, or 55%) noted that they had ‘witnessed crime’ in their community. Comparatively, 123 participants (29%) had ‘no experiences’ of witnessed or experienced crime to report.

Table 3

Perceptions about community safety, community violence and witnessed and experienced violence/ crime.

	Participants (N)	Percentage (%)
Perceptions about safety in their community		
I have a lot of safety concerns in my community	187	(43)
I have some safety concerns in my community	153	(35)
I have no safety concerns in my community	94	(22)
Multiple responses	3	(1)
Perceptions about violence in their community		
There is a high rate of violence in the community	204	(46)
There is some violence in the community	158	(36)
There is no violence in the community	76	(17)
Multiple responses	1	(0)

Perceptions about witnessed or experienced violence
in their community

I have witnessed crime in my community	236	(55)
I have been a victim of crime in my community	33	(8)
I have witnessed and been a victim of crime in my community	36	(8)
I have not witnessed or been a victim of crime in my community	123	(29)
Multiple responses	3	(1)

The demographic questionnaire also focused on obtaining some socio-economic information from participants. One question asked participants to report about whether they had to skip a meal in the past month as a result of insufficient food. A large majority of the participants (329 participants, 77%) reported that they ‘did not have to skip a meal’, while 101 participants (23%) reported having ‘needed to skip a meal’ due to insufficient food.

Participants were also asked to share their feelings about their family’s financial circumstances. The majority of participants (282 participants, 66%) noted that their family ‘sometimes struggled’ to pay their bills, while 39 participants (9%) noted that their family ‘always struggled’ to pay their bills, and a further 107 participants (25%) noted that their family ‘never struggled’ to pay their bills.

Participants were also asked to indicate their home/dwelling type. Most participants (223 participants, 53%) described living in brick-built homes, followed by 115 participants (27%) who reported living in informal settlements or live in an informal dwelling. Other participants noted living in a flat (21 participants, 5%), in a home in the backyard of another house (31 participants, 7%), in a hut or traditional dwelling (3 participants, 1%), in temporary

housing (1 participant, 0%), in a 'house' (10 participants, 2%), while the remaining participants gave multiple responses to the question or indicated living in another unspecified home.

Participants were also asked to indicate their access to water, and most participants (216 participants, 51%) reported having access to piped / running water from inside their homes, or piped water from inside their yard (89 participants, 21%). Other forms of water access were also described including access to water from outside the yard (64 participants, 15%), a borehole (2 participants, 0%), a spring dam or pool (4 participants, 1%), a river or stream (1 participant, 0%), a rain water tank (5 participants, 1%), while others indicated access to a "tap", and others either had multiple forms of access to water (28 participants, 7%) or specified that they had "other" forms of water access (3 participants, 1%).

Toilet facilities were also explored using the demographic questionnaire. While most participants (112 participants, 30%) described toilet facilities inside the home, or access to a toilet in the yard or outside (46 participants, 12%), a public – or communally shared – toilet (63 participants, 17%), using another person's toilet (2 participants, 1%), while others reported using a 'bucket-system' (3 participants, 1%) as a method of human waste disposal. In addition, some participants (43 participants, 11%) described that they had access to a 'flushing' toilet, a 'brick-built' toilet (13 participants, 3%) and multiple toilet facilities (12 participants, 3%), while 77 participants (20%) noted that they had access to toilet facilities that they did not specify. Moreover, 6 participants (2%) described having no access to a toilet facility – suggesting they may use the bushes or other hidden places to relieve themselves.

Pertaining to energy used at home, a large majority of participants (370 participants, 85%) mostly used electricity, while others used gas (8 participants, 2%), paraffin (4 participants, 1%) and others had multiple forms of energy used at home.

2.4.2. The qualitative phase.

Participants for the qualitative phase were purposively selected based on their ages, their grade, their sex and their scores on the Mental Health Index (Ware, Snow, Kosinski, & Gandek, 1993) which measured the state of their mental health. In total, 14 participants who were approached for their participation volunteered to be part of the qualitative, audio-recorded, face-to-face interviews. It is noteworthy that 18 participants were earmarked for participation. While one of these earmarked participants was not available to be approached at school, another participant never returned her parental consent form in order to participate and an additional adolescent declined their participation. In addition, another earmarked participant had already left school (dropout) by the time of the qualitative interviews.

The participants who volunteered were attendees of four of the 6 schools from the quantitative phase. While four participants attended school 1 (Metro East), four participants attended school 2 (Metro East), and two participants attended school 3 (Metro East), while the remaining four participants attended school 4 (Metro North). Participants' demographic characteristics are captured in Table 4.

It should be noted that the ages and grades of participants may have differed based on when they participated in the qualitative interviews stage. In other words, the purposive selection of participants was based on their ages and grades when completing the questionnaire during the quantitative phase, however those participants' ages and grades may have differed by the time when the qualitative data collection was carried out.

Table 4

Demographic characteristics of the qualitative-phase participants

Participant	Sex	Age	Grade
1	Male	14	8
2	Female	14	8
3	Female	13	8
4	Female	13	8
5	Male	17	11
6	Male	17	11
7	Female	16	10
8	Male	16	10
9	Female	16	11
10	Male	17	11
11	Female	16	11
12	Female	15	11
13	Male	15	11
14	Male	15	11

2.5. Measuring Instruments

All instruments, which are already in the public domain were translated from English into Afrikaans and isiXhosa through the Brislin method of translation (Brislin, 1976), which

included the independent back-translation of the scales (from Afrikaans and isiXhosa to English) to ensure the accuracy of the translations.

The qualitative interview schedule (appendix A) guided the interviews, which were conducted in English and Afrikaans (the researcher is fluent in both languages).

2.5.1. Demographic questionnaire.

The demographic questionnaire was used to gain an overview of participants' demographic variables that include age, sex, grade at school, language, the family context (parent(s) they are living with, number of siblings and financial status), information about friendships and perceptions regarding community safety and violence.

2.5.2. Depression, Anxiety and Stress Scale (DASS 21; Lovibond & Lovibond, 1995).

The DASS 21 was used to measure symptoms of psychological stress (depression, anxiety and non-specific emotional arousal (referred to by Lovibond and Lovibond (1995) as stress). This 21-item, self-report measure has a 3-point scale ranging from 0 (absence of symptoms) to 3 (severe symptoms). The DASS 21 has good convergent and discriminative validity, with a reliability coefficient of .88 (depression), .82 (anxiety) and .90 (stress) (Lovibond & Lovibond, 1995). The suitability of DASS-21 for the research population is anchored on its previous use with school-going adolescents in multiple countries (including Australia, Chile, China and Malaysia; Mellor et al., 2015), with Szabó (2010) reporting the following coefficients for each subscale when used with school-going adolescents: .87 for depression, .79 for anxiety and .83 for stress. For the present study, the depression subscale had a coefficient of .77, anxiety had a coefficient of .72 and stress had a coefficient of .72, all showing good reliability.

2.5.3. Coping Strategy Indicator (CSI; Amirkhan, 1990, 1994).

The CSI was used to measure the overall use of coping strategies used by participants, in response to stress. This 33-item, self-report measure has a 3-point scale, with items ranging from 1 (not at all) to 3 (a lot). The CSI has three subscales (problem-solving, social support-seeking and avoidant coping), which have the respective coefficients: .92 for problem-solving, .89 for social support-seeking and .83 for avoidant coping (Amirkhan, 1990, 1994). It has external reliability with a mean test-retest reliability of .82 (Amirkhan, 1990, 1994) and high internal consistency – which is also captured in South African literature, with Le Roux and Kagee (2008) reporting the following coefficients: problem-solving (.88), social support-seeking (.87) and avoidant coping (.70). In the present study, the following coefficients were found: problem-solving (.77), social support-seeking (.81) and avoidant coping (.66). While problem-solving coping and social support-seeking coping appeared to show good reliability, avoidant coping appeared to have acceptable reliability.

2.5.4. Mental Health Index (MHI- 5; Ware, Snow, Kosinski, & Gandek, 1993).

The MHI-5 was used to measure participants' overall mental-health state. This 5-item self-report measure has a 6-point Likert scale ranging from 1 (all of the time) to 6 (none of the time) (Ware et al., 1993), with higher scores indicating a higher mental-health state. The measure has a reliability coefficient of .82 (Strand, Dalgard, Tambs, & Rognerud, 2003). Moreover, the MHI-5, with an internal consistency coefficient of .78 (Houghton, Keane, Murphy, Houghton, & Dunne, 2011), has been found to be useful, valid and reliable in measuring mental health status, regardless of its few items in comparison to other measures – which makes it ideal to use when including multiple measures in the research questionnaire. For the present study the MHI-5 had a reliability coefficient of .60 which is deemed acceptable.

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

The MSPSS was used to measure the participants' perceptions of social support from parents, peers and a significant other. This 12-item, self-report measure has a 7-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating stronger perceptions of social support. The MSPSS has good construct validity, internal reliability (coefficient of .88) and internal consistency (coefficient of .87) (Zimet et al., 1988). When used in the South African context, the MSPSS had good internal consistency and is psychometrically sound when used with adolescent populations (Bruwer, Emsley, Kidd, Lochner, & Seedat, 2008). For the present study, the various subscales appeared to have good reliability with the following coefficients: family subscale (.84), friends subscale (.80) and significant other subscale (.76).

2.5.6. Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).

The RSES was used to measure participants' global self-esteem. This 10-item self-report measure has a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree), with lower scores indicating higher self-esteem (Rosenberg, 1965). The validity and reliability of the scale have been confirmed, with an internal consistency of .87 (Zeigler-Hill, Besser, Myers, Southard, & Malkin, 2013) and a coefficient of .79 reported when used with adolescents (Supple & Plunkett, 2011). When used in South Africa, the scale has demonstrated excellent internal consistency, with coefficients of .93 and .97 (Westaway, Jordaan, & Tsai, 2013). In the present study the scale had acceptable reliability with a coefficient of .65.

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

The CYRM-12 was used to measure participants' levels of resilience. This 12-item self-report measure has a 5-point scale ranging from 1 (does not describe me at all) to 5 (describes me a lot), with higher scores indicating higher resilience. The scale has content validity and a coefficient of .84 when used with school-going adolescents (Liebenberg et al., 2013). The CYRM-12 is a shorter version of the CYRM-28 which is described as a reliable cross-cultural measure (Ungar & Liebenberg, 2011), with the CYRM-12 being noted as a suitable measure of resilience in adolescents (Liebenberg et al., 2013). In the present study the scale appeared to have good reliability with a Cronbach's alpha coefficient of .79.

2.5.8. Qualitative interview schedule.

The qualitative interview schedule (Appendix A) guided the exploration of contextual stressors, stress, coping strategies, as well as the psychological strengths that aid the mental health of adolescents in times of adverse social conditions.

2.6. Data Collection Procedures

After obtaining the necessary ethics clearance (from the research ethics committee) and institutional permission (from the WCED) to conduct research in schools, and before commencing with data collection, I met with the deputy principal or principal for each school. In each meeting, I introduced myself and initiated a discussion of the nature and purpose of the study, procedures as well as ethical considerations. In this meeting, the school principals were also furnished with the letters of permission from the Western Cape Education Department (WCED) and the Research Ethics Committee (human research) of Stellenbosch University. Permission was provided by each principal, with the exception of one principal who upon

follow-up indicated that they did not believe that learners would be interested in participating in the study. To indicate their permission, each principal provided a letter confirming their permission for data to be collected at their schools.

2.6.1. Recruitment of participants: Quantitative phase.

Two different methods of data collection for the quantitative phase were used and are discussed below.

2.6.1.1. Data collection method 1

The school principals or a teacher assigned by the principal as a representative of the school identified classes in which the researcher could approach learners for participation. Prior to the recruitment of learners in their respective classes, parental consent forms were distributed to learners by either the school principal, a teacher representing the school, the researcher or the research assistant and the learners were instructed to return any signed forms to the school. The parental consent forms were available in Afrikaans, English and isiXhosa.

When learners were approached to participate in the study they were informed about the details of the study, the ethical procedures and what participation entailed. Learners were approached to participate in the study in Afrikaans, English or isiXhosa (the dominant languages spoken in the Cape Metro region) and a few methods were used to approach learners:

- a. I approached Afrikaans-proficient learners.
- b. English-proficient learners were approached for participation by me or a research assistant.
- c. As I am not isiXhosa-speaking, an appointed and trained isiXhosa-speaking research assistant approached some learners for their participation in isiXhosa. When the isiXhosa-speaking assistant was not available (as it happened in some days and in some

schools), a pre-recorded isiXhosa audio-recording was played to learners, which outlined the various elements of the research study (the isiXhosa-speaking research assistant was enlisted to record the audio recording beforehand). After the audio recording was played to learners, they were encouraged to ask questions, and an isiXhosa-speaking teacher was approached when translation support was necessary.

- d. On certain occasions first language isiXhosa speakers were recruited in English without the need for the audio-recording, with the researcher ensuring that they understood and were comfortable with being recruited in English.

Learners were informed that they require parental consent if they should be interested in participating if they were under 18 years of age, and that (after conveying the researcher's request for parental consent through the participant information sheet and consent forms for parents) the consent forms needed to be signed and returned to the researcher if parents gave permission and if the participants aged below 18 years were willing to participate in the study. These participants then signed the assent forms. Those who were already aged 18 years and older (and willing to participate) provided their own consent by completing and signing the informed consent forms indicating their willingness to participate in the study.

Following a thorough 'walk-through' of the questionnaire and allowing learners to ask any questions, participants completed the questionnaires during the available times allocated by the school. The questionnaire was completed using a pen and took approximately 50 minutes to complete.

While some participants of this study did complete their questionnaires during class times, this method of data collection proved to be challenging due to limited data collection times during the school day, unexpected shifts in class schedules and unforeseen external activities taking place at the school or other sites (sport activities). In addition, the Western Cape Education Department outlines that school activities may not be disrupted by data

collection activities and, in respect of this principle, I ensured that I only collected data when I was allowed to do so, although the times were limited. In response to the limited times to collect data at the schools, I decided to adjust my data collection method and used a second method of data collection.

2.6.1.2. Data collection method 2

The same adjusted data collection method as was applied to the pilot testing phase was used during this phase. That is, following instructions regarding all ethical matters and procedures, a ‘walk-through’ of the questionnaire and a question and answer session, interested learners were asked to complete the questionnaire as a homework activity. Learners were furnished with a parental consent form, an informed assent/ consent form and the questionnaire. Under-age interested learners were instructed to furnish the parental consent form to their parents first and should they be willing to participate (after their parents gave consent), they could complete their assent form and the questionnaire for homework. Those who were already aged 18 years and older completed their consent forms and questionnaire without the need for parental consent. I returned to the schools to collect the completed data collection documents from learners. I openly acknowledge the limitations associated with completing the questionnaires at home (with the possibility of some adolescents receiving assistance in completing their questionnaires, or – worse – someone else completing it on their behalf). However, having tirelessly emphasised the ethical principles of confidentiality and anonymity, and that there is no right or wrong answer in giving responses to questionnaire items (and that participants should freely, and without subtle or real coercion, give answers in accordance with their own subjective experiences), my hope is that this “freedom” may have made adolescents trust that they could complete the questionnaire without assistance.

2.6.2. Recruitment of participants: Qualitative phase.

Parents and participants were informed that, depending on how participants answered some of the questions in the questionnaires, they might be approached to volunteer to be in the second phase of the data collection (qualitative phase, which was done through the use of follow-up individual interviews with selected participants).

As described in the sampling procedures, a total of 14 school-going adolescents who participated in the quantitative phase and completed a questionnaire were invited to volunteer to participate in the follow-up interviews. Learners were informed of all procedures for qualitative data collection prior to their participation in the 20–46-minute semi-structured interviews. Notably, all interviews were conducted by the researcher in Afrikaans or English, with no isiXhosa-speaking learner expressing the need to be interviewed in isiXhosa (this despite isiXhosa being their home language).

2.7. Data Analyses

A statistician was consulted to assist me with data analyses. The Statistica 13 statistical software package (TIBCO software Inc) was used to conduct general statistics (i.e. demographic statistics), while the Lavaan package in R (The R project for statistical computing) was used for the covariance based Structural Equation Modelling (SEM).

The reliability of all measuring instruments was tested by computing Cronbach's alpha coefficients. Hereafter, preliminary Confirmatory Factor Analyses (CFA) were conducted using Diagonally Weighted Least Squares (DWLS), which were acceptable for Likert scale measuring instruments. After these analyses were computed, the measurement and structural model was tested as part of the SEM (it is noteworthy that the method of maximum likelihood was used accordingly).

As I have no formal training in using SEM, I received mentorship, guidance and assistance from Prof Martin Kidd, a qualified statistician based at the Centre for Statistical Consultation at Stellenbosch University, regarding data analyses using SEM. From the repeated consultations with Prof Kidd, I can give confirmation of having a sound understanding of the intricacies of the determination of the nature and extent of the direct and indirect relationships between variables via SEM.

Qualitative data were analysed via computer-assisted qualitative data analysis (CAQDAS), known as ATLAS.ti. Following the transcription of interviews (by transcriptionists at the University's language centre), and the review of transcriptions by the researcher, the emerging data was reviewed, with segments of text being selected and coded to identify emerging themes that was then interpreted for meaning (thematic analysis) (Saldaña, 2013). Generated themes capture patterns emerging from the subjective experiences of adolescents and was used to assist the researcher in cultivating a theoretical understanding of the research problem. To contribute to the quality of the qualitative data, the researcher used eight criteria to guide the inquiry, which include a consideration of a worthy topic (a relevant, significant and timely topic was chosen); rigor (appropriate data collection and analyses processes were used); sincerity (self-reflexivity has been included in the conclusion); credibility (thick descriptions of narratives are included); resonance (transferable findings are captured); significant contribution (research may influence researchers through conceptualisation, theoretical contributions and methodology used); ethical considerations (ethical procedures were diligently considered); and meaningful coherence (methods are appropriate for research goals) (Tracy, 2010).

Moreover, in order to contribute to the trustworthiness of the data, an experienced researcher with a doctoral qualification in psychology (previously based at the Department of Psychology, Stellenbosch University), was asked to review the themes I generated. Notably, I

provided the researcher with two documents outlining the relevant themes for each qualitative manuscript and their associated examples. After they reviewed of the themes, two reports were generated by the assisting researcher, which served as a confirmation that all the themes were a reflection of the data.

Detailed descriptions of the data analyses for the present study will not be presented in this chapter because it is described at length in the different research articles of the present study.

2.8. Ethics Considerations

In addition to the ethics clearance from the Research Ethics Committee (REC) in Human Research at Stellenbosch University (see Appendix B), the researcher sought institutional permission from the WCED (see Appendix C) and the relevant school principals (see Appendix D) before the data-collection process. Prior to completing the research questionnaire, participants aged 18 years and older, were asked to provide their consent for participation (see Appendix E). Parental consent was sought for participants who were younger than 18 years of age (see Appendix F). These participants (where parental consent was granted), were also asked to provide their assent for participating in the study (Appendix E). To ensure voluntary participation, the researcher informed participants of their right to decline participation and withdraw from the study at any time – with no adverse consequences for them.

Participants' right to anonymity was ensured in various ways. Firstly, neither the names of participating schools nor of participants was captured in the research report. In order to identify participants for follow-up procedures (and possible referrals), a coding system was used to identify each participant, instead of their names.

For confidentiality of information to be adhered to, quantitative data was securely kept with no identifying information being captured in the data set for the study. Transcribed data from the qualitative interviews was also kept securely in a password-protected computer. The undertaking is that five years after the completion of the study, both the quantitative and qualitative data will be destroyed (hard copies of questionnaires will be shredded, and electronic data obtained from the interviews will be deleted from the computer folders).

In the event that participants experienced distress (both during and after the data-collection process), contingency plans were put in place to ensure that adolescents requiring referral, would be referred for free counselling services at conveniently situated hospitals or clinics in Cape Town. While no learners were visibly distressed during or after completing the questionnaire, two learners asked me whether I could arrange for them to speak to a mental health professional. In addition, one of the interview-participants asked whether I could refer them for counselling services. Notably, I referred a further 5 participants following my review of the questionnaires. In total, 8 participants were referred to a clinic accessible to them, where they could meet with a mental health professional.

Chapter 3: Article 1

Title: Stress and coping: Considering the influence of psychological strengths on the mental health of at-risk South African adolescents

Authors: Harrison, C. H., Loxton, H., & Somhlaba, N. Z.

Contribution of Carmen Harrison (doctoral candidate): I hereby declare that I conceptualised and wrote the present article with expert feedback being provided by the co-authors, my supervisors. Please see the co-authors declaration form (Appendix G).

Publication status of the article: The article has been published in *Child Care in Practice* and the citation of the article is as follows: Harrison, C., Loxton, H., & Somhlaba, N.Z. (2019). Stress and Coping: Considering the Influence of Psychological Strengths on the Mental Health of At-Risk South African Adolescents. *Child Care in Practice*, 1–15. doi: 10.1080/13575279.2019.1604492. Permission for the article to be published in the dissertation is captured in the publication agreement (Appendix H) and the article appears in the format prescribed by the relevant journal.

Brief Summary of the article: This article aligns to the main aim of the study, as it presents an argument for research to be conducted on the psychological strengths that may mediate the impact of psychological stress on the mental health of at-risk adolescents, experiencing contextual adversity. This conceptual article presents the literature that supports our argument that psychological strengths may mediate the impact of psychological stress on the mental health of adolescents who live in low-income communities in South Africa. We further suggest

that an enquiry into the factors that may mitigate the impact of psychological stress on the mental health of adolescents is essential for mental health focused strategies aimed at preventing mental illness or promoting mental health.

Stress and Coping: Considering the Influence of Psychological Strengths on the Mental Health of At-Risk South African Adolescents

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Abstract

In South Africa, many adolescents are affected by socio-economic adversity, which increases their susceptibility to experiencing stress that negatively affects their mental health. The synthesis of international literature has identified the psychological strengths (that include perceived social support, self-esteem and resilience) as having a protective effect on the mental health of at-risk adolescents who experience stress. Against this background, we argue that psychological strengths may assist South African adolescents in coping with stressors and may mediate the impact of stress on the mental health of adolescents living in conditions of socio-economic adversity. Given that this remains an under-researched area in the South African context, we also highlight the need for South African research that prioritizes the exploration of factors mitigating the experience of stress for adolescents. We also posit that such research should have significant implications for mental-health policy, practice, mental-health promotion and the prevention of mental disorders. We believe that such scholarly inquiries would be central to the intervention strategies aimed at preventing or ‘containing’ the scourge of poverty-induced psychological distress in South African youth.

Keywords: adolescence; mental health; risk; coping; psychological strengths

Introduction

Available evidence from literature suggests that healthy adolescent development, which includes mental health, is affected by a myriad of biopsychosocial factors (World Health Organization, 2018) that include poverty. In South Africa, an estimated 55.5% of the population experiences poverty, with children and adolescents under the age of 17 years being the group most vulnerable to experiencing poverty (Statistics South Africa, 2017b). These children and adolescents account for the largest proportion of poor people in the country, with an estimated 66.8% of all those under the age of 17 reportedly experiencing poverty, while young people in late-adolescence and early adulthood reportedly account for the second highest proportion (60.1% of all those aged 18 to 24 years) of poor people in South Africa (Statistics South Africa, 2017b). For adolescents, poverty has concerningly been linked to stress, which manifests as symptoms (such as depression and anxiety symptoms) that ensue when adolescents view events or circumstances in their environments as taxing, exceeding their resources to cope and threatening their well-being (Lazarus & Folkman, 1984). The challenging circumstances or events are viewed as stressors, which may evoke stress symptoms. Poverty has been linked to stress symptoms, including depression (Najman et al., 2010; Wadsworth & Berger, 2006) and anxiety (De Carlo Santiago, Wadsworth, & Stump, 2011; Mostert & Loxton, 2008; Muris et al., 2006), which may adversely impact on the mental health state of adolescents.

The inverse relationship between poverty and mental health is articulated in the social causation hypothesis, which postulates that the experience of poverty and its associated features, including stressful circumstances and events (stressors), increases the susceptibility for individuals to experience mental health problems (Simmons, Braun, Charnigo, Havens, & Wright, 2008). Furthermore, the relationship between poverty and stress-symptoms is well-documented (e.g. De Carlo Santiago et al., 2011; Mostert & Loxton, 2008; Wadsworth &

Berger, 2006). After encountering a stressor, adolescents may experience stress (symptoms of depression and anxiety). However, their ability to manage their stress symptoms or address the stressor they encounter may be pivotal to protecting their mental health state (Hutchinson & Baldwin, 2006), as it may buffer the impact of experienced stress on mental health.

While we draw emphasis on the importance of the adolescent stress-coping process in the context of poverty, our goal is to highlight that central to the process of coping are what we view as psychological strengths (that is, those internal and external protective factors that serve as a buffer against the experience of stress). We argue that these strengths largely influence adolescents' coping with stress symptoms they may experience, while residing in the context of poverty. Notably, with literature evidence showing the negative effects of poverty on mental health (for example, Cluver & Orkin, 2009; Dashiff, DiMicco, Myers, & Sheppard, 2009), it makes sense that studying aspects of mental health in the context of poverty should be a priority area for mental health research. Such scholarly inquiry would be consistent with the need expressed by some (e.g. World Bank, 2017), for effective psychological interventions to be closely tied to investigating the mental states and experiences of individuals, including children and adolescents, across the world.

Underscoring the burden of poverty in Sub-Saharan Africa, an estimated 42.3% of individuals are estimated to be living with under 1.90 USD per day (World Bank, 2018), with the poverty epidemic affecting more than half of the South African population (Statistics South Africa, 2017b). In the latest South African *poverty trends* report (Statistics South Africa, 2017b), an estimated 51% of children and adolescents under 17 years were living below the lower bound poverty line (at the time of the report it was set at R647 per month, and presently it is set at R758 per month, equivalent to 60 USD). As stated by Statistics South Africa (2017b), this livelihood pertains to the inability to obtain essential food and non-food items, leading to individuals having to sacrifice food items to obtain other essential non-food items. Moreover,

66.8% of those aged 17 years and under were reportedly living below the upper bound poverty line (R992 at the time of the report and presently set at R1138, – equivalent to 90 USD), referring to them experiencing poverty, but still being able to obtain adequate food and non-food items (Statistics South Africa, 2017b).

Growing up in the socio-economically adverse communities of South Africa poses numerous psychosocial and health risks that may evoke stress and negatively affect the mental health of adolescents. These risks include exposure to HIV/AIDS, substance abuse, violence (Flisher et al., 2012), and other stressors associated with teenage pregnancy, such as facing difficulty in continuing to attend school (Statistics South Africa, 2017a). Psychosocial challenges affecting adolescents may lead to those from socio-economically adverse communities to perceive their world and cycle of poverty as inescapable, thus evoking stronger feelings of hopelessness, dejection and poor quality of life (Nepomuceno, Cardoso, Ximenes, Barros, & Leite, 2016). The most salient factor in the loss of hope and the subjective experience of limited life opportunities, which has the potential to exacerbate stress symptoms, is school dropout, with dropout considered as a crisis in South Africa (Weybright, Caldwell, Xie, Wegner, & Smith, 2017). Expanding on the effects of poverty on school drop-out in the African context, Wilson and Somhlaba (2017) have posited that sub-optimally performing school-going children are influenced by the unequal societies in which they reside, as these communities are affected by a wide range of socio-economic challenges. Accordingly, these challenges collectively hinder their progress and thwart access to opportunities later in life that are related to academic success.

Among the plethora of risk factors associated with living in adverse socio-economic conditions, mental illness is documented as a prominent likely psychological outcome in adolescence, as poverty is associated with heightened vulnerability to experiencing mental illness, including mood – and anxiety disorders (Najman et al., 2010). While research has

contributed to our understanding of mental health problems in adverse contexts, there seems to be a lack of research that focuses on whether the psychological strengths and coping strategies of at-risk adolescents mediate the influence of stress, such as symptoms of anxiety and depression on their overall mental health.

We therefore argue that psychological strengths and coping strategies are crucial to the adaptive management of emotions, feelings and experiences in the context of poverty, positioning adolescents' psychological strengths as pivotal to their mental health. We further argue for an identification of those internal and external protective factors central to the mental health and coping strategies that may aid adolescents in times of need. We postulate that these are essential to adolescents living in conditions of poverty, considering the constellation of challenges they face in their livelihoods. We further posit that the psychological needs of this group of young people need to be addressed through targeted psychological interventions and continued scholarly inquiry into aspects that are pertinent to their mental health.

Stress and coping: The case of at-risk adolescents

Varied risk factors affect South African adolescents experiencing socio-economic stressors. Pertaining to social stressors, some defined population groups who were grossly affected by apartheid are largely affected by poverty, with 64.2% of Black people and 41.3% of Coloured people experiencing poverty compared to other population groups (5.9% of Indian and Asian people and 1% of White people; Statistics South Africa, 2017b). Some South African adolescents may therefore be affected by the remnants of apartheid – a history of socio-economic adversity and limited opportunities that have affected some families for decades. Notably, Muris et al. (2006) reported increased anxiety levels in Black and Coloured youth, compared to White youth, alluding to a complex set of contextual risk-factors (community

violence and socio-economic adversity) that may contribute to stress, including significant anxiety symptoms that threaten the mental health of these young people. It is noteworthy that while the racial terms used to describe members of the population are controversial in South Africa, we have used these terms to capture the different experiences of various population groups, without the intention of being discriminatory.

Adolescents experiencing socio-economic adversity may also experience other stressors with Otwombe et al. (2015) reporting that these adolescents have witnessed and experienced violence, including sexual abuse (Otwombe et al., 2015). Furthermore, adolescents may also be affected by abusive parenting styles, such as suffering physical and emotional abuse by a caregiver (biological parent(s) or a grandparent) (Meinck et al., 2017). Markedly, the authors (Meinck et al., 2017) reported that abusive parenting styles may manifest due to a caregiver experiencing poverty and the caregiver suffering with AIDS. In addition, it was reported that poverty and AIDS experienced by a caregiver was also related to the caregiver experiencing mental health distress. It is worth noting that abusive parenting styles used by a caregiver as well as a caregiver experiencing mental health distress, was found to be associated with increased health risks in adolescents, including mental health, physical health and problem behaviour (Meinck et al., 2017).

Reflecting on the findings of Meinck et al. (2017), it may be suggested that adolescents affected by emotional and physical abuse may encounter stress due to previous incidents of abuse and may experience anxiety and fear of being abused in future. Moreover, they may also be confronted with the mental health distress of their caregiver – which we believe may render them concerned for the welfare of the caregiver, themselves and their families, while also feeling hopeless in being able to help their caregiver. We argue that these emotions, – anxiety and fear associated with abusive parenting styles and the mental health distress of parents, may explain the increased vulnerability for experiencing health risks in adolescence. We further

posit that these experiences are intensified by poverty, with a range of stressors holding adverse implications for the stress levels and mental health state of adolescents.

Cluver, Boyes, Orkin and Sherr (2013) further noted that stressors such as being orphaned due to AIDS and having a caregiver with AIDS reportedly predicted mental health risks. With many South African youth being affected by the burden of HIV (Cluver, Boyes, Orkin, Pantelic, Molwena, & Sherr, 2013), it is pertinent to consider HIV/AIDS related stressors as adding to the accumulation of risk factors contributing to stress in the context of poverty. This notion is also emphasized by Petersen et al. (2010) who reported that HIV-positive South African children needed to cope with the loss of their parents, their HIV-positive status, stigma and discrimination. In addition, Mutumba et al. (2017) also reported that various stressors were related to psychological stress in HIV-positive Ugandan adolescents, with the authors outlining daily hassles and stigma as related to stress.

Reflecting on the literature presented, the stigma and discrimination that adolescents face as a result of their HIV-positive status, may result in them not seeking social support from others. We posit that apprehensiveness to seeking support may hinder adolescents' ability to deal with their emotions and to cope with difficult circumstances (particularly for those who tend to rely on social support), – which may contribute to their stress-levels.

Cluver, Orkin, Boyes and Sherr (2015) also reported on the negative consequences attached to the exposure to an accumulation of adverse childhood experiences among South African adolescents (including food insecurity, abuse, exposure to violence, being orphaned due to AIDS, having a parent with AIDS and the death of a parent due to homicide). Concerningly, the authors found a relationship between cumulative adverse childhood experiences and suicide behaviour (planned and attempted suicide; suicide ideation) in 10 to 15-year olds, at a one-year follow up (Cluver et al., 2015).

Considering the literature presented, adolescents may arguably be overwhelmed and feel taxed by the multiple stressors they encounter, and may feel unable to cope with their emotions, feelings or circumstances, resulting in stress. We posit that suicide behaviours exhibited by adolescents, may therefore be attempts to reduce or eradicate experiences of stress and may also be attempts at avoiding a stressor and associated stress.

The literature attests to a complex set of stressors/ burdens that may affect the stress-levels of South African adolescents who experience poverty. Much of the documented literature on stress also suggests that the experience of stress is contingent upon how individuals cope during a stressful encounter (Edlynn, Gaylord-Harden, Richards, & Miller, 2008; Lazarus & Folkman, 1984; Wadsworth & Berger, 2006), with some pointing to whether such coping is adaptive or maladaptive (Edlynn et al., 2008; Harrison, 2014; Lazarus & Folkman, 1984; Wadsworth & Berger, 2006). In this regard, literature alludes to problem-focused coping strategies, which includes problem-solving and social support-seeking, as enabling the individual to manage stressful encounters through decision-making and direct action (Folkman, 1984), and are associated with decreased vulnerability to developing mental disorders in adolescents (Wadsworth & Berger, 2006).

In contrast, emotion-focused coping, which includes avoidant coping (e.g. distraction, fantasy, social disengagement – in order to avoid the problem) involves attempts to alter the meaning of a stressor to enhance control over it (Folkman, 1984) or to regulate a stress response (Lazarus & Folkman, 1984). Avoidant coping has been closely linked to anxiety and depression (Wadsworth & Berger, 2006), which may be due to adolescents not addressing the stressor or emotions surrounding it. While some researchers capture avoidant coping as related to reduced anxiety (Edlynn et al., 2008), as the individual may avoid confronting the stressor or to cope with their stress-symptoms, the long-term sustainability of this coping style has been questioned in previous research (Somhlaba & Wait, 2009).

Investigating stress and coping, one investigation focussed on understanding the coping strategies of South Korean youth who experienced a range of risk factors (Lee et al., 2017), and a couple of coping strategies emerged as instrumental when facing difficulties. The coping strategies used by school-going South Korean adolescents revealed that adolescents who were considered resilient were those who were well adapted at school, including in their peer and teacher relationships, regardless of the multitude of risk factors they encountered. It was reported that this group of adolescents utilized problem-focused and emotion-focused coping strategies. This suggests that resilience in this group of adolescents may have been influenced by the ability to utilize these coping strategies. In contrast, those adolescents who faced fewer risk factors and were viewed as having low adaptability at school used neither of these coping strategies (Lee et al., 2017).

Further investigation into the use of coping strategies in school-going adolescents took place in North America, and this revealed that levels of self-esteem (as defined by Rosenberg (1965) as an individual's perceived self-worth and competence) affected the use of either problem-solving coping or emotion-focused coping. In this instance, the North American adolescents who had high self-esteem were found to utilize more problem-solving coping and less emotion-focused coping than those who had low self-esteem (Mullis & Chapman, 2000). As self-esteem refers to an individual's perceived competence (Rosenberg, 1965), this view of competence relates to adolescents' ability to solve problems, which may explain the increased use of problem-solving coping in adolescents with high self-esteem.

When at-risk adolescents experience stress in the context of adverse socio-economic conditions, this may prompt them to constantly revise coping strategies (Lazarus & Folkman, 1984). They may use those strategies that are appropriate for managing their emotions when they experience stress, or which can assist them in dealing with a stressor directly – and thereby mitigating the impact of stress/ stressors on their mental health state. While coping strategies

are instrumental in times of stress, the following section will emphasize that adolescents may also rely on a range of psychological strengths, such as perceived social support, self-esteem and resilience to cope adaptively with their stress experience. We argue that these psychological strengths may positively affect mental health as they act as protective factors that may mediate the impact of stress on mental health.

Psychological strengths as mediators of the stress-coping process

Stress, including depression and anxiety symptoms, may occur when adolescents are not able to deal with the taxing circumstances they encounter (Lazarus & Folkman, 1984). Accordingly, the nature and extent of the stress experience may be influenced by the coping strategies individuals appraise themselves to have, and their psychological strengths, which inform their perceived competence, efficacy and control over the stressor. As stated, we argue that adolescents' psychological strengths are equally pertinent to explore and understand when studying the stress-coping processes of adolescents experiencing stressors while residing in socio-economically adverse communities. These protective factors may be central to the coping efficacy of adolescents and thus their ability to manage stress.

Perceived social support

Tied to the consideration of the psychological strengths that influence stress, coping and mental health are the perceptions of available social support when confronted with stress. Through perceived social support, individuals can determine the available avenues for enlisting support from, sharing with, and confiding in significant others in times of need and, with the perceived availability of others to help, perceive the ability to cope with a stressor (Lewis, Abramovitz, Koenig, Chandwani, & Orban, 2015; Smokowski, Evans, Cotter, & Guo, 2014).

The role of social support has been explored with adolescent populations, with Graber, Turner and Madill (2016) focusing on the impact of a supportive friendship for the well-being, – particularly the resilience of adolescents. The authors posit that the behaviours involved in making a friend and maintaining that friendship may positively inform the resilience of adolescents and hypothesise a positive relationship between a supportive friendship and resilience in vulnerable adolescents (Graber et al., 2016). When adolescents perceive themselves to have supportive quality friendships, this may result in them utilizing active coping strategies which contribute to their resilience. In their investigation, Graber et al. (2016) found that perceptions of close friendship were related to active coping and social support-seeking in adolescents, while higher perceived friendship quality was reported as significantly related to higher psychological resilience. Notably, the perceptions of social support held by adolescents are pertinent as they may assist in their management of emotions during stressful times, prompting them to seek social support, and encouraging effective coping with stressors encountered.

Camara, Bacigalupe and Padilla (2017) discuss the pertinence of social support in assisting adolescents in coping with stressors. The investigation focused on understanding the supportive relationships adolescents hold and on explicating the impact of these relationships on the stress experience. While some relationships may be a source of stress for adolescents (such as in the case of conflict with peers, parents or friends), social support remains a protective resource that is pertinent for adolescents to have during stressful encounters (Camara et al., 2017). Moreover, the nature and quality of adolescents' relationships within the social milieu also affects their likelihood of seeking social support, as certain characteristics inform social support-seeking behaviours. These include their trust of the person, as well as the empathy the person shows towards them (Camara et al., 2017). Knowledge of social support or appraisals of support available in times of need may mobilise adolescents to seek support

when they are facing certain challenges, which may have an influence on how they address a stressor that they encounter, or their emotions arising from a stressful experience.

On the relationship between social support and mental health in adolescents experiencing socio-economic challenges, Hurd, Stoddard and Zimmerman (2013), investigated whether poverty and unemployment rates predicted symptoms of anxiety and depression in African American adolescents, when the moderating effects of social support and perceptions of neighbourhood cohesion were considered. The authors found that higher neighbourhood poverty and unemployment rates were positive predictors of symptoms of depression and anxiety, via lower cumulative social support and perceptions of neighbourhood cohesion (Hurd et al., 2013). Particularly focusing on the role of social support, this finding may suggest that depression and anxiety are risk factors in the context of increased neighbourhood poverty, when the social support available to adolescents are perceived to be low.

With the literature positioning social support (Camara et al., 2017) and perceived social support (Lewis et al., 2015) as influencing coping ability, we argue that social support is a psychological strength that may be essential for adolescents who face stressors while residing in socio-economically adverse communities. Notably, we note that adolescents' appraisal/perception of social support available from others, would be especially pertinent as it may facilitate social support-seeking and active coping in times of need. Perceived social support may therefore act as a protective factor that could be instrumental in mediating the impact of stress on the mental health state of adolescents.

As emphasized in ecological theories on human development (i.e. Bronfenbrenner, 1979; Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006), the context in which adolescents are located affect their development, and the development of mental disorders. Therefore, an investigation into how perceived social support influences the mental health of

adolescents who experience poverty, is warranted. Such an inquiry would be important if it focussed on the exploration of the dynamic social transactions between adolescents and significant others in their environments, which are central to understanding the impact that the relationship between stress and coping (Lazarus & Folkman, 1984) has on mental health.

Self-esteem

Self-esteem, often defined as perceptions of one's own self-worth and competence in the face of challenges, and which contributes to views on self-efficacy (Rosenberg, 1965), is another valuable psychological strength that may aid adolescents when they are distressed. The protective role of self-esteem is evident in the research that contends that high self-esteem positively influences adolescent mental health, with low self-esteem being a risk factor for depression. Accordingly, individuals with low self-esteem are likely to have deficient perceptions of worth and adequacy, with this increasing their vulnerability to experiencing stress (Behnke, Plunkett, Sands, & Bámaca-Colbert, 2011).

In seeking to understand whether low levels of self-esteem during adolescence were related to symptoms of depression in adult life, Steiger, Allemand, Robins and Fend (2014) found that adolescents who had low levels of self-esteem in early adolescence (or those who had diminished levels of self-esteem throughout adolescence) had a higher likelihood of exhibiting symptoms of depression in later life (two decades later) (Steiger et al., 2014). This finding further points to the potential protective role that self-esteem may exert on adolescents' lives, given that self-esteem is linked to their self-worth and their perceived ability to cope with stressors.

The available research evidence suggests that the self-esteem of adolescents who find themselves in generally stressful life circumstances, which include homelessness, is adversely

affected. For example, Saade and Winkelman (2002), comparing adolescents who have been homeless for 3 months or less with those who have been homeless for 6 months or more, indicate differences in levels of self-esteem with those who have been homeless for less than 3 months having significantly higher levels of self-esteem than those adolescents for whom the duration of homelessness has been 6 months or more. This finding may indicate that multiple stressors associated with homelessness, including food insecurity, safety concerns, hunger, exposure to violence and hopelessness, may exert an ongoing and cumulatively detrimental influence on the mental health of adolescents – which includes their self-esteem. Notably, an exploration of the role of self-esteem, particularly for at-risk adolescents is necessary, given the critical role self-esteem-enhancing interventions could play in uplifting adolescents from socio-economically adverse communities.

Resilience

Another consideration of the role of psychological strengths mediating the relationship between experiences of stress and mental health, is founded on the idea that successful adaptation in the context of adversity (known as resilience; Garmezy, 1991; Masten, 2014) may positively affect adolescent mental health in times of duress. Available research on resilience suggests that it involves the process of adapting well and withstanding the stressors experienced, which could explain its documented inverse relationship with depression and anxiety in adolescents (e.g. Skrove, Romundstad, & Indredavik, 2013), with this positioning resilience as instrumental in the stress-coping process of adolescents.

Resilience is a psychological strength that may have a direct impact on the mental health state of adolescents. As in the case of at-risk Rwandan youth who have experienced trauma and poverty (Scorza et al., 2017), resilience has been found to be negatively associated

with depression levels – indicating that this psychological strength may be essential to adolescents during emotional upheavals, with the authors suggesting that resilience may be instrumental in preventing mental health challenges.

It may be suggested that when adolescents can manage their emotions due to stress, and attempt to address the source of stress directly, this may allude to them being able to cope and adapt regardless of the circumstances they endure – which is indicative of resilience. Thus, resilience may be a pertinent protective factor when adolescents face stressors and associated stress.

It is pertinent to note that resilience is not only influenced by the interactions within adolescents (i.e. genetic or cognitive factors), but is also shaped by the dynamic interaction between adolescents and their environments (i.e. the family/ community) (Masten, 2015). It stands to reason, therefore, that inquiries focused on at-risk adolescents' successful adaptation should therefore be rooted in a consideration of the dynamic interaction between the individual and contextual factors.

Exploring the centrality of resilience in individuals who experience poverty in the South African context, Theron and Theron (2013) highlight the role of the traditional African community in facilitating positive adaptation in individuals. From this study, which was conducted on University-attending resilient individuals from South African communities characterised by poverty, the authors found that the family community was essential to the resilience of participants. From this perspective, the expectation for the individual to be successful and to prosper, and a simultaneous support of their pursuit of success, characterised the transactions between these students and their family communities, which the authors identified as key to the participants' resilience (Theron & Theron, 2013). This investigation offers insight into the socially determined and – derived resilience that prevails in the African

context, which serves to highlight the pertinence of investigating resilience in African contexts like that of South Africa.

Other authors have emphasized the importance of understanding the role of protective factors and its potential impact on promoting well-being in young people (Savahl, Isaacs, Adams, Carels, & September, 2013). Investigating psychological strengths, would enable us to understand the interactions of these variables (perceived social support, self-esteem and resilience) in the context of poverty, and to study their individual/ collective impact on the mental health of adolescents – adding to our knowledge of protective factors that operate in the context of risk.

Implications of investigating psychological strengths and the way forward

In this paper, we have emphasized that the stress-coping experience, in line with Lazarus and Folkman's (1984) transactional stress model, is informed by the dynamic interaction between adolescents and their environments. With specific reference to the South African context, adversity is associated with susceptibility to the stress experience, including depression, anxiety (Strydom, Pretorius, & Joubert, 2012), and posttraumatic stress disorder (Das-Munshi et al., 2016). When adolescents experience an event/ circumstance as stressful, they may evince heightened symptoms of depression and anxiety, with these levels of stress being dependent on the manner in which they subjectively evaluate their coping resources as well as the constellation of internal and external strengths available at their disposal. Furthermore, their navigation of the stress experience is also dependent on the perceived availability of resources for coping, – this being a factor that may exert an influence on, or positively influence their mental health state.

An intervention conducted by Mostert and Loxton (2008) further underscores the need for interventions with at-risk South African children and adolescents experiencing stress (and therefore research focused on this theme). This CBT (cognitive behavioural therapy) programme focused on reducing anxiety, yielded promising long-term effects among school-going South African children who were on the brink of adolescence, and who predominantly lived in low-socioeconomic contexts (Mostert & Loxton, 2008). This alludes to the potential positive impact of psychological interventions aimed at addressing stress in children and adolescents. Given that the study (Mostert & Loxton, 2008) indicates the prevalence of anxiety in childhood, there is also a need for stress-reducing and mental-health promoting interventions to target children prior to adolescence, which could strengthen their coping abilities as they transition into adolescence.

Since no notable study has delved into the mediating influence of psychological strengths (perceived social support, self-esteem and resilience) on the mental health of adolescents who experience stress in the context of poverty, it becomes incumbent on social scientists to investigate aspects central to adolescent mental health in the context of socio-economic adversity. Investigations of this nature would not only be valuable to expanding knowledge about stress, coping and psychological strengths that affect vulnerable adolescents, but can inform interventions focused on mental-health promotion, and the prevention of mental illness in adolescents who already experience socio-economic adversity and related challenges.

Concluding remarks

The experience of poverty in adolescence is related to stress, as manifested in symptoms of depression (De Carlo Santiago et al., 2011; Najman et al., 2010; Wadsworth & Berger, 2006) and anxiety (De Carlo Santiago et al., 2011; Mostert & Loxton, 2008; Wadsworth & Berger,

2006). These symptoms threaten the mental health state of adolescents, and related psychosocial outcomes, such as interfering with pertinent adolescent-milestones, including school achievement (Fröjd et al., 2008). This may result in limited opportunities, unemployment and threaten adolescents' ability to transform their socio-economic circumstances. Moreover, the threat of suicide (Cluver et al., 2015) remains a concerning risk factor associated with experiencing stress, with an accumulation of adverse childhood stressors being related to suicide behaviour in South African adolescents (Cluver et al., 2015).

In this paper we have emphasized that South African adolescents are affected by multiple stressors that may result in stress and have an impact on their mental health state. In addition, it is evident that adolescents need to cope with a range of difficult circumstances, as well as their stress in relation to these challenges. However, adolescents may not be able to cope adaptively with these stressors and may not have the psychological strengths that may assist them with managing stressors and stress (as alluded to by those adolescents who portrayed suicide behaviours in the context of various stressors).

We argued that understanding the stress-coping process of at-risk adolescents is central to identifying the helpful mechanisms of coping that could assist in the prevention of adverse mental health outcomes and the promotion of adaptive coping strategies and strengths that may be vital to adolescents facing hardship. As the discussion revealed that psychological strengths are protective factors that may inform the coping of adolescents when experiencing stress, it becomes necessary to investigate how these strengths are salient determinants of the stress-coping experience for those adolescents living in conditions of poverty. The value of inquiries of this nature has positive implications for transforming the bidirectional relationship between poverty and mental illness in socio-economically adverse South African settings – which may positively affect the population's mental health, employment opportunities and may contribute to poverty alleviation and eradication.

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Chapter 4: Article 2

Title of the article: Psychological strengths as mediators of the psychological stress and coping process for South African adolescents living in low-income communities

Authors: Harrison, C. H., Somhlaba, N. Z., & Loxton, H.

Contribution of Carmen Harrison (doctoral candidate): I hereby declare that I conceptualised and wrote the present article with expert feedback being provided by the co-authors, my supervisors. Please see the co-authors declaration form (appendix G).

Publication status of the article: The manuscript was submitted for publication at an international journal and is currently (January 2020) unpublished. The manuscript appears in the format required by the journal it was submitted to.

Brief Summary of the article: This article aligns to the aim of the study because it addresses one of the primary research questions, that is: what is the nature of the relationship between the variables (psychological stress, coping strategies and psychological strengths) and the mental health of school-going adolescents from low-income communities of the Cape Metropole?

The aim of this quantitative article was to explore whether psychological strengths mediate the impact of psychological stress on the mental health of school-going adolescents who live in low-income communities in the Cape Metro region of South Africa. Using Structural Equation Modelling a hypothesised model was tested and relevant findings are discussed. It is hoped that the results of the article can be used by mental health professionals

and interventionists focused on preventing mental illness and promoting mental health, as the article outlines the protective resources that may be pivotal to the management of psychological stress for adolescents experiencing socio-economic adversity.

Formatting/ style of the manuscript

As per the University requirements, the manuscript appears in the formatting/ style required by the journal it was submitted to.

Psychological strengths as mediators of the psychological stress and coping process for South African adolescents living in low-income communities

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Declaration of conflict of interest

We hereby note that we have no conflict of interest to declare. However, funding received is acknowledged below.

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Abstract

Background: South African research has paid scant attention to the role of psychological strengths in coping with psychological stress and the impact these have on the overall mental health of adolescents living low-income communities.

Method: The present study explored whether psychological strengths mediate the impact of psychological stress on the mental health of school-going adolescents. In total, 347 school-going adolescents (aged 12 to 21 years) who were living in low-income communities in the Cape Metro region of Western Cape, South Africa, were included in the study. We used Structural Equation Modelling to test a hypothesised model including the latent variables of mental health, psychological stress, psychological strengths (self-esteem, perceived social support and resilience) and various coping strategies.

Results: Results indicated that the hypothesised measurement model fit the data and the structural relations revealed that the relationship between psychological stress and mental health was fully mediated by psychological strengths. Therefore, psychological strengths had a protective impact on the mental health of adolescents who experienced psychological stress in the context of socio-economic adversity.

Conclusion: These results can be used to inform strategies aimed at enhancing mental health and preventing mental illness in at-risk adolescents.

Keywords: adolescents; psychological strengths; psychological stress; socio-economic adversity

1. Introduction

The World Health Organization (2007) outlines a positive association between poverty and mental illness – thus highlighting an individual's susceptibility to experiencing mental illness being heightened in the context of poverty (with the negative cycle between poverty and mental illness being prominent in low-income and middle-income countries (Lund et al., 2011).

Considering that adolescence is characterized as a stage of navigating the challenges associated with the transition to adulthood (Gouws, 2014), recent research shows that the situation of adolescents living in conditions of socio-economic adversity in South Africa is compounded by having to also contend with stressors related to poverty (Harrison, Loxton, & Somhlaba, 2019). Repeated and continuous exposure to these stressors could therefore heighten their vulnerability to psychological stress, in the form of anxiety and depressive symptoms (Patel & Kleinman, 2003). It is our view – in line with Lazarus and Folkman's (1984) conceptualisation of stress – that these symptoms serve to illustrate the adolescents' difficulty with coping with the wide range of challenges that they encounter in the context of their livelihoods.

From the available literature on psychological stress and coping, it is suggested that the management of a stressful encounter for at-risk adolescents facing adversity (be it adolescence-related or poverty-related stressors) is deemed as contingent on the use of, and reliance on, certain psychological strengths or health-promoting factors, which mediate the negative impact of psychological stress on mental health, likely resulting in good mental health outcomes (Nepomuceno, Cardoso, Ximenes, Barros, & Leite, 2015). There is empirical support for such psychological strengths as self-esteem (Behnke, Plunkett, Sands, & Bámaca-Colbert, 2011), resilience (Skrove, Romundstad, & Indredavik, 2013), perceived social support (Smokowski, Evan, Cotter, & Guo, 2014) and coping abilities (Wadsworth & Berger, 2006) as being inversely related to mental ill health. However, scant attention seems to have been paid to how

these psychological strengths affect the mental health of adolescents living in socio-economically adverse communities, as in South Africa. An investigation that sheds light on the psychological strengths that may act as protective resources to the mental health of at-risk adolescents who experience psychological stress, would be warranted. Findings from such a scholarly inquiry may contribute to intervention programmes aimed at mental-health promotion and the prevention of mental illness for adolescents living in socio-economically adverse contexts. The psychological needs of adolescents living in conditions of poverty should be a priority area for social scientists concerned with adolescent mental health in contexts like that of South Africa.

It is against this background that the primary aim of this study was to explore the extent to which psychological strengths mediate the impact of psychological stress on the mental health of adolescents who live in low-income communities in the Cape Metro, in the City of Cape Town, South Africa. The secondary aim of this study was to explore the relationships between the variables psychological stress, psychological strengths, coping strategies and mental health. Figure 1 depicts the hypothesised relationships among the variables.

We define psychological stress as "...a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p.19). In addition, psychological strengths are an adolescents' personal resources that they may utilize and that may inform their coping process and their mental health: we identify self-esteem, perceived social support and resilience as psychological strengths. Moreover, coping refers to the "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141).

We argue that understanding the psychological stress and coping processes of vulnerable adolescents (and the psychological strengths affecting this process) may positively affect the nature, course and direction of mental-health-promotion programmes and augment mental-illness-prevention interventions focused on adolescents who live in socio-economically adverse contexts.

Following the presentation of the hypotheses below, we discuss the psychological strengths (self-esteem, perceived social support and resilience) that may act as mediators of the psychological stress and coping process and that may positively affect mental health.

1.1. Hypotheses of the study.

The hypotheses below guided the study (Figure 1 depicts the hypothesised relationships). It is noteworthy that mediating effects were specified in the Structural Equation Model (Figure 1) by arrows running from the independent variable via a mediator to the dependent variable, and also through direct arrows running from the independent variable to the dependent variable.

1.1.1. Pertaining to the relationships between psychological stress, psychological strengths and mental health:

- There would be a significant negative relationship between psychological stress and mental health.
- In addition, psychological strengths would mediate the relationship between psychological stress and mental health and thereby psychological stress will have a positive relationship with mental health.

1.1.2. Pertaining to the relationships between psychological stress, coping strategies and mental health:

- Psychological stress would have a significant negative relationship with mental health.
- The relationship between psychological stress and mental health would be positively mediated by problem-solving coping.
- The relationship between psychological stress and mental health would be positively mediated by social support-seeking.
- The relationship between psychological stress and mental health would be negatively mediated by avoidant coping.

1.1.3. Pertaining to the relationships between psychological strengths, coping strategies and mental health:

- Psychological strengths would be significantly positively associated with mental health.
- The relationship between psychological strengths and mental health would be positively mediated by social support-seeking coping.
- The relationship between psychological strengths and mental health would be positively mediated by problem-solving coping.
- Avoidant coping would negatively mediate the relationship between psychological strengths and mental health.

2. Exploring the Role of Psychological Strengths on Adolescents' Mental Health

We identify three psychological strengths, as discussed below. These are: self-esteem, perceived social support and resilience.

2.1. The protective role of self-esteem.

Self-esteem (perceptions of one's own competence in the face of challenges, which contributes to views on self-efficacy; Rosenberg, 1965) is arguably a valuable psychological strength that may aid an adolescent when they are experiencing psychological stress. The protective role of self-esteem is evident in the research that contends that high self-esteem positively influences adolescent mental health, with low-self-esteem being a risk factor for psychological stress such as depression – as individuals with low self-esteem are likely to have deficient perceptions of worth and adequacy, increasing their vulnerability to experiencing psychological stress (Behnke et al., 2011). We argue that an exploration of the role of self-esteem, particularly for at-risk adolescents is necessary, given the critical role self-esteem-enhancing interventions could play in uplifting adolescents from low-income communities, especially if it is found to positively influence adolescents' mental health when they experience psychological stress.

Pertaining to self-esteem, we argue that when adolescents experience psychological stress, high self-esteem may guide them towards using adaptive coping strategies such as problem-solving or seeking social support, leading to a higher likelihood of a preserved mental health state, instead of the onset of a mental disorder. In this way, self-esteem mediates the impact of psychological stress on the mental health state of adolescents.

Moreover, it could also be argued that when adolescents experience psychological stress, high self-esteem operates as a protective factor that positively influences their perceptions of being able to deal with their stressors and psychological stress, therefore directly impacting on their mental health state.

2.2 Perceived social support as a psychological strength.

While social support may aid adolescents in their coping efforts (Camara, Bacigalupe & Padilla, 2017), we argue that the perceptions of social support held by adolescents are pertinent as it may assist in their management of emotions during stressful times, prompting them to seek social support, and encouraging effective coping with stressors/ psychological stress encountered.

The protective role of perceived social support has been outlined by other researchers as essential to the mental health of adolescents experiencing socio-economic adversity (Vaughn & Scott, 2003) and being associated with less depression in HIV positive adolescents, indicating the importance of understanding the role of this protective resource for vulnerable South African adolescents. While these inquiries add to knowledge about the pertinent role of perceived social support for adolescent-mental health, the present study seeks to understand the mediating role that perceived social support could have on the mental health of adolescents who experience psychological stress in contexts of socio-economic adversity.

2.3. Resilience as a psychological strength.

The study of resilience underscores the importance of delving into the risk factors and psychological strengths that affect the well-being of individuals, which may inform the development of preventative and promotive mental health interventions. Literature has operationalized resilience in various ways, with a focus on adaptation, processes affecting adaptation in the face of risk and the role of individual capacity being prominent themes. In 1991 Garmezy conceptualised resilience as the process whereby individuals are able to adapt well and withstand the stressors experienced. The adaptation and sustained well-being of individuals in the context of risk could explain resilience's relation to reduced depression and

anxiety in adolescents (Skrove et al., 2013). This positions resilience as instrumental in the psychological stress and coping process of adolescents.

Clarifying the centrality of resilience in individuals who experience poverty in South Africa, is an investigation by Theron and Theron, (2013) which unravels the role of the traditional African community in facilitating positive adaptation in individuals. This investigation, which included university-attending resilient individuals from South African communities characterised by poverty, notes that the family community was essential to the resilience of participants. The transactions between themselves and their family communities were characterised by an expectation for the individual to be successful and to prosper, and a simultaneous support of their pursuit of success. Notably, these transactions were identified as

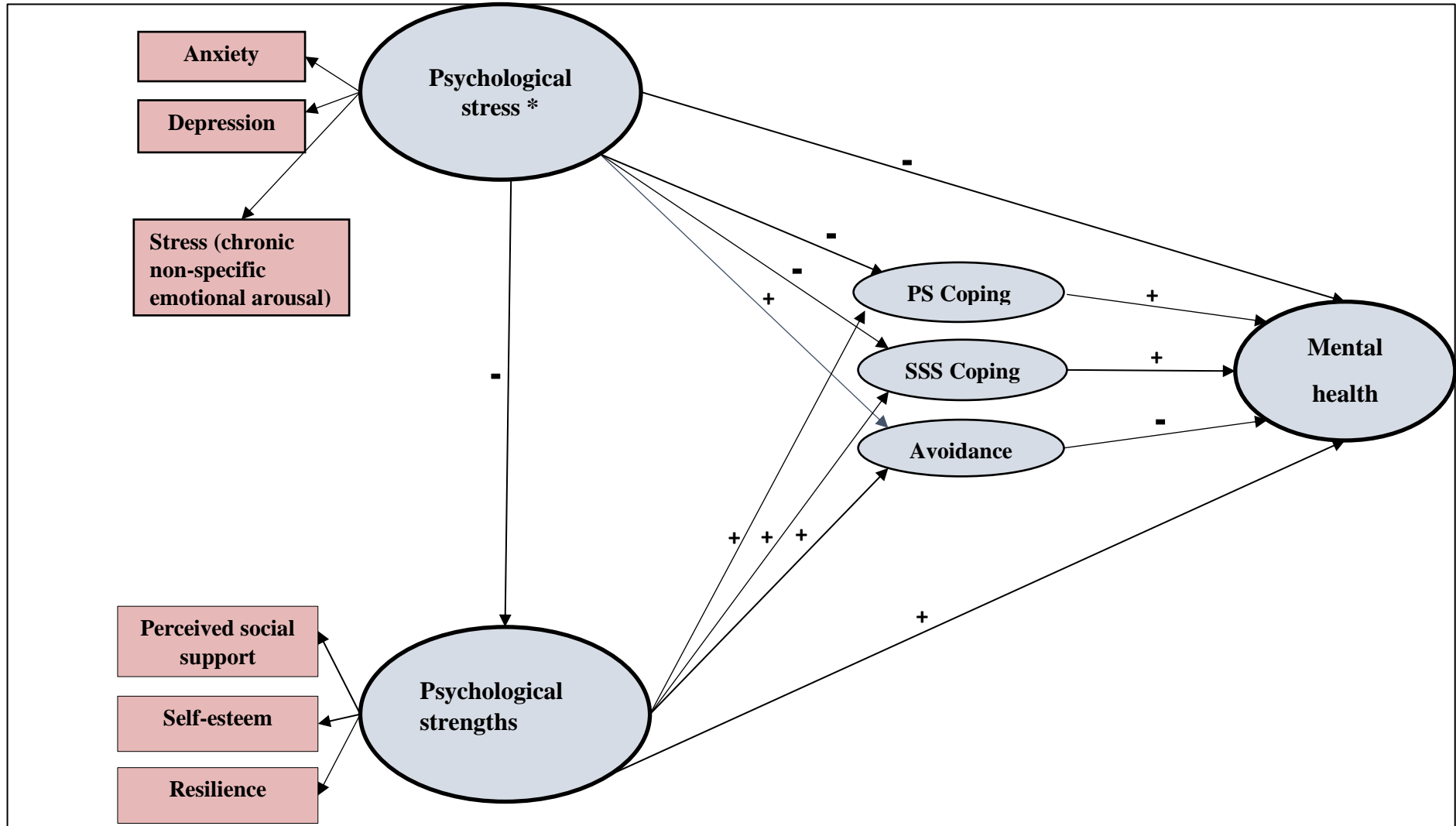


Figure 2. Hypothesised model depicting relationships among variables (while PS refers to problem-solving coping, SSS refers to social support-seeking coping and avoidance refers to avoidant coping). Please note that due to the size of the graph the manifest variables for the three coping strategies and mental health are not shown.

*The scale that measures psychological stress includes depression, anxiety and non-specific emotional arousal (stress)

key to the participants' resilience (Theron & Theron, 2013). This investigation offers insight into resilience within the African context and testifies to the pertinence of investigating these psychological phenomena in local African contexts.

Understanding the role of psychological strengths on psychological functioning, should any exist, could assist in decreasing the adverse impact of psychological stress on the mental health of at-risk adolescents who experience psychological stress in the context of poverty (Amone-P'Olak et al., 2009), through interventions that strengthen psychological resources.

3. Method

3.1. Participants.

In total the original sample of the larger research-study comprised 446 participants, who were recruited from 6 no-fee paying schools in the Cape Metropole, Cape Town, Western Cape province of South Africa. However, due to instances of missing data for the present study, 347 participants were included in the final sample. These schools have been classified as 'no-fee paying' due to the economic status of the communities in which they were situated (Department of Basic Education, South Africa, 2019). Of the 347 participants, 188 (54%) adolescents attended school in the Metro East area, while 104 (30%) attended school in the Metro South area and 55 (16%) attended school in the Metro North area of Cape Metro.

As depicted in Table 1, of all the participants, 215 (62%) were female, while 132 (38%) were male, and their ages ranged from 12 to 21 years of age (Mean = 15.4091 years, SD = 1.4812). Moreover, with regards to grades, participants were in Grade 8 (147 participants, 42%), Grade 9 (81 participants, 23%), Grade 10 (71 participants, 21%) and Grade 11 (47 participants, 14%). Pertaining to home- or first language, there was a range of languages, with isiXhosa being the predominantly reported as first language, with the language being reported

as a first language by 84% of participants, while English was reported as a first language for 20% of participants and Afrikaans by 15% of participants, and 3% indicated that they spoke other first languages.

On the demographic questionnaire, participants reported to be residing with their parents and other caregivers as well (i.e. other family members and guardians), with the number of people living in participants' households, ranging from 0 to 20 people (Mean = 5.524 people, SD = 2.6976).

Regarding residential status, participants reported living in a range of dwellings, in which ranged from a brick-built home (172 participants, 52%) followed by 94 (29%) participants who reported living in an informal dwelling or in an informal settlement. Pertaining to water access, it was noticeable that while most participants described having access to piped water inside their home (172 participants, 51%), to piped water inside their yard (70 participants, 21%) or water from outside their yard (54 participants, 16%), participants had a range of access to water. Regarding toilet facilities, participants reported mostly having access to a toilet inside the home (91 participants, 31%), while a range of responses regarding toilet access was provided (including the bucket-system¹, no toilets and public toilets).

In response to a question of the extent of access to meals at home, most participants also further mostly reported that they did not have to skip a meal in the previous month of participating due to insufficient food (256 participants, 75%) while 86 participants (25%) reported having had to skip a meal due to insufficient food at home.

We also asked participants to report on their perceptions on community safety, community violence and their witnessing or experiences of crime - these results are captured in Table 2. Firstly, most participants (140 participants, 41%) reported having a lot of safety

¹ A bucket toilet system refers to when a bucket is used to collect and dispose of excreta.

concerns. Moreover, 161 participants (47%) reported a high rate of violence within their community, while 192 participants (56%) also witnessed crime in their community.

Participants were also asked about their perceptions of their own mental health and coping abilities (Table 3). In this regard, and regardless of the challenges embedded within their communities, a large majority of participants (257, 76%) reported feeling ‘psychologically healthy, mentally stable and well’ compared to a smaller number of participants (22, 7%) who felt ‘psychologically unhealthy, mentally unstable and unwell’.

Regarding their overall subjective experience of their capability for coping, participants also mostly reported feeling that they were either always (141 participants, 41%) or sometimes (160 participants, 47%) able to cope well with psychological stress compared to only a few participants (15 participants, 4%) who reported feeling that they were never able to cope well with psychological stress.

Table 1

Demographic characteristics of the school-going participants (N =347)

		Participants (N)	Percentage (%)
Metro	East	188	(54)
	South	104	(30)
	North	55	(16)
Sex	F	215	(62)
	M	132	(38)
Grade	8	147	(42)
	9	81	(23)
	10	71	(21)
	11	47	(14)

3.2. Procedures and ethics considerations

We used randomised cluster sampling to select 7 no-fees secondary schools situated across the Cape Metro from which to collect data. The first author first sought and obtained ethics clearance from the research ethics committee (REC), human research, and institutional permission from the Western Cape Education Department (WCED) and all school principals from participating schools.

Prior to data collection, we translated all instruments, which are already in the public domain, from English into Afrikaans and isiXhosa² through the Brislin (1970) method of translation (Jones, 2001). This included the independent back-translation of the scales (from Afrikaans and isiXhosa to English) to ensure the accuracy of the translations.

After obtaining parental consent for participants under 18 years (via letters sent home to parents) and assent from these participants as well as consent for participants aged 18 years and above, a cognitive testing of the scales and piloting of these measures was carried out at one of the 7 schools, which was situated in the Cape Metro North region.

Following parental consent and participant consent/ assent procedures, a pilot testing phase commenced at the same school at which the cognitive testing was conducted, which involved participants completing the questionnaire, followed by a feedback session, during which they were asked to provide feedback regarding the questionnaire comprehensibility, challenges faced with instructions, items or response scales and general feedback. A benefit of the pilot-testing phase was that it highlighted the logistical challenges and the feasibility of the study in the school setting.

² English, Afrikaans and isiXhosa are the three predominantly spoken languages of the Cape Town area.

Table 2

Perceptions about community safety, community violence and witnessed/experienced crime.

	Participants (N)	Percentage (%)
Perceptions about safety in their community		
I have a lot of safety concerns in my community	140	(41)
I have some safety concerns in my community	127	(37)
I have no safety concerns in my community	71	(21)
Multiple responses	3	(1)
Perceptions about violence in their community		
There is a high rate of violence in the community	161	(47)
There is some violence in the community	123	(36)
There is no violence in the community	89	(17)
Multiple responses	1	(0)
Perceptions about witnessed or experienced (crime) in their community		
I have witnessed crime in my community	192	(56)
I have been a victim of crime in my community	25	(7)
I have witnessed and been a victim of crime in my community	21	(6)
I have not witnessed or been a victim of crime in my community	99	(29)
Multiple responses	3	(1)

Table 3

Participants' perceptions of their mental health and coping abilities (N = 347)

	Participants (N)	Percentage (%)
Perceptions about mental health		
I am psychologically healthy, I feel mentally stable and well.	257	(76)
I feel a little psychologically healthy, a little mentally stable and well.	44	(13)
I am not psychologically healthy, mentally stable or well.	22	(7)
I feel a little psychologically ill, mentally unstable and unwell.	11	(3)
Multiple options selected	3	(1)
Perceptions about coping abilities		
I am always able to cope well when I need to	141	(41)
I sometimes am able to cope well when I need to	160	(47)
I am never able to cope well when I need to	15	(4)
I am sometimes unable to cope well when I need to	24	(7)
Multiple options selected	2	(1)

Following the pilot study, data for the study were collected at the 6 remaining schools. All data collected were preceded by parental consent and participant assent/consent procedures and the researcher/ a trained research assistant informing participants about all aspects of the study, ethical considerations and instructions on how to complete the questionnaire – in either English, Afrikaans or isiXhosa. When the schools had available times during which data could be collected, participants completed their questionnaires in class, and it took approximately 60 minutes for participants to complete the questionnaires or as homework assignments. In total, 446 participants were included in the final sample (but due to the requirements for Structural

Equation Modelling, participants with missing data were removed from the sample, which was reduced to 347 participants in the case of the present study).

Pertaining to ethical considerations, participants were informed of their rights, including the right to volunteer to participate and to withdraw their participation without any consequences. In addition, participants were assured of their right to anonymity when data is published and that the names of schools would also remain anonymous. The researcher also sought to identify participants who required referral and informed participants that they may request a referral to a mental health professional. For the larger study a total of 8 participants were referred to a clinic accessible to them, where they could meet with a mental health professional.

3.3. Measures.

3.3.1. Demographic Questionnaire

We used the demographic questionnaire to gain an overview of participants' demographic variables that include age, sex, grade at school, language, their family context, their perceptions of their own mental health and coping abilities as well as their perceptions of community safety and violence.

3.3.2. Depression, Anxiety and Stress Scale (DASS 21; Lovibond & Lovibond, 1995)

The DASS 21 was used to measure symptoms of psychological stress – depression, anxiety and stress (the latter referring to chronic non-specific emotional arousal). This 21-item, self-report measure has a 3-point scale ranging from 0 (absence of symptoms) to 3 (severe symptoms). The DASS 21 has good convergent and discriminative validity, with a reliability coefficient of .88 (depression), .82 (anxiety) and .90 (stress) (Lovibond & Lovibond, 1995).

The suitability of DASS-21 for the research population is anchored on its previous use with school-going adolescents in multiple countries (including Australia, Chile, China and Malaysia; Mellor et al., 2015), with Szabó (2010) reporting the following coefficients for each subscale when used with school-going adolescents: .87 for depression, .79 for anxiety and .83 for stress. For the present study, the depression subscale had a coefficient of .77, anxiety had a coefficient of .72 and stress had a coefficient of .72, all showing good reliability.

3.3.3. Coping Strategy Indicator (CSI; Amirkhan, 1990, 1994)

The CSI was used to measure the overall use of coping strategies used by participants, in response to psychological stress. This 33-item, self-report measure has a 3-point scale, with items ranging from 1 (not at all) to 3 (a lot). The CSI has three subscales (problem-solving, social support-seeking and avoidant coping), which have the respective coefficients: .92 for problem-solving, .89 for social support-seeking and .83 for avoidant coping (Amirkhan, 1990, 1994). It has external reliability with a mean test-retest reliability of .82 (Amirkhan, 1990, 1994) and high internal consistency – which is also captured in South African literature, with Le Roux and Kagee (2008) reporting the following coefficients: problem-solving (.88), social support-seeking (.87) and avoidant coping (.70). In the present study, the following coefficients were found: problem-solving (.77), social support-seeking (.81) and avoidant coping (.66). While problem-solving coping and social support-seeking coping appeared to show good reliability, avoidant coping appeared to have acceptable reliability.

3.3.4. Mental Health Index (MHI- 5; Ware, Snow, Kosinski, & Gandek, 1993)

The MHI-5 was used to measure participants' overall mental-health state. This 5-item self-report measure has a 6-point Likert scale ranging from 1 (all of the time) to 6 (none of the time) (Ware et al., 1993), with higher scores indicating a higher mental-health state. The

measure has a reliability coefficient of .82 (Strand, Dalgard, Tambs, & Rognerud, 2003). Moreover, the MHI-5, with an internal consistency coefficient of .78 (Houghton, Keane, Murphy, Houghton, & Dunne, 2011), has been found to be useful, valid and reliable in measuring mental health status, regardless of its few items in comparison to other measures – which makes it ideal to use when including multiple measures in the research questionnaire. For the present study, the MHI-5 had a reliability coefficient of .60 which is deemed acceptable.

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

The MSPSS was used to measure the participants' perceptions of social support from parents, peers and a significant other. This 12-item self-report measure has a 7-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating stronger perceptions of social support. The MSPSS has good construct validity, internal reliability (coefficient of .88) and internal consistency (coefficient of .87) (Zimet et al., 1988). When used in the South African context, the MSPSS had good internal consistency and is psychometrically sound when used with adolescent populations (Bruwer, Emsley, Kidd, Lochner, & Seedat, 2008). For the present study, the various subscales appeared to have good reliability with the following coefficients: family subscale (.84), friends subscale (.80) and significant other subscale (.76).

3.3.6. Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

The RSES was used to measure participants' global self-esteem. This 10-item self-report measure has a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree), with lower scores indicating higher self-esteem (Rosenberg, 1965). The validity and reliability of the scale have been confirmed, with an internal consistency of .87 (Zeigler-Hill,

Besser, Myers, Southard, & Malkin, 2013) and a coefficient of .79 reported when used with adolescents (Supple & Plunkett, 2011). When used in South Africa, the scale has demonstrated excellent internal consistency, with coefficients of .93 and .97 (Westaway, Jordaan, & Tsai, 2013). In the present study the scale had acceptable reliability with a coefficient of .65.

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

The CYRM-12 was used to measure participants' levels of resilience. This 12-item self-report measure has a 5-point scale ranging from 1 (does not describe me at all) to 5 (describes me a lot), with higher scores indicating higher resilience. The scale has content validity and a coefficient of .84 when used with school-going adolescents (Liebenberg et al., 2013). The CYRM-12 is a shorter version of the CYRM-28 which is described as a reliable cross-cultural measure (Ungar & Liebenberg, 2011), with the CYRM-12 being noted as a suitable measure of resilience in adolescents (Liebenberg et al., 2013). In the present study the scale appeared to have good reliability with a Cronbach's alpha coefficient of .79.

3.4. Data analyses.

The Statistica 13 statistical software package (TIBCO software Inc.) was used to conduct general statistics (i.e. demographic statistics), and the Lavaan package in R (The R project for statistical computing) was used for the covariance based Structural Equation Modelling (SEM).

The reliability of all measuring instruments was also tested by computing Cronbach's alpha coefficients. Hereafter, preliminary Confirmatory Factor Analyses (CFA) was conducted using Diagonally Weighted Least Squares (DWLS), which were acceptable for likert scale measuring instruments. After these analyses were conducted, the measurement and structural

model (as part of the SEM) was tested. The results of these tests are presented in the following section.

4. Results

4.1. Cronbach's alpha reliability coefficients.

In terms of the reliability of the relevant variables, Cronbach's alphas indicated overall good reliability for the majority of the variables with a few variables displaying acceptable reliability. For the measures with subscales, the DASS subscales had the following coefficients: .77 for stress, .72 for anxiety and .77 for the depression subscale, indicating good reliability. Moreover, for the CSI, the coefficients were .81 for social support seeking, .77 for problem-solving coping and .66 for the avoidant coping subscale. In addition, the MSPSS coefficients were .76 for significant other, .84 for family and .80 for the friends subscale. For the measures without subscales, the MHI had a coefficient of .60, the RSES had a coefficient of .65 and the CYRM a coefficient of .79. All the aforementioned coefficients preceded the preliminary Confirmatory Factor Analyses.

As part of the Structural Equation Modelling results, reliability analyses were also computed for each latent variable. While good reliability was evident for some variables, such as psychological stress (.87), social support-seeking coping (.81) and problem-solving coping (.77), other variables displayed acceptable reliability: mental health (.60), avoidant coping (.66) and psychological strengths (.67).

4.2. Preliminary confirmatory factor analyses.

It is noteworthy that the preliminary Confirmatory Factor Analyses (CFA) were conducted using Diagonally Weighted Least Squares (DWLS), which is deemed acceptable for

Likert scale measuring instruments. Confirmatory factor analyses were conducted for all instruments with subscales, while those instruments without subscales were grouped together before confirmatory factor analyses was conducted for these measures. Confirmatory factor analyses were conducted in order to estimate whether the latent structure of the instruments were supported by the data. The Root Mean Square Error of Approximation (RMSEA) was used to evaluate the goodness of fit, with a value of less than .05 being an indicator of a good fit. In addition, the factor loadings were interpreted by noting whether the loadings were at least .5 (Hair, Black, Babin, & Anderson, 2010), and that all p values were significant.

In terms of the results, all the measures that had subscales had RMSEA values that indicated a good fit, in this case the DASS had a value of 0.016, the CSI had a value of 0.042 and the MSPSS had a value of 0.044. For the measures that had no subscales an RMSEA value was above .05 (with a value of 0.068 found for the RSES, the CYRM and the MHI). However, when evaluating other goodness of fit indices, like the Comparative Fit Index (CFI) a good fit was evident, with a CFI value of .915 being evident (with values of .90 being indicative of goodness of fit; Hair et al., 2010). In addition, the goodness of fit index (GFI) was .948, indicating a good fit (Hair et al., 2010) and the adjusted goodness of fit index (AGFI) was .926, also indicating a good fit (Hair et al., 2010). Taking into account the values presented, the latent structure of the instruments were found to be supported by the data.

All the factor loadings' p values were significant. However, one item (RSES item 8) had a negative loading and therefore this item was removed from further analyses. It was also noticeable that some loadings were below the .5 cut off point, as depicted in Table 4. Although these items were below the .5 cut off point all items (except for the RSES item 8) were retained in order to avoid deviating from the instruments, which are all validated measures.

Table 4.

Standardised estimates below the cut-off point of .5 for the factor loadings of the preliminary Confirmatory Factor Analyses

Variables	Standardised estimates
DASS Anxiety – DASS item 2	.437
CSI Problem-solving coping – CSI item 3	.386
CSI Problem-solving coping – CSI item 9	.461
CSI Problem-solving coping – CSI item 20	.393
CSI Avoidant coping – CSI item 4	.369
CSI Avoidant coping – CSI item 6	.372
CSI Avoidant coping – CSI item 13	.403
CSI Avoidant coping – CSI item 18	.24
CSI Avoidant coping – CSI item 21	.41
CSI Avoidant coping – CSI item 22	.442
CSI Avoidant coping – CSI item 26	.434
CSI Avoidant coping – CSI item 30	.482
MSPSS significant other – MSPSS item 2	.459
RSES – RSES item 3	.483
RSES – RSES item 4 (reverse scored)	.295
RSES – RSES item 5	.466
RSES – RSES item 8	-.378
CYRM – CYRM item 5	.307
CYRM – CYRM item 7	.269
CYRM – CYRM item 9	.496

4.3. Structural equation model: Goodness of fit statistics.

4.3.1. *Fit indices*

We used confirmatory factor analysis and the method of maximum likelihood (ML) to determine whether the measurement model was a good fit to the data, using the covariance-based structural equation modelling (SEM) approach. It is noteworthy that the subscales that we tested in the preliminary Confirmatory Factor Analyses became the manifest variables for the structural model.

Based on the sample of 347 school-going participants, the following fit indices were found for the model: $\chi^2 = 1522.38$, $df = 890$, $p < 0.001$; RMSEA = .045; CFI = .808. While the chi-square was significant ($p < 0.001$), the RMSEA value of .045 is less than .05, and therefore indicated that the model is a good fit to the data. Secondly, for the CFI the value of .808 can still be interpreted as fitting the data because it is a value close to 1 (Weston & Grove, 2006). In addition, both the GFI (0.836) and AGFI (0.817) may be interpreted as having an acceptable fit as they are values close to .90. Considering these fit indices, the hypothesised model may be interpreted as having an acceptable fit.

We also evaluated standardised factor loadings, which depicted the relationship between latent variables and manifest variables. While all loadings were significant, it was noteworthy that, while a number of loadings were at least .5, some values were below this cut-off point. Those loadings below the cut-off point are depicted in Table 5.

Table 5

Standardised estimates below the cut-off point of .5 for the factor loadings of the measurement model

Variables	Standardised estimates
Mental health – MHI item 3 (reversed)	.222
Mental health – MHI item 5 (reversed)	.284
Psychological strengths – MSPSS	.495
Social support-seeking coping – CSI item 1	.483
Social support-seeking coping – CSI item 5	.475
Social support-seeking coping – CSI item 12	.425
Social support-seeking coping – CSI item 32	.374
Problem-solving coping – CSI item 3	.349
Problem-solving coping – CSI item 8	.465
Problem-solving coping – CSI item 9	.395
Problem-solving coping – CSI item 11	.496
Problem-solving coping – CSI item 17	.492
Problem-solving coping – CSI item 20	.366
Problem-solving coping – CSI item 33	.498
Avoidant coping – CSI item 14	.304
Avoidant coping – CSI item 6	.32
Avoidant coping – CSI item 10	.313
Avoidant coping – CSI item 13	.476
Avoidant coping – CSI item 18	.286
Avoidant coping – CSI item 21	.443
Avoidant coping – CSI item 22	.262
Avoidant coping – CSI item 26	.416

Avoidant coping – CSI item 27	.458
Avoidant coping – CSI item 28	.386

4.3.2. Variance extracted

Pertaining to the variance extracted, the percentages of variance explained by the variables were as follows: 26% by mental health, 69% by psychological stress, 28% by psychological strengths, 28% by social support seeking coping, 24% by problem-solving coping and 16% by avoidant coping. Moreover, while the percentage of variance explained by psychological stress (69%) was the most, it was the least for avoidant coping (16%).

4.3.3. Construct reliability

Moreover, pertaining to construct reliability, the following values were evident: mental health (.6), psychological stress (.87), psychological strengths (.53), social support seeking coping (.81), problem solving coping (.77) and avoidant coping (.66). While the variables, - psychological stress, social support seeking coping and problem-solving coping appear to have good construct reliability (larger than .7), the variable psychological strengths had a lower score of .53.

4.4. Structural model: Path coefficients.

The covariance-based SEM approach was used and the path coefficients below emerged from the structural model that displayed the hypothesised relationships between the following latent constructs: psychological stress, psychological strengths, problem-solving coping, social support-seeking coping, avoidant coping and mental health. Path coefficients are presented in Table 6 and in the graphical model (Figure 2).

It is noteworthy that we also conducted SEM using Partial Least Squares approach and the results were mostly consistent with the findings from the covariance-based SEM approach, which will be presented below.

4.4.1. The relationships between psychological stress, psychological strengths and mental health

It was hypothesised that psychological stress would have a significant direct negative relationship with mental health, but this hypothesis was not confirmed as a not-significant relationship between the variables was observed. It was further hypothesised that psychological stress would be a significant negative predictor of psychological strengths, and this hypothesis was confirmed, indicating that higher scores of psychological stress were associated with lower scores of psychological strengths (path coefficient = -0.641, [CI: -0.753, -0.529], $p < 0.01$). In line with our hypothesis, psychological strengths emerged as a significant positive predictor of mental health, indicating that higher scores of psychological strengths were associated with higher scores of mental health (path coefficient = 1.211, [CI: 0.386, 2.035], $p = 0.004$).

We further hypothesised that psychological strengths would be a significant positive mediator of the relationship between psychological stress and mental health. The results support this hypothesis and full mediation was observable, which means that stress was positively associated with mental health via the mediating variable psychological strengths and that there was not a direct relationship between psychological stress and mental health.

4.4.2. The relationships between psychological stress, coping strategies and mental health

It was hypothesised that psychological stress would have a significant negative relationship with mental health and that the relationship would be positively mediated by each

of the problem-solving coping and social support-seeking coping. In contrast, avoidant coping would negatively mediate the relationship between psychological stress and mental health.

Results indicate that, while no significant relationship was found between psychological stress and mental health, psychological stress was a significant positive predictor of problem-solving coping (path coefficient: 0.771, [CI: 0.552, 0.991], $p < 0.01$), which implies that higher scores of psychological stress were associated with higher scores of problem-solving coping, which was not in line with the hypothesised negative relationship between psychological stress and problem solving coping. Problem-solving coping emerged as a significant negative predictor of mental health (path coefficient = -0.553, [-1.034, -0.072], $p = 0.024$), indicating that higher scores of problem-solving coping were associated with lower scores of mental health. The results indicate full mediation which means that psychological stress and mental health was only related (negatively) via the mediating role of problem-solving coping. These results were not in line with our hypothesis that problem-solving would be a significant positive mediator of the relationship between psychological stress and mental health.

In terms of the relationship between psychological stress and social support-seeking coping, psychological stress was a significant positive predictor of social support-seeking coping (path coefficient = 0.444, [CI: 0.252, 0.635], $p < 0.01$), which was not in line with the hypothesised negative relationship among these variables. Particularly noteworthy, there was no direct relationship observable between social support-seeking coping and mental health.

It was also hypothesised that avoidant coping would be a significant negative mediator of the relationship between psychological stress and mental health, and this relationship was confirmed – with psychological stress being a significant positive predictor of avoidant coping (path coefficient = 0.65, [CI: 0.48, 0.821], $p < 0.01$) and avoidant coping being a significant negative predictor of mental health (-0.302, [CI: -0.471, -0.134], $p < 0.01$). Full mediation was

observed given the not-significant relationship between psychological stress and mental health. Therefore, psychological stress and mental health were only related (negatively) via the mediating role of avoidant coping.

4.4.3. The relationships between psychological strengths, coping strategies and mental health

It was hypothesised that social support-seeking coping and problem-solving coping would positively mediate the relationship between psychological strengths and mental health respectively and that avoidant coping would negatively mediate the latter relationship.

As noted earlier, psychological strengths was a significant positive predictor of mental health (path coefficient = 1.211, [CI: 0.386, 2.035], $p = 0.004$). In addition, psychological strengths emerged as a significant positive predictor of problem-solving coping (path coefficient = 1.032, [CI: 0.832, 1.231], $p < 0.01$), which indicates that higher scores of psychological strengths were associated with higher scores of problem-solving coping (in line with our expectation). Moreover, in contrast to our hypothesis, problem-solving coping also emerged as a significant negative predictor of mental health (path coefficient = -0.553, [CI: -1.034, -0.072], $p = 0.024$). The results presented indicate a partially mediated relationship because psychological strengths and mental health were directly (positively) related, and they were also negatively related via the mediating role of problem-solving coping, with the latter result being inconsistent with our hypothesis.

Psychological strengths were also positively associated with social support-seeking coping (path coefficient = 0.857, CI [0.688, 1.026], $p < 0.01$), while no significant relationship was found between social support-seeking coping and mental health. Therefore, we could not confirm the hypothesis that social support-seeking coping would be a significant positive mediator of the relationship between psychological strengths and mental health.

Psychological strengths were also positively associated with avoidant coping – which is line with our expectation (path coefficient = 0.371, [CI: 0.183, 0.559], $p < 0.01$), and which indicates that higher scores of psychological strengths were associated with higher scores of avoidant coping. In addition, avoidant coping was also a significant negative predictor of mental health (path coefficient = -0.302, [CI: -0.471, -0.134], $p < 0.01$) – which was also in line with our expectation that higher scores of avoidant coping would be associated with lower scores of mental health. Considering these results, a partially mediated relationship was observable between psychological strengths and mental health, as negatively mediated by avoidant coping. The negative mediating role of avoidant coping in this relationship was consistent with our hypothesis.

5. Discussion

5.1. The relationship between psychological stress, psychological strengths and mental health.

The primary aim of the present study was to explore the mediating role of psychological strengths on the relationship between psychological stress and mental health. The results confirmed that the relationship between psychological stress and mental health was fully mediated by psychological strengths. In this case, psychological stress acted as a significant positive predictor of mental health, when the relationship was mediated by psychological strengths. This means that psychological strengths could be argued as essential to the mental health of adolescents who live in low-income communities as the psychological strengths had a protective impact on their mental health when they experienced psychological stress. The psychological strengths that were included in the model were self-esteem, perceived social

support and resilience, which collectively operated as personal protective resources or health-promoting factors.

Because self-esteem relates to adolescents' views on their competence and their beliefs about their self-efficacy (Rosenberg, 1965), it may indicate that, when adolescents experienced psychological stress in the context of high self-esteem, they felt that they were capable of coping with the symptoms of psychological stress and this may have resulted in higher levels of mental health. This result is in line with a study conducted by Harrison (2014), which explored the relationship between self-esteem and depressive symptoms in adolescents living in low-income Western Cape communities, with higher levels of self-esteem serving as a protective resource for the mental health of at-risk adolescents, with an attenuating effect on the levels of depression.

In terms of Lazarus and Folkman's (1984) transactional theory of stress and coping, adolescents may have appraised self-esteem as a resource that could aid them in coping with their psychological stress, via the process of secondary appraisal. This positions self-esteem as a key psychological strength that may have served as a buffer against the impact of psychological stress on the mental health of at-risk adolescents in our study. It may, therefore, be argued that, when at-risk adolescents who live in socio-economically adverse areas experienced certain stressful circumstances, their perceptions of themselves as being competent (Rosenberg, 1965) and being able to cope with their symptoms of psychological stress, may have informed their ability to address the cause of psychological stress directly or

Table 6

Summary of the path coefficients emerging from structural equation modelling results

Relationship	Results
Psychological strengths and psychological stress	(b = -0.641 [CI: -0.753, -0.529], $p < 0.01$)
Problem solving coping and psychological stress	(b = 0.771 [CI: 0.552, 0.991], $p < 0.01$)
Problem solving coping and psychological strengths	(b = 1.032 [CI: 0.832, 1.231], $p < 0.01$)
Avoidant coping and psychological stress	(b = 0.65 [CI: 0.48, 0.821], $p < 0.01$)
Avoidant coping and psychological strengths	(b = 0.371 [CI: 0.183, 0.559], $p < 0.01$)
Social support seeking and psychological stress	(b = 0.444 [CI: 0.252, 0.635], $p < 0.01$)
Social support seeking and psychological strengths	(b = 0.857 [CI: 0.688, 1.026], $p < 0.01$)
Mental health and psychological stress	(b = 0.225 [CI: -0.421, 0.871], $p = 0.495$)
Mental health and problem-solving coping	(b = -0.553 [CI: -1.034, -0.072], $p = 0.024$)
Mental health and avoidant coping	(b = -0.302 [CI: -0.471, -0.134], $p < 0.01$)
Mental health and social support-seeking coping	(b = -0.15 [CI: -0.396, 0.095], $p = 0.23$)
Mental health and psychological strengths	(b = 1.211 [CI: 0.386, 2.035], $p = 0.004$)

to cope with the symptoms of psychological stress that they endured. Self-esteem may, therefore, have activated adaptive coping strategies, which could aid in explaining the positive impact of self-esteem on mental health.

Self-esteem operated as a psychological strength, in conjunction with perceived social support and resilience. In relation to perceived social support, adolescents' beliefs about help and support from significant others being available to them when they were in need (Norris & Kaniasty, 1996), could have influenced their mental health positively even in the context of experiencing psychological stress and while living in adverse social contexts. Through the process of secondary appraisal (Lazarus & Folkman, 1984), adolescents' ability to manage their psychological stress symptoms (i.e. depression, anxiety and chronic non-specific emotional arousal) could have been significantly influenced by their appraisals of social

support available within the existing social networks on which the adolescents may have depended on to manage the daily tasks.

The benefits of social support (as outlined by Cohen & Wills, 1985; Coppersmith, Kleiman, Glenn, Millner, & Nock, 2019) would not be activated if adolescents had not appraised social support as available, which points to the need for intervention programmes aimed at enhancing the relationships that adolescents have with others. This will aid in enhancing perceptions of support available – which exerts a protective influence on mental health in the context of psychological stress. Notably, interventions should also be developed that assist individuals in identifying the social relationships that they can rely on when they are in need. The essential nature of enhancing social relationships is also emphasised in Cohen and Wills's (1985) contention that individuals receive information about their value and acceptance by others through their social relationships, which may also inform their self-esteem and may, therefore, contribute to perceived ability to effectively address a stressor or attend to the psychological stress they experience. These notions also call for research to investigate adolescents' narratives of the different ways in which social relationships may inform their appraisals of social support.

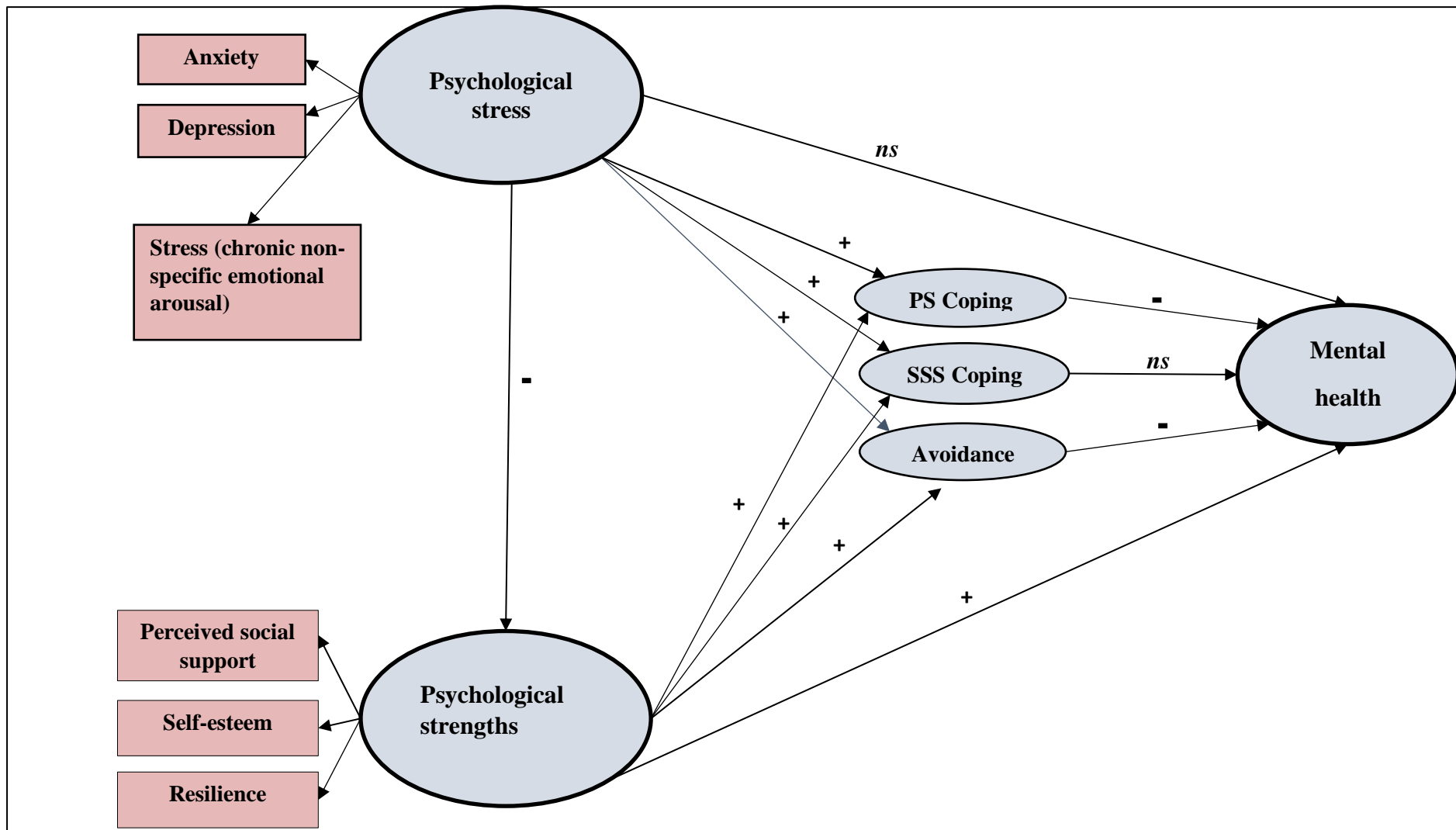


Figure 2. Graphical model depicting path coefficients (all relationships except those marked with *ns* (non-significant) were significant).

While PS refers to problem-solving coping, SSS refers to social support-seeking coping and avoidance refers to avoidant coping.

The cumulative impact of psychological strengths on mental health for the adolescents in our sample was also informed by resilience in the context of adversity. Garmezy (1991) has conceptualised resilience as the ability to adapt successfully against the backdrop of challenges experienced. As information gleaned from the demographic questionnaire about the aspects of their livelihoods for the adolescents in our sample shows, their livelihoods were characterized by food insecurity (25% of participants), having many safety concerns (41% of participants) in the community, being exposed to a high rate of violence (47% of participants) and witnessing crime in the community (56% of participants). Because resilience is associated with the ability to withstand stressors/ stress (Garmezy, 1991), the inner perceptions of their own ability to adapt may itself have influenced the adolescents' activation of coping resources when experiencing psychological stress – and, therefore, acted as a psychological strength. Adaptation in the face of adversity could also be indicative of high self-esteem and the belief in one's competence in managing psychological stress. Previous research, including Scorza et al.'s (2017) study that focussed on Rwandan youth who experienced trauma and poverty, has also emphasised the centrality of resilience in coping with stress. The authors found that higher levels of resilience were associated with lowered levels of depression and, thereby, also emphasised the protective role of resilience in the mental health of adolescents who are at-risk (Scorza et al., 2017).

In terms of Lazarus and Folkman's (1984) theory, resilience acted as an essential buffer against the experience of psychological stress and contributed to the experience of mental health; resilience was a resource that, through a process of secondary appraisal, may have informed adolescents' perceptions of coping resources available, coping strategies that may be utilised and the success that using those resources may have to cope with their experienced psychological stress. This may explain the mechanisms by which resilience acted as a psychological strength even when psychological stress was encountered. It is essential for

research to explore, via adolescents' personal narratives, which factors may influence their resilience even when faced with residing in difficult circumstances and when experiencing psychological stress, so as to learn from these adolescents about what leads to high levels of resilience.

5.2. The relationship between psychological stress, coping and mental health.

5.2.1. Psychological stress, problem-solving coping and mental health

Unexpectedly, in the present study, adolescents directly employed problem-solving coping strategies when they experienced high levels of psychological stress with higher levels of psychological stress predicting higher usage of problem-solving coping as well.

As reported by Aslan (2017), avoidant coping was utilised more than active coping by those adolescents who experienced psychological maltreatment. Similarly, we had hypothesised that there would be a tendency among adolescents to not employ problem-solving coping strategies when overwhelmed by psychological stress.

Inconsistent with our expectations, it was further noticeable that problem-solving coping fully (negatively) mediated the relationship between psychological stress and mental health. Pertaining to this relationship, problem solving, therefore, (although employed as a strategy for managing psychological stress symptoms) did not aid the mental health of adolescents experiencing symptoms of psychological stress and instead was related to lower scores of mental health in adolescents experiencing psychological stress.

These results are in contrast with findings from other research studies that focused on adolescents living in low-income communities which found that active coping strategies (of which problem-solving coping is an example) are protective factors for the psychological health of at-risk adolescents (i.e. Vaughn & Scott, 2003).

Theoretically, the findings could be explained by viewing problem-solving coping as the *attempt* to manage emotions or circumstances actively (Lazarus & Folkman, 1984), however, although this strategy may be employed it may not be related to the successful management of emotions or circumstances causing psychological stress – and therefore may not relate to reduced psychological stress and high levels of mental health. In addition, we argue that some of the challenging circumstances/stressors that cause adolescents psychological stress may not be successfully solved – for example, if community violence is the stressor that causes psychological stress such as depression or anxiety symptoms, adolescents would not be able to address this cause of their psychological stress. In this case they may attempt to manage their psychological stress symptoms instead. This attempt to cope, however, does not guarantee reduced symptoms of psychological stress and therefore could explain the negative relationship between problem-solving coping and mental health for adolescents experiencing psychological stress.

5.2.2. Social support-seeking, psychological stress and mental health

Pertaining to other direct relationships (and in contrast to our expectations), stress was related to higher levels of social support-seeking. Consistent with our findings, a study by Li and Yang (2009) also reported that stress is related to social support-seeking in College students..

When overwhelmed by stressors (which may have included exposure to community violence) and experiencing psychological stress, adolescents sought support as a strategy to cope with their symptoms. This seeking of social support is, according to Coyne & Racioppo (2000), affected by certain variables such as the circumstances and timing of the support-seeking and from whom the support is sought.

This finding is also significant in relation to the earlier reported finding that perceived social support is a protective resource for the mental health of the adolescent-participants. Interpreting these results collectively emphasises that perceived social support and social support-seeking are key role players to the well-being of at-risk adolescents.

5.2.3. Psychological stress, avoidant coping, and mental health

With regards to the relationship between psychological stress, avoidant coping and mental health, a fully mediated, negative relationship was found between psychological stress and mental health, via the mediating role of avoidant coping. The present finding is in line with our contention of avoidant coping as not having a long-term adaptive effect on mental health.

Similar to our findings, Horwitz, Hill and King (2011) have also noted that behavioural disengagement was related to higher levels of depression in adolescents, emphasising that the strategies used by adolescents to cope with psychological stress as having implications for their mental health.

We argue that while avoidance, minimisation strategies, and distancing oneself from the psychological stress experienced may be an attempt at decreasing the psychological stress endured (Lazarus & Folkman, 1984), that this form of coping is not adaptive because it does not involve the active management of symptoms or challenging circumstances.

5.3. The relationship between psychological strengths and coping strategies.

5.3.1. Psychological strengths and problem-solving coping

In terms of direct relationships (and in line with our expectations), results indicated that higher levels of psychological strengths predicted higher levels of problem-solving coping.

Consequently, higher levels of psychological strengths led to the activation of problem-solving coping strategies.

These results hold significant implications for identifying the protective resources that may aid at-risk adolescents' mental health as it indicates that problem-solving may hold significant positive implications for the mental health of adolescents who live in scarce-resource settings (a finding consistent with Vaughn & Scott, 2003). For instance, one of the protective resources could be identified as high self-esteem which may have been associated with increased perceptions of competence (Rosenberg, 1965) to face psychological stress and, therefore, may have led to heightened problem-solving efforts.

In terms of indirect relationships, results further indicated a partially mediated relationship whereby problem-solving coping negatively mediated the relationship between psychological strengths and mental health. In this case, when mediated by problem-solving coping, higher scores of psychological strengths were associated with lower mental health – a finding that we did not expect as we argue that problem-solving coping should maintain the positive relationship between psychological strengths and mental health, but in the case of this study it did not.

Theoretically, this finding (as was found in relation to the relationship between psychological stress, problem solving coping and mental health) could be explained by viewing problem-solving coping as the attempt to manage emotions or circumstances actively (Lazarus & Folkman, 1984), but, although this strategy may be employed it may not be related to the successful management of emotions or circumstances causing psychological stress – and therefore, does not relate to reduced psychological stress and high levels of mental health.

5.3.2. Psychological strengths and social support seeking coping

While no mediation between psychological strengths, mental health and social support-seeking coping was observed, the results indicate that psychological strengths were associated with adolescents' social support-seeking coping, meaning that adolescents with high individual-level protective resources (psychological strengths) were more likely to use social support seeking coping as a means of managing psychological stress.

Graber, Turner and Madill (2016) found that perceptions of close friendship were related to active coping and social support seeking in adolescents, while higher perceived friendship quality was reported as significantly related to higher psychological resilience. It may be that those adolescents who experienced psychological stress (but had strong perceptions of social support through their close friendships) were likely to seek support – which could explain the findings of the present study.

Arguably, while high self-esteem and perceived social support would have informed the adolescents' views that support would be available to them when they are in need, their resilience may also have aided their ability to recognize social support as a strategy that would be useful in the face of challenges.

It is noteworthy that in the case of the present study, the non-significant relationship between social support-seeking coping and mental health rendered us unable to establish the overall benefit of the strategy to the mental health of adolescents.

5.3.3. Psychological strengths and avoidant coping

Adolescents who had high levels of psychological strengths possibly perceived avoidance as a strategy that may be beneficial to them in coping with their psychological stress, as high levels of psychological strengths were (as expected) associated with the use of avoidant coping.

It is noteworthy that Sharma, Fine, Brennan and Betancourt (2017) reported that avoidant coping served as a protective factor against poor mental health among war-affected Sierra Leonian youth, which points to avoidant coping being used by youth who experience trauma and in the case of our study, those who experience psychological stress.

It was further noticeable that the long-term impact of the avoidant coping strategy had a negative mediating impact on the relationship between psychological strengths and mental health, indicating that avoidant coping was not beneficial to the mental health of adolescents, when used and using it was to the detriment of the positive relationship between psychological strengths and mental health.

We argue that there is an opportunity through qualitative inquiry for research to delve into the reasons why South African adolescents may rely on avoidant coping strategies, as this could present an opportunity to teach adolescents about (for example) social support-seeking coping as a strategy that may be beneficial to their mental health instead of disengagement, distraction or avoidance.

6. Limitations, Conclusion and Implications for Interventions

This study was limited by its cross-sectional nature and, therefore, we were unable to establish whether certain patterns of psychological stress, psychological strengths, coping and mental health were related to a certain time-point or whether the same results would be obtained over different time periods – this is a limitation that a suggested longitudinal study could address.

It is worth noting that because the present study was limited to no-fee paying schools we were unable to establish whether the observed patterns relating to psychological stress, psychological strengths, coping and mental health was applicable to adolescents attending fee-paying schools as well (i.e. whether home and socioeconomic status was a factor). Future

research could delve into the similarities or differences between those adolescents attending no-fee paying schools and those attending fee-paying schools, with regards to the variables of interest.

Regardless of these limitations, this study offered significant insights into the aspects of mental health for the at-risk adolescents who live in Cape Town, South Africa's socio-economically adverse contexts. The results position psychological strengths as pertinent to the mental health of adolescents who experience psychological stress in the context of adversity and these psychological strengths should be the focus of interventions focused on strengthening their individual-level protective resources. Interventions focused on enhancing mental health and preventing mental illness should, therefore, consider self-esteem, perceived social support and resilience as pertinent protective resources for at-risk adolescents.

It may be argued that short-term cognitive behavioural sessions may be ideally suited as an intervention strategy focused on the mental health of at-risk adolescents. For example, in a study that worked with a different target-group of adolescents (HIV positive adolescents), pathways for aiding the well-being of HIV positive adolescents' well-being were advocated through the Hlanganani Programme (Snyder et al., 2014). This programme involves a 3-session cognitive behavioural intervention focused on coping and support, HIV health and HIV prevention. Similar interventions could be designed for at-risk adolescents living in socio-economically adverse communities focused on promoting well-being, for example it could be focused on:

1. Enhancing self-esteem, through psycho-educational workshops that incorporate age-appropriate activities (i.e. sports-based or arts-based) focused on building or enhancing self-esteem.

2. Enhancing social support through peer and parent support groups focused on delving into and harnessing the value of social support and strategies for utilising social support networks.
3. Enhancing resilience through exploring personal stories and delving into how certain adolescents may use other psychological strengths (i.e. self-esteem) to aid in fostering resilience.
4. Psycho-educational workshops focused on coping strategies that can be employed when experiencing psychological stress based on experiences that adolescents have no control over (exposure to and experiences of community violence).

The impact of avoidant coping as well as problem-solving coping strategies on mental health was negative. These results offer insight into the psychological stress and coping of adolescents who may need to cope with daily hassles, and challenges associated with poverty or regular adolescent-demands. It is noteworthy that in the present study none of the coping strategies could be established as directly associated with positive mental health and, therefore, additional research is necessary, particularly research delving into adolescents' subjective experiences of psychological stress and coping in the context of risk.

The results implicate psychological strengths as possibly affecting the activation of coping strategies and further inquiries should be focused on adolescents' voices on how their psychological strengths influence their coping strategies and their mental health in order to learn from adolescents about the mechanisms whereby these psychological strengths result in adaptive coping strategies.

The present study aids research and practice by focusing on factors (particularly psychological strengths) that are pivotal to the mental health of adolescents experiencing socio-economic adversity and, therefore, contributes to the knowledge on those individual-

level factors that are important to consider in the design of interventions focussed on mental health promotion and mental illness prevention.

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Chapter 5: Article 3

Title of the article: The factors affecting the mental health of South African adolescents living in low-income communities.

Authors: Harrison, C. H., Loxton, H., & Somhlaba, N. Z.

Contribution of Carmen Harrison (doctoral candidate): I hereby declare that I conceptualised and wrote the present article with expert feedback being provided by the co-authors, my supervisors. Please see the co-authors declaration form (appendix G).

Publication status of the article: The manuscript was submitted for publication at an international journal and is currently (January) unpublished. The manuscript appears in the format required by the journal it was submitted to.

Brief Summary of the article: This article aligns to the aim of the study because it addresses one of the primary research questions, that is: what are the subjective experiences of stress and coping for adolescents who reside in the Cape Metropole's low-income communities and which psychological strengths (if any) do they make use of in coping with psychological stress?

This empirical qualitative article is focused on 13 adolescents' personal constructions of the risk and protective factors affecting their lives, through the narratives that were explored by means of individual semi-structured audio-recorded interviews. Research-findings are discussed and a holistic overview of the risk and protective factors affecting adolescents who live in low-income communities is provided. It is hoped that the article informs programmes that are aimed at promoting mental health and preventing mental illness.

Formatting/ style of the manuscript

As per the University requirements, the manuscript appears in the formatting/ style required by the journal it was submitted to.

The factors affecting the mental health of South African adolescents living in low-income communities

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Abstract

This qualitative study contributes to the research focused on adolescent mental health. This research highlights the experiences of vulnerable adolescents who live in low-income communities in Cape Town, South Africa. Many of South Africa's adolescents living in low-income communities reside in contexts that are embedded with risk and protective factors that may affect their mental health. In order to develop programmes aimed at promoting mental health and preventing mental illness, it is imperative to gain a holistic understanding of the above factors that could have an impact on adolescents' mental health. As part of a broader doctoral study, the present qualitative study aimed to highlight 14 participants' (aged between 13 and 17 years) personal constructions of the risk and protective factors affecting their lives, through the narratives that were explored by means of individual, semi-structured audio-recorded interviews. Following the thematic analyses of the data, the following themes were evident: the community as both a risk and protective factor, peer relationships as a risk factor, fear of failure at school as a risk factor, avoidant coping as a risk factor, self-esteem as a protective factor, perceived social support and support networks as protective factors and problem-solving coping as a protective factor. Findings are discussed and recommendations for mental-health-promoting and mental-illness-preventing interventions are discussed.

Keywords: adolescents; mental health; poverty; risk factors; protective factors

Introduction

While South African adolescents who live in low-income communities are navigating their developmental milestones (Gouws, 2014), such as their identity formation and the different roles of being an adolescent (Erikson, 1968), they also face socio-economic stressors that may have a cumulative effect on their psychological health and development (Harrison, Loxton, & Somhlaba, 2019). Notably, literature alludes to linkages between socio-economic adversity and mental health risks for adolescents (for example, Louw & Louw, 2014), that, in turn, are related to other adverse biopsychosocial outcomes (Patel, Flisher, Hetrick, & McGorry, 2007).

While risk factors (which increase susceptibility for psychological disorders; American Psychological Association, 2019) impact on adolescents' mental health states (Patel & Kleinman, 2003), the transaction between the adolescent and their environment needs to be considered since studying the determinants of poor mental health should be executed with consideration for the individual and the context (Bronfenbrenner, 2005). Bronfenbrenner (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006) has emphasised that individual and contextual factors should be viewed as interdependent determinants of human development and health. A consideration of the risk factors affecting adolescents in the context of socio-economic adversity is therefore imperative, since it holds implications for mental health and development.

Some of the communities in Cape Town (situated in the Western Cape Province of South Africa) are affected by a myriad of risk factors which may precipitate or exacerbate psychological stress and mental illness. For instance, the communities are affected by a history of socio-economic stressors linked to the legacy of Apartheid. This legacy has seen many of these communities experiencing severe under-resourced livelihoods (Harrison, Loxton, & Somhlaba, 2019), poverty (Western Cape Government, 2016), unemployment (Isaacs &

Savahl, 2014), crime, HIV/AIDS, teenage pregnancy (Western Cape Government, 2016), substance abuse (Plüddemann, Flisher, McKetind, Parrye, & Lombard, 2010) and extreme violence (Shields, Nadasen, & Pierce, 2009), which are all arguably social determinants/ risk factors for poor mental health.

Given that the person-environment transaction (Lazarus & Folkman, 1984) gets compounded by risk factors, we have argued elsewhere that adolescents also have certain psychological strengths and adaptive coping strategies that may aid their ability to manage stressors or help regulate their emotions in relation to stressors (Harrison et al., 2019). Protective factors attenuate the susceptibility of developing a psychological disorder (or poor mental health outcomes; American Psychological Association, 2019). We argue that psychological strengths could operate independently or interdependently to affect adaptation in the context of risk. However, the theme of protective factors affecting the lives of adolescents living in socio-economically adverse backgrounds is not prominent in the qualitative research and literature that focusses on at-risk adolescents in South Africa. This scant literature limits the development of a holistic understanding of the possible protective factors that positively impact on adolescents' development and mental health. This, in turn, may limit the output of strategies that are developed to promote mental health and prevent mental illness. Considering these factors, an enquiry into those protective factors affecting the lives of adolescents is warranted.

While other studies have investigated the experiences of at-risk South African adolescents (i.e. Isaacs & Savahl, 2014; Nöthling et al., 2016; Shields, Nadasen, & Pierce, 2008; Sui et al., 2018), qualitative research on this topic has remained limited despite a high number of adolescents living in conditions characterised by socio-economic adversity (Statistics South Africa, 2017), whom we regard as being at-risk for poor mental-health outcomes. The present study focused on filling this gap in knowledge by providing an account

of adolescents' narratives of their daily livelihoods in at-risk communities of Cape Town, South Africa, including their stressors, their psychological stress and the psychological strengths and coping strategies that positively influence their mental health.

To summarise, the agenda of the present article is not only to underscore the accumulation of risk factors affecting adolescent mental health, but to also give primary consideration of the psychological strengths and coping strategies that may mediate the impact of stressors and psychological stress on adolescents' mental health states, as constructed by the adolescents themselves. In order to understand the various stressors and psychological stress experienced by adolescents, we need to delve into their subjective experiences of living in socio-economically adverse communities. We argue that a holistic understanding of the various pathways to adolescent mental illness and sustained mental health should not be sought without a consideration of the lived experiences of the adolescents themselves. For this reason, we deemed it necessary to focus on adolescents' voices that capture their lived-experiences and personal constructions of stressors, stress, coping and psychological strengths.

Method

The research setting.

The City of Cape Town is estimated to have a population of 4232,276 (Western Cape Government, 2017) with the population being predominantly people from the Coloured community (43.2%), followed by African people (39.4%), White people (16.0%) and Indian/Asian people (1.4%), as captured in the Census conducted in 2011 (Statistics South Africa, 2012). We acknowledge that dividing people along these racial lines in South Africa is a sensitive (and potentially controversial) topic. We have elected to use these terms as a means of capturing the different experiences of different population groups (although we acknowledge

that describing members of the population in these terms is controversial). We have used these terms without the intention of being discriminatory.

Children and adolescents (aged 0 - 17 years) across South Africa are reported to be most vulnerable to experiencing poverty (Statistics South Africa, 2017), and exacerbating their experience of poverty in Cape Town are high rates of murder, home robbery, housebreaking, theft (Statistics South Africa, 2016) and sexual offences/ violence (Hyman, 2017; Western Cape Government, 2017).

Sampling, procedures and participants.

The present study formed part of a larger study focused on the psychological strengths affecting the stress-coping experiences of adolescents. For the larger study, randomised cluster sampling was used to select 7 no-fee secondary schools situated across the Cape Metropole in the City of Cape Town, from which data were collected. These schools have been identified and classified as no-fee paying schools due to the low socio-economic status of the communities wherein they are situated (Department of Basic Education, South Africa, 2019), and reflect the socio-economic circumstances affecting those learners attending the schools.

In order to collect data at these schools, we sought and obtained ethics clearance from the Stellenbosch University's research ethics committee (REC) - human research, and institutional permission from the Western Cape Education Department (WCED – which is a provincial education authority) and all relevant principals from each of the participating schools. Moreover, we sought and obtained consent and informed assent from parents/guardians and participants.

The larger doctoral study firstly involved a cognitive testing phase, followed by a pilot study phase and a quantitative and qualitative phase. The participants who were purposively

selected by the first author were all part of the quantitative phase whereby a survey was completed.

Participants for the qualitative phase were purposively selected based on their ages, their grade, their sex and their scores on the Mental Health Index (Ware, Snow, Kosinski, & Gandek, 1993) which measured the state of their mental health. In total, 14 participants, who were approached for their participation volunteered to be part of the qualitative, audio-recorded, face-to-face interviews. It is noteworthy that 18 participants were earmarked for participation - one of these earmarked participants was not available to be approached at school; another participant never returned her parental consent form in order to participate; an additional adolescent declined their participation. In addition, another earmarked participant had already left school (dropout) by the time of the qualitative interviews.

The participants who volunteered were attendees of four of the six schools from the quantitative phase. While four participants attended school 1 (Metro East), four participants attended school 2 (Metro East), and two participants attended school 3 (Metro East), while the remaining four participants attended school 4 (Metro North). The demographic details are captured in Table 1.

For these interviews, the first author used a semi-structured interview schedule as a guide. The interviews had a duration of between 20 to 46 minutes each. Moreover, the interviews were conducted in Afrikaans and English, with first-language isiXhosa speakers being asked about their proficiency in English before participating. If any of these isiXhosa speakers had indicated a preference to being interviewed in isiXhosa, a translator would have been used, but this was not necessary as no participant expressed wish to be interviewed in isiXhosa (along with the languages, English and Afrikaans, isiXhosa is the third predominantly spoken language in Cape Town). During the interview process, it was however evident to the first author that one of the 14 participants did not have full command of the English language

and (as no special provision on the day was made for an isiXhosa translator or interpreter), the participant's transcript was subsequently removed from the eventual data analysis process.

Following the interviews, professional transcription services were utilised from the Stellenbosch University's Language Centre. Moreover, for participant-quotations that were in Afrikaans, the first-author translated these quotations into English, since she is bilingual in English and Afrikaans.

Table 1

Demographic characteristics of the participants at the time of data collection

Participant	Sex	Age	Grade
1	Male	14	8
2	Female	14	8
3	Female	13	8
4	Female	13	8
5	Male	17	11
6	Male	17	11
7	Female	16	10
8	Male	16	10
9	Female	16	11
10	Male	17	11
11	Female	16	11
12	Female	15	11
13	Male	15	11
14	Male	15	11

Data analyses.

In order to analyse the data, the first author immersed herself in the data by reading and reviewing the transcriptions. Hereafter, the data were coded while considering the main objective of the study, that is to understand participants' subjective narratives of the risk and

protective factors that may affect their mental health. After initially coding the data, categories were created and used to identify and refine the prominent themes emerging from participants' subjective narratives. The ATLAS.ti qualitative data analysis software (v.8) and the Microsoft Word (v.10) was used to aid the researcher in her analyses of the data.

In order to contribute to the trustworthiness of the data, an experienced researcher with a doctoral qualification in psychology, and who was previously based at the Department of Psychology (at Stellenbosch University), was asked to review the themes generated by the first author. In this case the first author provided the researcher with a document outlining the relevant themes and their associated examples. After their review of the themes, a report was generated by the assisting researcher, which confirmed that all the themes were a reflection of the data.

Ethics considerations.

Pertaining to the ethics considerations (other than discussed institutional consent), consent forms were distributed to the participants' parents, which upon signature were returned to the school. Participants further expressed their own consent to participate by signing an assent/ consent form.

Participants were informed of their rights, which included their right to volunteer to participate in the study and to withdraw their participation without any consequences attached to their withdrawal. Participants were further assured of their right to anonymity when data would be published and that the names of schools would also remain anonymous. For referral purposes, the first author also identified participants who required referral. Moreover, participants were informed that they may request a referral to a mental health professional without any financial charges. In total, 8 participants from the larger study was referred to a clinic accessible to them, where they were able to meet with a mental health professional (this

included one participant from the present qualitative study) (this included one participant who participated in the qualitative interviews).

Findings

The findings revealed a range of major themes that emerged from participants' narratives. These are: the community as both a risk and protective factor, peer relationships as a risk factor, fear of failure at school as a risk factor, avoidant coping as a risk factor, self-esteem as a protective factor, perceived social support and support networks as protective factors and problem-solving coping as a protective factor. Therefore, the themes revealed one ambivalent theme (the community as both a risk and protective factor), three other risk factors and three other protective factors. In the following section the findings are presented followed by a discussion of these findings.

Theme 1: The community as both a risk and protective factor.

From the accounts, the lives of the adolescents who participated in the present study were clearly affected by daily violence. There was a sentiment among the adolescents that their daily experiences are characterised by life-threatening stressors that rendered them vulnerable to experiencing mental health challenges (Sui et al., 2018; World Health Organization, 2018). Many children expressed fear for potentially experiencing violence in their community, due to prominent gang violence and crime. One participant reiterated the fear and anxiety were tied to walking to and from school in a violent community, and articulated a sense of sadness and entrapment in her community, as she emphasised a loss of freedom associated with living in a community affected by several risk factors.

Okay, like sometimes when I walk to school I see ... Uhm, like from where I live, uhm, up to here to school, like there, there are a group of gangsters and stuff. So just imagine

you walking in between those streets filled with gangsters. So anything can happen to you. So the kind of feeling that will come to you when you're just walking, like you won't be free as like a person walking in Constantia or like Hout Bay [more affluent neighbouring suburban areas]. Honestly, you have that feeling like you, you would be de-, de-, I don't wanna say you'll be dis-, depressed, but, uhm, maybe you're gonna feel like scared. Surely you won't be freely when you're walking. Maybe you're gonna feel scared or some-, something else. (Female participant, 16 years old)

The same adolescent further raised concerns about harm that may befall children in their community (kidnapping and rape), and expressed her dissatisfaction with these negative aspects of the community – thus highlighting the ever-present and heightened vulnerability to socio-economic hazards that include direct threat to physical and emotional well-being. The participant exclaimed: "... So, yeah, those things just make me go like, ugh, I wish I [could] get out of this place..."

Other risk factors that pervaded the participants' account of their communities were drug use, alcohol abuse and the abuse and harassment of women. Notably, multiple accounts illustrating the threat of community violence and, specifically, the threat or possibility of being shot accidentally [by a stray bullet], or witnessing another individual being shot, was evident.

Our community is very, I wouldn't say dangerous, but, uhm, it isn't safe for us. Because you can walk outside the gate anytime and then you will be shot, because they, they shoot innocent people dead these days. So it is a bit dangerous to walk around late in the night, especially if you are a girl-child, because anything can happen to you. They can maybe rape you or so, because the boy-children of these days just don't worry about how they treat women. So I would say it is not safe. (Female participant, 16 years old)

Yes sometimes, they don't worry, they would shoot someone dead in front of you. They don't worry about you that's standing there. (Female participant, 16 years old)

Uhm, the community I lived in is just gangsterism that side and everything.... Like, I would say, it's robbery, gun shooting, or it's the robbery, gun shooting, and, uh, maybe then there's sexual harassment from men to women that I see sometimes. And alcohol abuse and this only. (Male participant, 17 years old)

It was worth noting that previous experiences of direct- or indirect exposure to community violence and enumeration of the stressful experiences were also central in the articulated notions and concerns regarding violence in the community, which participants expressed might have led to their experience of heightened anxiety. These experiences held negative consequences for the mental health of adolescents as they related to exposure to traumatic events, which are risk factors for anxiety disorders such as post-traumatic stress disorder (American Psychiatric Association, 2017). For instance, one participant reported having suffered from the loss of a friend to violence in the community and that he was himself also confronted at gunpoint:

The relief of him leaving and not killing you is so much that you literally faint, like, your whole body is, is numb. (Male participant, 17 years old)

... Like one week I would, I would be worrying and then I would be like, I would be on my nerves. I'm like worrying, 'won't this happen to me?' And then the next week I'll be fine, and then I would have like two to three months of non-stop dreaming of the gunshots, seeing my cousin, my friend, fall [to the ground, injured]. But I wasn't there when it happened but I can imagine it. And then that would be something that like kept

me in the house. I was afraid to go to school, to walk, like ... (Male participant, 17 years old, *emphasis added*)

While community experiences were characterised by fear for their own safety and psychological stress, experiences in the community were also related to fear for others with one adolescent expressing anger at not being able to protect women being abused in the community, while another adolescent had anxiety about their mother needing to walk to work in the morning when criminals were apparently outside in the community. The adolescent expressed a sense of sadness and regret that they were not able to protect their parent on their journey because of fear for their own safety. The adolescent also appears to have a sense of agency to “turn things around”, by expressing the desire to remove all criminals from the streets in order to create a safer community.

It's only criminals. Because my mother wake up, wakes up in the morning at five o'clock going to work. So if I could, if I could turn things around and take off the criminals in the street, I will feel safer. Because every time my mum, my mother go[es] out, I feel stressed that he will be robbed. Every time. So I can't go with him, with her, because I'm too young. Maybe they can stab me too for trying to protect my mother. (Male participant, 15 years old)

It was interesting to note the emotional investment that a participant had expressed towards interpersonal relationships with different members of the community as the factor that serves to militate against her holding ill feelings to the community. She simultaneously drew attention to there being some positive aspects of life in her community by stating that regardless of the negative risk factors, that she “love(s)” the people who live in her community:

Hmm, there are a lot of things. As I said previously, kids are being raped. Like just imagine, you're a small, young girl, you're playing with your friends and then someone just come and then say, 'can you please go ma-, go buy something for me on the shop?'

And then when you take the money, they grab you and then put you inside the car. And then sometimes they even get hijacked, you see. So, yeah, those things just make me go like, ugh, I wish I can get out of this place. But at the same time I love the people who live here. Ja [yeah], it's just like that. (Female participant, 16 years old)

Community support also emerged as a theme that related to positive experiences of community engagement, with material support provided, such as funds for soccer tournament resources, soup kitchens as well as programmes in which community members assisted school-goers with their homework and some neighbours were also experienced as acting as sources of support and confidants.

Maybe, maybe you just need a advice, maybe you can just go to a neighbour and then you, she, maybe he or she will advise you. (Male participant, 15 years old)

My community is very supportive. They are people who, who care about me. Ja [yeah].
(Female participant, 13 years old)

Yes, negative. But the positive parts of my community, I would say people are caring for one another. A neighbour can help another neighbour when he's in need or in danger. And I would say, hmm, there are places, there are like soup kitchens for the people that don't have food, to help the community. (Male participant, 17 years old)

Theme 2: Peer relationships as a risk factor.

While friendships were sources of support for some adolescents, some relationships with peers were described as fraught with challenges that seemingly caused psychological stress. Challenges with peers included being mocked and teased by other peers resulting in tension, anxiety and sadness.

Uhm, some of the other times that I might feel anxious, okay, it's here at school. I can feel that here at school. Because as, as I am a girl and I don't have many friends here at school, so I like spending time alone, so I would say others like saying bad things about me. Ja [yeah]. (Female participant, 16 years old)

A participant expressed a heightened distrust of peers owing to fears of what (sensitive information) they might reveal about their lives to others.

Uh, they could, they could gossip about me. So I don't like those thing where you're walking around the street, they will point you with fingers saying 'that guy did what, that and that and that'. (Male participant, 15 years old, *emphasis added*)

Notably, one adolescent also expressed difficulty with trusting peers, which resulted in them isolating themselves and avoiding making friends. Their difficulty in trusting peers may have been informed by a traumatic incident that occurred at school at which the adolescent was harmed by their school mates. The adolescent's account of the event further revealed their possible experience of post-traumatic stress:

I had an accident here in school last year, in September here. Some boys called me in [during] the break and they smash[ed] my..., they broke the bone of my hand. So every time I think, there is that picture, but what if those boys [came] back? (Male participant, 17 years old)

Another participant referred to an incident of being forced into 'friendship' with some of their friends whom he did not like to socialize with as they were "...doing bad things, like beating up people, always going out partying and stuff." However, this sense of disapproval was articulated in the same breath of the benefits accorded by membership in the same group of friends (gang) that provided a sense of safety and security in a community characterised by violence (against which gang membership served as a buffer):

Like, in our community you have to be with a ga-, a gang, sort of. Like a group of guys so that no matter what happens to you, you will fight back. So when I'm with them I feel like I'm safe. (Male participant, 15 years old)

Theme 3: Fear of failure at school as a risk factor.

Failing at school emerged as another stressor in participants' narratives. It seemed that anxiety relating to the possibility of failing (and repeating) a grade – and a sense of shame and social stigma failure occasioned (against the backdrop of an acute awareness of societal value attached to succeeding at secondary school) - pervaded these narratives. Experiences of sadness for not being able to do well at school was displayed by a participant, with another participant expressing that their experiences of stress were related to school work. Adolescents' future-focused sentiments may also suggest that they value the role of education in being able to aid them in transforming their circumstances and possibly ending the cycle of poverty that they are affected by.

Sometimes I just feel like sitting in my room alone with thinking about like how would life be if I failed a grade. Like I've seen the people, like there are people who have failed before that I am friends with from that sport organisations. Like I ask them, 'how is it to fail a grade?' Like they just, they, they try and support me and tell me that 'you're not going to fail a grade, so just don't stress about that'. (Female participant, 15 years old, emphasis added)

My brother picked them for me. So when I, when I do, when I fail that subject, it's like my, my future is disappearing. Like I don't know why, what I'm gonna do. I do think some of the good things, like becoming a fire brigade or police but ... (Male participant, 17 years old)

If, if I don't ..., I don't do nice here at school, maybe there's that particular subject that I'm failing, then I'll feel worried. Maybe it could affect me at the end of the year, something like that. (Male participant, 17 years old)

One participant expressed that it was important for them to succeed in school because: *I would like my mother to be more than proud of me. She is proud of me. I'll, I would like to be safe. I don't know if, if I am putting myself in darkness, but I am already on the darkness. Like sometimes if you are in a class, even if there are many that have failed, that are like I am, if there is a test in the class, like it's out of 50, like I got 19 and there are some that got 70. That make, that makes me sad. Like why? (Male participant, 17 years old)*

Theme 4: Avoidant coping as a risk factor.

It was also evident that some participants used avoidant coping as a means of managing their problems or emotions. One participant noted that they cope by going to the gym as it makes them forget about personal circumstances. Moreover, another participant noted that they were “smoking, drinking and just being reckless” while trying to cope with their challenges. When asked whether this was a helpful strategy, they noted that it would only provide short term relief, which arguably questions the long-term positive impact of the avoidance.

So at that time I was like, I was just avoiding doing all kinds of things. (Male participant, 17 years old)

Well, in that time I turned to smoking and drinking and just being reckless (Male participant, 17 years old)

Well, at the time it would, it would like take away all the pain, all the anger, everything.

But once all that stuff is out of my system, it's back, back to reality. (Male participant,

17 years old)

Theme 5: Self-esteem as a protective factor.

While happiness was mentioned by one participant as a reason for not experiencing stress, self-esteem was, further, positioned as a protective resource to the coping abilities and well-being of adolescents. A participant noted that high levels of self-confidence are related to improved coping ability in the face of challenges and that lowered levels of self-confidence are a risk factor to adolescent-well-being. The adolescent did also mention that there were factors that threaten self-confidence, like when peers say “bad things” about them. It is, therefore, noticeable that there are certain stressors that are related to lowered self-esteem. Therefore, there is an opportunity for research to investigate those stressors that threaten the self-esteem of adolescents.

Uhm, I feel like when, when your self-confidence is, is built and you have a very strong self-confidence, I feel like there's no one who can say things or throw bad things at you and then you're gonna like act on those bad things. Because when you have your self-confidence with, with you, it always fights for you. Like you always feel like, when someone is saying bad things, you will be like, ah, she's lying, never mind that. But if you have less confidence, then you, you would sometimes feel as if what they're saying is true although they're not saying something that is true. (Female participant, 16 years old)

Like when someone, like when they say bad things, sometimes I'll lose my confidence. Al-, although I, I do have confidence, but when they say bad things I sometimes lose it and feel like, ugh, it's fine, maybe I'm not a strong person. I'm just like that. (Female participant, 16 years old)

Another adolescent noted that solving their problems was related to enhanced self-confidence.

Like, it, it, it boost my confident to do it and face it because it's a reality thing. So I, I have no running away from it. So I must look at it. (Male participant, 15 years old)

In addition to self-esteem, one participant's narrative also alluded to a sense of resilience regardless of circumstances faced. The participant noted that:

Uhm, I can say I'm, I'm, I'm, I'm that kind of person who is like persistence and I have that perseverance of like what-, whatever you say, I'm not gonna give up on what I am doing. And I am that person who knows what they want and like if what I want then bothers you, I, I wouldn't mind that though cause what I'm doing, I'm doing it for myself and my future. So if then it bothers you, then I don't know it. (Female participant, 16 years old)

Theme 6: Perceived social support and social support networks as protective factors.

Social support available from significant others in times of need, and the tendency to seek social support in times of emotional duress when necessary, also emerged as a protective resource that may have a positive impact on adolescents' well-being. Adolescents perceived social support as available to them from a range of individuals, including parents, siblings, neighbours, teachers and friends. Participants mentioned having close knit relationships with their mothers and it was mentioned that they could speak to their mothers about "everything",

including challenges at school. Another participant noted that siblings can be consulted on personal matters because they would have experienced the same stressors in the past. The adolescent noted that their elders can aid them in solving their problems by acting as mentors.

Uh, yes, I'm very close with my mom. Like we speak everything. If I have a problem at school, I'm gonna speak it with my mom... (Female participant, 16 years old)

So there are problems that you will just deal with them by yourself, then there are those that, this one, no, he's older than you, so you need an elder people just show you the way, maybe a mentor. (Male participant, 15 years old)

Theme 7: Problem-solving coping as a protective factor.

Other than seeking social support, participants also had a tendency to solve their own problems or cope with their emotions themselves. One participant noted an association between self-belief and being able to solve problems while another participant expressed that it is necessary to face problems head on and alluded to confidence being enhanced when facing problems. For one participant the act of writing down emotions and feelings brought a sense of relief from the difficulties they were encountering.

Like I have to be strong and I have to believe in myself so I, I can solve my problems.
(Female participant, 14 years old)

Like, it, it, it boost my confident to do it and face it because it's a reality thing. So I, I have no running away from it. So I must look at it. (Male participant, 15 years old)

Actually, when I wrote it down, when I write things down, like if what I'm feeling, if I'm feeling sad and I'm feeling down and I write it all down, it's almost like it, I slightly get

relief from everything that I'm feeling. So if I write and then the things that, that hurts me, like it, or it comes out automatically. Like it goes from my brain through my arm and then I write this thing, what's bothering me down. (Male participant, 17 years old)

Discussion and Recommendations for Interventions

Bronfenbrenner conceptualises development outcomes as affected by the transactions between the individual and their environment, which take place over time (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006). These transactions are characterised by multi-level risk and protective factors that differently impact on adolescents' mental health. In the present study it was evident that the experiences of adolescents were characterised by both risk factors and protective factors that may variably influence their mental health.

The present study identified certain risk factors that may increase adolescents' vulnerability to experiencing psychological stress and developing mental disorders such as post traumatic stress disorder. These risk factors were most prominent at the individual level and at the micro-level and macro-level of Bronfenbrenner's bio-ecological model (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006). The microsystem refers to the adolescents' immediate context of interaction, wherein their engagements with others occur and a range of activities that involve others take place. For adolescents, these include the family, school and peer group (Bronfenbrenner, 1994), but arguably also includes their individual characteristics (i.e. self-esteem). Moreover, the macrosystem is an overarching pattern of the micro, meso and exosystems unique to a certain culture or subculture. The macrosystem takes into account the role of belief systems, bodies of knowledge, resources, customs, opportunities, hazards, lifestyles and life course options of each macrosystem and how it affects development (Bronfenbrenner, 1994).

The first individual-level risk factor that seemed to have affected adolescents was their personal use of avoidant coping. Adolescents utilised avoidant coping strategies such as withdrawal and distraction (alcohol use, drug use, going to the gym and singing) as a means of coping with their emotions and feelings related to stressors or psychological stress symptoms that they encountered. These strategies are not uncommon among adolescents who reside in Cape Town's socio-economically adverse communities, with Harrison, Somhlaba and Loxton (2019) reporting higher levels of psychological stress as being associated with higher use of avoidant coping strategies in the same Metropole in which the present study was conducted. However, the authors also found that avoidant coping usage was related to lower levels of mental health, indicating that while avoidant coping provides short-term relief (as mentioned by some participants of the study), the long-term impact of avoidant coping has been found to have a deleterious effect on mental health (Stein, 1996; cf. Sue, 1986), with a participant of the present study noting that avoidance was not related to the successful management of the emotions and feelings that they encountered when coping with the traumatic loss of their friend and being confronted with by an individual with a gun. Coping avoidantly could therefore be viewed as an individual-level risk factor emerging from the narratives of the adolescents and arguably may result in sustained anxiety and psychological stress and therefore has been found as related to poor mental health (Harrison, Somhlaba, & Loxton, 2019).

Due to avoidance being a prominent individual-level risk factor in the present study, it is recommended that since the use of avoidance took place against the backdrop of heightened experience of psychological distress (as reported by participants), it behoves of intervention programmes aimed at helping at-risk adolescents to focus on equipping these individuals with skills of using alternative coping strategies (e.g. problem-solving strategies for problem-oriented tasks; and social support-seeking strategies when the benefits in increased social

contact would be an ideal response in times of emotional duress and increased need for social and emotional support).

Another individual-level risk factor was the fear of failure at school expressed by adolescents particularly because it threatened their welfare at school and their prospects. This may indicate that adolescents had a sense of awareness that their welfare at school was tied to their ability to transform their socio-economic circumstances, and therefore underachievement at school was a threat to their well-being. Fear of failure has also been found to be associated with diminished engagement in activities at school – this itself being a factor that may contribute negatively to the scholastic welfare of the adolescents (Caraway, Tucker, Reinke, & Hall, 2003), which in turn could also threaten their future prospects.

Pertaining to the microsystem-level, adolescents encountered peer conflict that manifested in substantial psychological stress and physical harm. Peer conflict therefore manifested as peer victimisation by other school mates, with peer victimisation relating to harmful perpetrated behaviours that may adversely impact on psychosocial well-being and academic performance (Rueger, Malecki, & Demaray, 2011). With school being a context that adolescents need to engage in daily, peer victimisation may arguably result in repeated victimisation and result in absconding from school due to fear of potential harm of which harassment and physical harm being examples of experiences of among the sample of adolescents. The anxiety related to peer victimisation may also manifest in post-traumatic stress which may have been the case for one adolescent of the present study who encountered physical abuse by peers and ruminated about the encounter and the fear of them being subjected to such victimisation again in future. Peer victimisation can, therefore, be viewed as a risk factor embedded in the daily experiences of adolescents and within a context that is non-negotiable (school system). Intervention strategies targeting the well-being of adolescents could focus on anti-bullying within the school system by teaching adolescents about strategies for managing

peer conflict, although it may be argued that this would be challenging given that peer conflict seems to be entrenched in the school-system.

Pertaining to macrosystem risk factors, participants were particularly vulnerable to being affected by violence embedded within the communities in which they live. During the 2019 year, multiple newspapers have reported on extreme violence (often with fatal consequences, for many) affecting the lives of people living in Cape Town, with children as young as three years of age being directly affected by violence (i.e. Ngqakamba, 2019; Petersen, 2019). Among those who were affected by daily violence are the participants of the present study whose narratives were characterised by fear, anxiety and a sense of entrapment in communities in which violence (i.e. gang violence) is prevalent. These narratives of violence in Cape Town's communities have also been captured by other researchers (i.e. Isaacs & Savahl, 2014; Makanga, Schurrman, & Randall, 2017), with the emphasis being placed on the burden of violence on the well-being and livelihoods of many residents in Cape Town.

While risk factors on the individual-level, the micro-level as well as macro-level emerged in the present study, protective factors that may mediate the impact of stressors or psychological stress on mental health were also identified. Pertaining to the individual and micro-level, adolescents perceived support as being available from parents, friends, siblings, teachers, and community members. Perceived social support is a protective resource that may buffer the impact of psychological stress and stressors on the mental health of adolescents because it is associated with adolescents' knowledge that support would be available when they are in need (Norris & Kaniasty, 1996). Moreover, participants further used the social support-seeking strategy when they were in need of assistance with adolescence-related challenges (school-work and peer conflict) as well as challenges relating to emotions and feelings surrounding violence that was experienced. Participants sought support from various older individuals including parents, brothers and community members who acted as consultants

when adolescents were in need, as well as their friends. The latter social ties were important protective factors that served to highlight that, for adolescent development, they may mediate the impact of community-level risk factors on adolescents' well-being (Gapen et al., 2011). Against the backdrop, they may also be deemed as central to attenuated vulnerability to adverse mental health outcomes.

Similar to other researchers' findings, perceived social support (Vaughn & Scott, 2003) and social support (Camara, Bacigalupe, & Padilla, 2017) may be viewed as protective resources to the mental health of adolescents. It was worth noting that these resources were reported by participants as present, notwithstanding the prevailing socio-economic conditions. Mental-health-promoting interventions can, therefore, prioritise, as part of helping adolescents in communities characterised by socio-economic strife, psycho-education that is centred around helping the vulnerable adolescents and youth to identify social ties (e.g. friends, family members, neighbours in the communities) whom they deem instrumental in enabling them to overcome challenges they experience – so they could augment these social relationships for reliance on them, and bolstering self-esteem, in times of need. This is in line with research on bereavement in South Africa, which has highlighted the solidification of supportive interpersonal relationships that, within the prevailing socio-cultural framework, foster problem-focussed aid and also help the grieving individuals overcome loneliness occasioned by their loss (Somhlaba & Wait, 2008, 2009).

Problem-solving coping emerged as an individual-level protective factor towards the mental health of adolescents in the present study, as it pertained to the active engagement and management of psychological stress (relating to repeated traumatic experiences stemming from direct- and indirect exposure to crime endured) and challenges (school-work challenges). As mentioned previously, excerpts from the interviews highlighted the use of a technique of systematically attempting to solve a problem through writing, which was described as

providing the needed respite from a wide range of challenges that a participant experienced in their daily life. Such techniques would be essential when devising age-appropriate and feasible interventions focused on developing and fostering the problem-solving strategies of adolescents. In addition, interventions such as short-term problem-solving therapy (Malouff, Thorsteinsson, & Schutte, 2007) may serve as a valuable intervention strategy to implement with at-risk adolescents. The intervention would involve teaching adolescents a step-by-step process to solve the challenges that they face (Malouff et al., 2007). Given that some of the life challenges that the adolescents of the present study encountered were out of their control (i.e. experiencing violence in the community), it would be essential for the intervention to also integrate strategies for managing emotions and feelings when facing community stressors. Moreover, problem-focused coping, when it helps to both enable participants to regain and maintain some semblance of control over challenges that they face (which are otherwise experienced as insurmountable), and diminish the psychological distress, should be fostered.

While not prominent in the present study, resilience emerged through one participant's narrative of stress and coping, which alludes to the psychological strength having contributed to a sense of adaptation regardless of risks endured (Garmezy, 1991). However, it could be argued that although resilience did not emerge as a prominent theme in the present study, it was worth noting that all the participants facing challenges in their daily lives continued going to school irrespective of challenges endured (some of the challenges were related to community violence), this pointing to the propensity, motivation and inner capacity for 'soldiering on' and adapting through, despite the reality of the systemic hindrances pervading, their livelihoods.

Self-esteem (perceptions of competence when facing challenges), which is an individual-level protective factor, also emerged as a salient theme in participants' narratives. It was noticeable that, regardless of the daily challenges experienced as well as the threats to safety perceived by adolescents, some adolescents gave accounts of their self-esteem as having

aided their ability to cope with stressors. This emphasises that intervention strategies targeting mental health needs to be focused on self-esteem as a protective resource that should be enhanced in adolescents who experience risk factors.

The findings of this study have practical implications for interventions aimed at helping the at-risk adolescents and youth who live in conditions characterised by socio-economic adversity and community violence. For any intervention to be meaningful in such contexts, it should prioritise identifying, building into and strengthening those aspects of the adolescents' (both individually and collectively) inner strengths and personal and life-skills set – both at home and school – that enable them to withstand the life-challenges that they are confronted with. Wilson and Somhlaba (2017) have commented on the benefits of supportive environments that are deemed particularly necessary for mental health promotion in schools – especially insofar as reducing dropout rates. It is our view that being equipped with the necessary skills to cope with challenges experienced would go a long way to engender positive emotions such as hopeful thinking and overall positive outlook in life, notwithstanding living in conditions of community violence. Relating to this, South African research (Savahl, Isaacs, Adams, Carels, & September, 2013) has shown that, despite growing up in conditions of community violence, children have the potential to experience hopeful thoughts, which are directly linked to overall psychological well-being.

Limitations

The study was limited to the experiences of the school-going adolescents and, therefore, those experiences of adolescents from the same community who are not school-going were excluded. In this case it was not possible to determine whether the responses and themes generated were limited to the school-going experience or if adolescents who do not attend school would have

provided similar responses. In order to address this limitation, in future, research should delve into the experiences of adolescents regardless of whether they are school-going or not.

Regardless of the limitation, we believe that this study is valuable as it captured the voices of school-going adolescents' lives and offered a glimpse into the challenges that these adolescents face, as well as the protective factors that may be pivotal to their mental health. These factors are relevant for interventionists and policy makers invested in adolescent-development and mental health.

Conclusion

The present study outlines certain stressors that are embedded within adolescents' contexts of interaction, such as at school and in their community. While it would be challenging for mental health professionals to change the nature of these environments for adolescents, there are certain protective factors (that we identified) that may be able to mitigate the impact of these stressors (and others) on adolescents' mental health. We recommend that interventions concentrated on promoting mental health should be focused on particularly developing strategies focused on problem-solving strategies, improving social support networks and enhancing social support-seeking.

Compliance with Ethical Standards

We hereby note that we have no conflict of interest to declare. We also declare that we have received written permission from Stellenbosch University's Research Ethics Committee (Human Research) to conduct this research. In addition, to be able to conduct research with learners at the relevant schools, we received written permission from the Western Cape Education Department and all the school principals. Assent and informed consent were

requested from all participants who agreed to volunteer to be part of the study. Moreover, for those participants younger than 18 years, their parents/ guardians' permission was also sought.

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Chapter 6: Article 4

Title of the article: Adolescents’ “written voices” of witnessed violence in Cape Town, South Africa's low-income communities.

Authors: Harrison, C. H., Somhlaba, N. Z., & Loxton, H.

Contribution of Carmen Harrison (doctoral candidate): I hereby declare that I conceptualised and wrote the present article with expert feedback being provided by the co-authors, my supervisors. Please see the co-authors declaration form (Appendix G).

Publication status of the article: The manuscript was submitted for publication at an international journal and is currently (January 2020) unpublished. The manuscript appears in the format required by the journal it was submitted to.

Brief Summary of the article: It is imperative to note that the following article was not initially conceptualised as part of the doctoral study and therefore does not appear in the introduction and methodology chapters. However due to the important data that emerged regarding witnessed violence, I deemed it important to capture the findings presented in this article.

The present empirical qualitative article explored the written narratives of 150 school-going adolescents, drawn from low-income areas of Cape Town (Western Cape, South Africa) regarding the violence they had witnessed in their communities. As we discuss the themes that emerged through thematic analyses, we emphasise that investigations focused on the mental health of vulnerable adolescents need to consider the risk factors in adolescents’ environments

that may impede their well-being. It is hoped that the present article adds to the knowledge base of stressors and psychological stress affecting adolescents who live in low-income communities in Cape Town, South Africa. Moreover the article intends to inform mental health professionals focused on mental health prevention in the context of multiple risk factors. This article aligns to the study as it sheds light onto the stressors that adolescents face in their daily lives, which may result in associated psychological stress.

Formatting/ style of the manuscript

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Adolescents’ “written voices” of witnessed violence in Cape Town, South Africa's low-income communities

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Abstract

South African adolescents living in low-income communities are not only at-risk for experiencing the numerous stressors associated with poverty, but may also experience the scourge of violence in their community. Exposure to violence has been found to adversely affect adolescents' well-being and is generally associated with poor mental-health outcomes. In order to understand the nature and impact of violence affecting adolescents living in low-income communities in South Africa, an inquiry into subjective accounts of witnessed violence for this age group is needed. Therefore, the present descriptive study explored the written responses of 150 school-going adolescents (aged 13 to 21 years), drawn from three schools situated in three different low-income areas of Cape Town (Western Cape, South Africa) regarding the violence they had witnessed in their communities. In highlighting the susceptibility of violence-exposed adolescents to poor mental health, thematically analysed written responses that emerged from the adolescent voices could be subsumed under the following five themes: *Violence in everyday community life; Violence related to substance use and abuse; Violence directed towards women and children; Experiences of anxiety and fear; and Acts of violence committed by other children or adolescents*. As we discuss these themes, we emphasise that investigations focused on the mental health of vulnerable adolescents need to consider the risk factors in adolescents' environments that may impede their well-being.

Keywords: violence; adolescence; low-income; mental health; South Africa; risk factors

Introduction

Violence against children and adolescents is a global public health concern, with the United Nations calling for the global eradication of all forms of violence against children as part of their sustainable development goals for 2030 (United Nations, 2018a). Globally, an estimated one-billion children experience some form of emotional, physical or sexual violence each year (United Nations, 2018b). The United Nations International Children's Emergency Fund (UNICEF) (2017a) reported that an adolescent is killed by an act of violence every 7 minutes somewhere in the world, and that non-fatal incidents of violence have a negative effect on the physical, psychological and social functioning of adolescents (World Health Organization, 2016) who are at a critical phase of their development.

The psychological impact of violence on adolescents' well-being is well-documented, with researchers reporting that exposure to violence may be related to an elevated risk for internalised (i.e. mental health) and behavioural problems (Chen, 2010; Mrug & Windle, 2010; Odgers & Russel, 2017; Voison, Patel, Hong, Takahashi, & Gaylord-Harden, 2016), with exposure to community violence being particularly linked to post-traumatic stress disorder (PTSD; Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009). In a recent United States study, Voison et al. (2016) reported on the relationship between the exposure to community violence and mental health problems for 638 African American adolescents. The authors noted that adolescents who experienced higher rates of exposure to community violence were more likely to report poorer mental health (Voison et al., 2016). In addition, the authors reported that these adolescents were more likely to engage in risk-taking behaviours, including delinquency, illicit substance use and sexual risk-taking behaviours (Voison et al., 2016). These findings emphasise that exposure to community violence affects various domains of adolescents' lives, with far-reaching negative consequences for their overall well-being. This notion is emphasised in the World Health Organization (2018) report that also highlighted

adverse biological (impaired brain and nervous system development), cognitive (maladaptive coping behaviours) and behavioural (substance abuse) outcomes later in life as associated with the experience of violence during childhood and adolescence.

Living in conditions characterised by poverty remains a risk factor for experiencing violence (World Health Organization, 2018). In South Africa, children and adolescents under the age of 17 are most vulnerable to experiencing poverty and, with more than half of the South African population experiencing poverty, many South African adolescents experience socio-economic adversity (Statistics South Africa, 2017). Therefore, adolescents living in socio-economically adverse communities in South Africa are not only at-risk for experiencing the numerous stressors associated with poverty (Harrison, Loxton, & Somhlaba, 2019), but they may also experience the impact of violence in their community (Isaacs & Savahl, 2014; Richter, Mathews, Kagura, & Nonterah, 2018; Scorgie et al., 2017).

Due to the prevalence of violence in South Africa's socio-economically adverse communities (Scorgie et al., 2017), other researchers have investigated the subject of violence in South African adolescents. For example, Scorgie et al. (2017) recently conducted a study exploring adolescents' experiences of violence in a socio-economically adverse community in Johannesburg, South Africa. The researchers found that participating adolescents (aged 15 to 19 years) commonly witnessed, and were directly exposed to, many forms of violence in their community (Scorgie et al., 2017). Moreover, varied fears associated with violence according to gender were also reported: While adolescent girls had fears surrounding the threat of sexual harassment and violence, adolescent boys feared the local gangs, the threat of physical violence and also feared being drawn into substance abuse (Scorgie et al., 2017).

While there are treatment options for the treatment of anxiety and anxiety disorders that manifest due to crime, violence and trauma experienced, barriers to treatment are prevalent in low-income South African communities. These include being affected by the global mental

health treatment gap (Keynejad, Dua, Barbui, & Thornicroft, 2018) and individuals not accessing treatment facilities due to stigma associated with accessing mental health services (Matsea, 2017). There is also the possibility that some individuals may not be educated about psychological stress symptoms that may require intervention (such as post-traumatic stress symptoms and debilitating anxiety). Notably, adolescents who live in violent South African communities may not be exposed to *once-off* encounters of violence, but could remain inextricably tied to (or ‘trapped’ in) communities where they are subjected to repeated exposure to violence and trauma, which renders them susceptible to experiencing post-traumatic stress (Nöthling, Suliman, Martin, Simmons, & Seedat, 2016). This also calls for the need for studies to focus on the coping resources or psychological resources that may aid adolescents in managing their stress symptoms associated with living in at-risk violent contexts (Harrison et al., 2019).

The Current Study

The prevalence of violence in South Africa is alarming, with the national police statistics indicating that from 2017 to 2018, a total of 601,366 recorded crimes were committed against individuals nationally (South African Police Service, 2019). These crimes include sexual offences (50,108 cases), murder (20,336 cases), attempted murder (18,233 cases), assault with the intent to inflict grievous bodily harm (167,352 cases) and robbery with aggravating circumstances (138,364 cases). These findings, along with the Victims of Crime Survey (Statistics South Africa, 2018a) that outlines an increase in crimes on individuals, emphasise that the topic of the subject of violence in South Africa, and its impact on individuals’ psychological well-being remains relevant. This is made significant when considering the harmful consequences that exposure to violence holds for individuals in

general, and specifically for vulnerable adolescents (Calouste Gulbenkian Foundation & World Health Organization, 2014).

We believe that the context in which the adolescents who participated in this study live, is unique in many ways and presents a multitude of risk factors that may manifest in psychological stress responses and poor mental health. These communities in Cape Town are affected by a history of socio-economic stressors influenced by the legacy of Apartheid (which contributed to shaping the livelihoods in the under-resourced contexts in which these adolescents reside (Harrison et al., in 2019), including poverty (Western Cape Government, 2016), unemployment (Isaacs & Savahl, 2014), crime, HIV/AIDS, teenage pregnancy (Western Cape Government, 2016), substance abuse (Plüddemann, Flisher, McKetind, Parrye, & Lombard, 2010) and extreme violence (Shields, Nadasen, & Pierce, 2009). These are all arguably social determinants/risk factors for poor mental health. We believe that investigating and understanding the subjective experiences of violence, for the vulnerable adolescents living in these communities, is warranted. This would also shed light on the impact that these experiences of witnessing violence have on trauma, stress and general well-being.

This study focused on the exploration of written responses of the witnessed violence among school-going adolescents who lived in communities in Cape Town, South Africa, and who are affected by socio-economic stressors. While other studies have explored the experiences of adolescents who live in violent Cape Town communities (Isaacs & Savahl, 2014; Nöthling et al., 2016; Savahl, Isaacs, Adams, Carels, & September, 2013; Shields, Nadasen, & Pierce, 2008), to our knowledge no previous study has explored written responses of violence for this population. It stands to reason that writing about witnessed violence, instead of speaking about it to the researcher, may have been easier for participants who are anxious, who may struggle to verbalise their feelings, and who may be reluctant to open up to the researcher and to discuss certain topics in a face-to-face interview context (Adler & Adler,

2001). An exploration of the written responses would inform our understanding of the stressors and stress that may impact on the mental health of adolescents. This, in turn, can guide investigations focused on strategies for counteracting the impact of such stressors on adolescents' mental health (i.e. investigations focused on the protective factors that may mitigate the impact of stressors on the mental health of adolescents). Moreover, the findings captured in this study can also inform interventions focused on strengthening the coping resources of adolescents who experience/ experienced trauma. In addition, the findings of the study hold implications for policy making in relation to the need for a reduction of violence (through suitable policing) in the Cape Metro area where the participants of the study reside. Considering these factors, the current study aimed to provide an account of the subjective experiences of witnessed violence of South African adolescents living in communities affected by socio-economic adversity.

Method

Sampling.

The qualitative data used in this explorative, descriptive study emerged from the first author's doctoral study, which focused on the mental health of school-going adolescents (aged between 12 and 21 years, in Grades 8 to 11), from six randomly selected no-fees schools, who lived in low-income communities of the Cape Metro region of Cape Town, in the Western Cape province of South Africa. As part of the investigation, the adolescents in the study were invited to complete a questionnaire, which incorporated a demographic questionnaire. This questionnaire included an item asking adolescents to write about their experiences of violence in their communities. The question to which responses were given is stated below and was notably the only question that will be focused on in this paper:

If you have witnessed violence in your community, shortly describe what you saw.

While the doctoral study yielded a total of 446 respondents from six different schools, we used purposive sampling to select the responses of a total of 150 participants (from three of the six different schools) who completed questionnaires for the ongoing doctoral-study investigation. From the three different schools, we purposively selected a batch of 50 participants from each of the three different schools, as they appeared in a data-capturing sheet for the study (this refers to the data-capturing excel-sheet which the researcher used to capture the data for each questionnaire). The 50 participants from each of the three schools formed the sample of 150 participants for the present article. The three schools were all situated in the Cape Metro area of Cape Town (Metro North, -South and -East). Because the focus of the present article was on the general experiences of witnessed violence by school-going adolescents in these Cape Metro areas, we did not select participants by gender or any other demographics.

Ethics considerations.

Prior to the data collection phase, ethics clearance for the study was obtained from the Research Ethics Committee of Stellenbosch University (human research). In addition, the Western Cape Education Department (WCED) and the school principals from the participating schools gave their institutional permission for data to be collected at the selected no-fees public schools in Cape Town. Consent from parents and guardians was sought from learners who were under the age of 18 years, with learners further being asked to provide informed assent if they would like to participate in the study. Learners were informed that their participation in the study was voluntary, that they had the right to decline participation and that they had the right to withdraw from the study at any point without consequences. Moreover, confidentiality of the information they shared and their individual responses were protected and learners were assured that their identity and the names of their schools would remain anonymous. As a contingency plan, participants were informed that they may ask to be referred for counselling

services after they participate in the study. The first author also referred learners who she felt needed to be referred following the screening of their questionnaires. For the larger study, 8 participants (who evinced marked psychological distress) were referred to a clinic that was accessible to them, where they could meet with a mental health professional.

Procedure.

Following all ethical procedures, the first author and her research assistant approached adolescents for participation in negotiated available class times at the respective schools. After an explanation of how to complete the questionnaire, the first author and her assistant administered the paper-based questionnaires to participants in either English, Afrikaans, or isiXhosa (with these being the languages predominantly spoken in the greater City of Cape Town). Where the schools could accommodate for the questionnaires to be completed in school-time, participants completed the questionnaires in class. However, when there was no time-slot in which participants could complete their questionnaires, they were asked to complete the questionnaires at home and return these to school. The questionnaire incorporated an item that asked participants to share their thoughts about the violence they had witnessed in their community (as noted in the sampling section). Participants wrote about these thoughts in the questionnaire by using a pencil or pen and these responses form the data of the present study. As noted previously, the first author captured the written responses to the questionnaire in an excel-format data-capturing sheet and imported the data for use in the software package, Atlas.ti (see the following section).

Data analyses.

As participants' written responses were in all three of the predominant languages spoken in the Cape Metropole, relevant Afrikaans and isiXhosa responses were translated into

English. Afrikaans responses were translated into English by the first author (who is a bilingual speaker of English and Afrikaans) while the services of a translator were used for the translation of isiXhosa responses into English.

We used Braun and Clarke's (2006) six-step thematic analysis approach to analyse the data that had been captured in the Excel-format data-capturing sheet and imported into the data analysis software package, the Atlas.ti (version 8) for final analyses. The process of inductive analyses commenced with the first author familiarising herself with the data by reading participants' written responses several times. Based on the data, codes were generated and thereafter themes were identified and reviewed. The themes that emerged from participants' voices (of violence witnessed in their community), are described in this study.

To contribute to the trustworthiness of the data, we enlisted the support of an experienced researcher with a doctoral qualification in psychology (Stellenbosch University) to review the themes that were generated. The researcher confirmed that the examples from the data supported the themes that were generated and therefore agreed with the themes that were central in this study.

Results

Participant demographics.

Of the 150 participants, 96 were female and 54 were male. Of a number of 139 participants who reported their ages, the majority of participants (129 participants) were aged 13 to 18 years, while a further 8 participants were aged 19 years, and 2 participants were 21 years old. Of the 149 participants who reported their grades, 63 indicated that they were in Grade 8, 31 in Grade 9, 18 were in Grade 10, while the remaining 37 participants were in Grade 11.

The 150 participants' first-languages included Afrikaans, English and isiXhosa, with the majority of the participants being native speakers of isiXhosa (86 participants), 32

participants being Afrikaans speakers, while the remaining 4 participants reported their first language as English. A total of 28 participants noted that they were bilingual (relating to the three languages mentioned).

Regarding food availability at home, 103 participants noted that they had never had to skip a meal in the last month of participating in the study, while 40 participants reported having had to skip a meal in the same period due to insufficient food.

Regarding the types of homes in which participants resided, most participants (77 participants) noted living in a brick home, while 41 noted living in an informal dwelling/settlement, 10 noted that their home was a settlement in the 'backyard' of another house (i.e. because they cannot afford their own property or may be waiting for government housing), 5 described that they lived in a house, while 3 reported living in a block of flats and one remaining participant lived in a hut (rondavel) or 'traditional' dwelling.

While responding to the question prompting adolescents to write about witnessed violence was the primary question posed in this study, two additional general questions were posed to participants in a Likert-type format. The first question asked participants about how they felt about safety in their community, and the results for the 146 participants were as follows: The majority of participants (67 participants; 44.7%) reported having numerous safety concerns in their community, while 52 participants (34.7%) reported only some safety concerns, and two (1.3%) participants' safety concerns ranged from '*some concerns*' to '*a lot of concerns*'. In contrast, only 25 participants (16.7%) reported to have had no safety concerns in their community.

The second general question asked participants about how they felt about violence in their community, and the results for the 147 participants were as follows: For most participants (73 participants; 48.7%), subjective perceptions highlighted their community as having a '*high rate*' of violence, or '*some violence*' (for 54 participants; 36%). One participant (0.7%) noted

that they perceived both some and high rates of violence in their community. Conversely, only 19 participants (12.7%) reported ‘no violence’ in their community.

Findings

In the following section, we discuss the five pertinent themes that emerged from adolescents’ written descriptions of the violence they witnessed in their communities. These are: *Theme 1: Violence in everyday community life; Theme 2: Violence-related substance use and abuse; Theme 3: Violence directed towards women and children; Theme 4: Experiences of anxiety and fear; and Theme 5: Acts of violence committed by other children or adolescents.*

Theme 1: Violence in everyday community life.

Many adolescents reported that the violence they witnessed in their communities unfolded while going through their everyday tasks, chores or running errands (such as going to the shop, playing in the park and walking home). From the accounts, this not only placed adolescents at risk for being victims of violence, but also exposed them to the trauma of witnessing potential incidents of violence. Participants’ responses included that:

“I was on the way to the shop when one man pulled out a weapon and shot another man dead at the shop I was standing at” (Female participant, 14 years, Grade 8, Metro North).

“I saw my friend when they rob[bed] her on Friday after school” (Female participant, 15 years, Grade 9, Metro South).

“I saw two guys in the morning making ‘gun-pointing’ [gesture towards] another lady that was going to work and they took her bag and all the money she had” (Female participant, 18 years, Grade 9, Metro South).

“Some boys wanted to rob a girl, then the girl refused and they shot her” (Female participant, 15 years, Grade 8, Metro North).

“...I was on my way home when a gangster shot someone dead in front of me” (Female participant, 14 years, Grade 8, Metro North).

“[T] here’s always fighting, sometimes it’s gangsters that shoot each other, throwing stones at, or someone gets shot guilty and innocent people” (Female participant, 16 years, Grade 11, Metro North).

Oftentimes, participants’ accounts also revealed despair and vocalised sense of helplessness and emotional reaction to the fact that their daily routines (such as going to the shop, going to work and even walking home from school) were inescapably affected by crime and violence.

“They don’t care about who gets harmed they just come and do what they were sent for. They don’t show any remorse it is utterly heart breaking and disappointing” (Female participant, 18 years, Grade 11, Metro North).

“I have never experienced anything like that, but I have seen how people hurt each other, which also hurts me” (Female participant, 21 years, Grade 11, Metro North).

The latter emphatic sentiments (i.e. *“I have seen how people hurt each other, which also hurts me”*) highlight that the medium of traumatisation is not only direct and personal, but also vicarious as it comes through living through the experience of witnessing trauma befall others, or through reliving it through the accounts of those who have personally and directly experienced community violence. This suggests that trauma-inducing violence can have an effect on adolescents’ well-being and emotional states regardless of whether they were personally involved in a violent experience. The over-exposure to continued community violence may arguably have a cumulative adverse impact on the mental health states of adolescents – which positions exposure to community violence as a risk factor for the overall well-being of adolescents.

At times, there seemed to be an eerily justification of violence (vigilantism), where such is seen as a community response to violence in the community, perhaps showing tolerance to the violence that is seen as the community taking a collective stand against thuggery, petty crime (such as stealing). It was noteworthy that the use of violence (‘beating’ of perpetrators of incidents of theft or housebreaking) was often described by participants as community members ‘enforcing justice’, as if to minimize the impact that *violence through vigilantism* has on the well-being of those who witness it. This blurring of the lines between being affected by recurring incidents of community violence and committing acts of violence in pursuit of justice against those seen as serial perpetrators of community violence lends credence to the idea that “violence begets violence”, with the World Health Organization (2019) emphasising a link between violence exposure and perpetrating crime and further violence. The extracts capturing vigilantism included:

“I saw a burglar breaking into our house and stealing things. Community members caught him and beat him up” (Female Participant, 21 years, Grade 8, Metro East).

“One girl was stealing people’s clothes then she lied when she was interrogated by neighbours. One lady eventually beat her up [while demanding answers]” (Female participant, 15 years, Grade 8, Metro East, emphasis added).

Theme 2: Violence-related substance use and abuse.

Adolescents in the present study also constructed substance use/ abuse as salient feature in the manifestation of community violence, with violent behaviour of some perpetrators being inherently tied and attributed to the use of substances. For instance, a 16-year-old, female participant described that:

“The witnessed violence in my community is that there is many [a] crime and drug abuse” (Female participant, 16 years, Grade 9, Metro South).

In addition, the extracts below illustrate that adolescents positioned the ease of access to substances (as seen in the sale of illicit substances and alcohol to minors), as a complicating factor in the societal response to community violence:

“I saw people taking drugs” (Female participant, 13 years, Grade 8, Metro East).

“I saw another guy selling dagga to kids” (Female participant, 13 years, Grade 8, Metro East).

“The youth uses drugs and shop owners sell alcohol to children” (Female participant, 15 years, Grade 10, Metro East).

The relationship between varied community risk factors prevalent in these low-income communities in Cape Town, emerged in the descriptive responses of participants. Notably, some of the risk factors threatening the well-being of adolescents were captured in the sentiment from a 16-year-old male participant, who expressed that:

“It is drug related fights. Selling of drugs and raping of the youth” (Male participant, 16 years, Grade 11, Metro East).

While this extract not only depicts the reality of violence affecting the daily lives of adolescents, it also emphasises the burden posed by substance use/ abuse as a precursor to violence (which is also emphasised in international research, i.e. Boles and Miotto, 2003). Notably, substance use/ abuse threatens the development and welfare of adolescents who (as revealed through participants’ responses) may purchase and use these substances. With addiction to substances being a significant social burden on the general life in Cape Town (City of Cape Town, 2015), substance use/ abuse emerged as a significant community-level risk factor that needs to be considered when studying the impact of violence on adolescents who live in high-risk communities.

The extract above also alludes to trauma-inducing violence affecting the lives of adolescents, with the adolescents noting that youth are raped in their community. This extract

not only suggests that rape (as reflected in the crime statistics for South Africa presented earlier) is a prominent risk factor in high-risk communities, but it also alludes to the potential anxiety and fear that adolescents may have had relating to potential future sexual assault.

Theme 3: Violence directed towards women and children.

The prevalence of violence against children (The United Nations International Children's Emergency Fund, 2017b) and women (Statistics South Africa, 2018b) in South Africa, also emerged from the participants' responses, thus highlighting the deleterious impact of violence on the well-being of those it is often directed at, as illustrated in the following:

"I have already seen how a man hit his wife and thereafter try to hang himself" (Female participant, 18 years, Grade 10, Metro North).

"[There is] a lot of woman abuse (physically)" (Female participant, 15 years, Grade 11, Metro East).

Specific concerns about sexual violence against children and youth also emerged in participants' expressions, seemingly echoing concerns raised about the prevalence of child sexual abuse globally (Barth, Bermetz, Heim, Trelle, & Tonia, 2013), as illustrated in the following accounts:

"Where I stay children go missing and get later raped" (Female participant, 15 years, Grade 8, Metro East).

"Old men are raping children and killing them afterwards" (Female participant, 13 years, Grade 8, Metro East).

"It is drug related fights. Selling of drugs and raping of the youth" (Male Participant, 16 years, Grade 11, Metro East).

“People in my community always crying about the got raped on other people some of them got killed and we watch those things” (Male participant, 17 years, Grade 9, Metro South).

News outlets have reported tragic cases of the rape and murder of children and youth in the Cape Town area over the last few years (i.e. Collins, 2017), including the most recent high-profile cases of gender-based sexual violence (Meyer, 2019; Nkanjeni, 2019). It may be argued that heightened adolescents’ awareness of these cases on the news and through social media as well as in their communities (from peers/family/neighbours/teachers) may induce fear and anxiety about the possibility of this form of violence affecting them in future. Social media hashtags such as *#AmINext* in South Africa (IOL News, 2019), whereby women have voiced collective outrage at gender-based sexual violence, and a wonder of whether they would be next to in the ‘long line or queue’ of sexual violation at the hands of rapacious masculinity, has been recently reported as occurring in a climate characterised by a combination of outrage, trepidation and perceptions of heightened vulnerability. Given the regularity with which gender-based violence occurs in places like Cape Town, the highly pronounced response to it and the effects that it has on the psychological well-being of those affected, should be understood within the background of the prevailing context in which it occurs.

Reflecting on these extracts, it is reasonable to argue that the exposure of adolescents from the no-fees schools in Cape Town to violence may not only have faced post-traumatic stress symptoms relating to previous experiences with violence, but also that they may also be experiencing ongoing fears relating to future harmful events (i.e. kidnapping, sexual assault, murder and being a victim of gang violence). Muris, du Plessis and Loxton (2008) have highlighted South African children’s fears relating to their lived experiences within their communities as having an adverse impact on their overall psychological well-being. We argue that, for the participants in the present study, the repeated exposure to violence may have

aggravated levels of anxiety stemming from their recurring perceptions of (real, imagined or vicarious) threats.

Theme 4: Experiences of anxiety and fear.

Adolescents' "voices" of the violence witnessed in their communities further revealed the daily life in these communities as laden with risk factors that evoked fear and anxiety. Gang violence emerged as a prominent community risk factor that directly or indirectly affected adolescents' well-being. Gang violence and other forms of violence in their community generated fear, with these acts of violence being reported as representing a common stressor that served as a risk factor for their mental health. One adolescent described that:

"...the gangsters were shooting in our street, but they were shooting at other people and then we had to run. It was very shocking" (Female Participant, 17 years, Grade 11, Metro North).

The extract also reveals that the adolescent viewed herself as at-risk for being affected by gang violence that they were not directly involved in, but which may have caused injury, stress (anxiety and depression), trauma and fatalities. While reactions to dangerous encounters with violence, such as the act of fleeing, constitutes a nervous system defence mechanism (American Psychological Association, 2018) the frequent and acute activation of the automatic nervous system takes a toll on the body and may become problematic in future (American Psychological Association, 2018). Continuous exposure to stressors that lead to the activation of the nervous system will therefore take a toll on adolescents' health (American Psychological Association, 2018). Such exposure to violence has an impact on the holistic well-being of adolescents.

It is significant that one adolescent described the act of running from active gang violence as "shocking", and may have encountered generally stressful events, it can be concluded that, despite this repeated exposure to community violence, nothing could ever

prepare them for some moments when the personal safety and well-being are directly threatened.

Sentiments that capture fear and associated anxiety related to instances of community violence, were also expressed by other adolescents, as noted below.

“I was very scared, didn’t know what to do at that moment. I was anxious” (Female Participant, 17 years, Grade 11, Metro North).

“It was very dangerous there were many young people involved and even weapons. I was very scared” (Female Participant, 17 years, Grade 10, Metro North).

“I saw someone being mugged in front of me and that was a traumatic experience because they were carrying guns” (Female Participant, 17 years, Metro East).

Adolescents’ personal experiences of trauma, being “very scared” and “anxious” when encountering community violence also serves to highlight fear and anxiety that serve as autonomic responses to threat – thus pointing to the notion that the responses associated with community violence are never always (or completely) “normalised”. On the contrary, it is imperative to afford attention to these adolescents’ experiences, precisely because their emotions may be in response to a multitude of harmful experiences in their communities. The cumulative exposure to these stressors should be considered as potentially having a significant negative impact on the mental health of adolescents, prompting research to investigate strategies that adolescents can adopt in managing their responses to stressful events.

Continuing the topic of fear related to community violence, two participants expressed fear surrounding being the witness to violence in their community. These participants expressed that:

“I would say that there thing that I saw have no more proof because maybe I didn’t see them through so I just don’t like to be the witness of the violence in my community”
(Female participant, 14 years, Grade 9, Metro South).

“I stay quiet I don’t tell anyone” (Female participant, 19 years, Grade 11, Metro North).

The first participant seems to first allude to having seen a violent incident but diverts attention from this initial statement by noting that “maybe” they did not witness any form of violence and further notes that they “...just don’t like to be the witness of the violence in [their] community”. Reflecting on the first sentence, it may seem that the adolescent may have been afraid of the consequence of being the witness of crime in their community (perhaps the participant fears that perpetrators may be aware that they had witnessed them committing a crime, which poses a threat to their safety).

It may also be argued that adolescents’ avoidance of the topic of witnessed violence, may operate as a form of avoidant coping/ disengagement. Hereby adolescents may not confront their experience and response to witnessed violence as a means of protecting themselves from their experience of the stressor. In this case, adolescents are also likely to disengage with their emotions surrounding what they have witnessed, with this form of coping being maladaptive in the long term, since adolescents do not confront their symptoms of stress and possible strategies for regulating these stress symptoms, - such as seeking social support or consulting with a trauma counsellor.

Because gang violence occurs regularly in participants’ communities, they may continuously have fears surrounding witnessing violence in their community, which is concerning and may lead to avoidant coping by disengaging with what had been experienced or perhaps not going to school or outside to play in fear of violence.

Theme 5: Acts of violence committed by other children or adolescents.

While not a predominant theme, findings of this study also revealed reported incidents of violence perpetrated by other children/adolescents (this inferred from the participants’ use of the terms “boys and girls” to refer to perpetrators of violence). From the extracts below, it

becomes evident that the witnessing episodes of violence perpetrated by other children/adolescents, though still extreme, had at times become ‘normalised’, possibly pointing to the extent to which repeated exposure to such violence could have desensitised the participants’ reaction to it. The following excerpts are a case in point:

“I once saw a group of boys fighting with sharp objects killing each other” (Female Participant, Grade 8, Metro East).

“I have seen it. My next door boys and girls were stabbing each other” (Female participant, 16 years, Grade 10, Metro East).

Notably, these extracts suggest that adolescents living in Cape Town’s violent communities are not only possible victims of violence but may also be perpetrators of violence, with this perpetration of violence possibly being influenced by some adolescents experiencing a sense of desensitisation to violence (Mrug, Madan, & Windle, 2016).

Discussion

This study revealed that, while the South African Children’s Charter prescribes that each child has the right to protection from all forms of violence, violence remains to be a notable risk factor to the well-being of South African adolescents (in Louw & Louw, 2014). The present study provided insight into the daily realities of a group of adolescents who live in low-income communities in the Cape Metro region of the Western Cape, South Africa. Adolescents who participated in the present study were at-risk for poor mental health as they were not only affected by socio-economic adversity and its associated stressors (Harrison et al., 2019) but the majority of participants were also affected by community violence (Calouste Gulbenkian Foundation & World Health Organization, 2014; Dubé, Gagné, Clément, & Chamberland, 2018). Our aim was to capture and highlight participants’ personal experiences of violence they personally witnessed in their communities.

Theories such as Bronfenbrenner's (1994) ecological model seem to suggest that investigations focused on preventing mental illness, promoting mental health and strategies for treating mental illness in low-income communities, need to be aware of both the personal (individual-level) and community-level stressors that affect adolescents, this study adds to the literature on these stressors and its potential impact on adolescents' well-being and mental health.

The literature maintains that children and adolescents exposed to community-level stressors such as chronic trauma are more susceptible to poor mental health (Larson, Chapman, Spetz, & Brindis, 2017). In the present study, community violence emerged as a stressor that manifested in strong emotional reactions in adolescents, with feelings of sadness, fear, anxiety and trauma being described in relation to community violence. It is noteworthy that these reactions did not necessarily follow violent incidents adolescents were directly affected by in the past, but which nonetheless exerted an impact on them. Moreover, fear and anxiety were prominent reactions to anticipated harm in future, based on past exposure to community risk factors (i.e. gang violence, missing children, sexual violence, physical violence, substance abuse and related fighting).

As would be argued by developmental psychopathologists, the cultural context within which adolescents interact is essential to their development, their adaptation and their mental health (Causadias & Cicchetti, 2018). It is imperative for the cultural context with its various risk, protective and promotive factors to be considered, should a holistic view of adolescent development be maintained (Causadias & Cicchetti, 2018). This paper evidently presents the theme of violence which could be linked to certain historical practices that may have persisted for generations (for example, the gang violence referred to by adolescents) or certain community values and practices that are present in everyday life (for example, vigilantism in response to crime). Notably, risk factors cannot be considered in isolation from the protective

factors that emerge within adolescents' contexts (Causadias & Cicchetti, 2018), which calls for an investigation of those cultural protective factors that may contribute to positive adaptation in the context of risk.

We argue that adolescents' symptoms of anxiety may be indicative of varying mental health states in adolescents. Firstly, anxiety symptoms may manifest as a reasonable reaction to a stressor experienced. Secondly, anxiety symptoms may allude to an adolescents' struggle with an undiagnosed, untreated mental disorder. Moreover, these anxiety symptoms may also serve as a risk factor for future mental health challenges. The literature has emphasised that anxiety, (when manifested as an anxiety disorder) is known to lead to impairment in executing day-to-day activities, which includes scholastic achievement, social engagements and relationships (Essau & Gabbidon, 2013). Therefore, the prominence of this internalised symptom is concerning. The findings emphasise the importance of considering external environmental factors within adolescents' high-risk communities as these factors exert an influence on the mental health and well-being of adolescents in high risk communities (Bronfenbrenner, 1994).

The present study also outlined other risk factors to adolescents' mental health, that are prevalent in their communities. For instance, adolescents were first-hand witnesses of extreme violence and even had to flee from violent incidents to avoid being caught in cross-fire. These experiences may result in post-traumatic symptoms, with Nöthling et al., (2016) reporting a high prevalence of PTSD in adolescents who have experienced trauma, while noting that exposure to community violence was highly predictive of a PTSD diagnosis in a group of adolescents who lived in the Cape Metro area of Cape Town. While not all those who experience trauma will develop PTSD (Yule, Smith, Perrin, & Clark, 2013), for those adolescents affected, PTSD may result in negative outcomes, such as academic problems,

emotional and behavioural difficulties, sexual risk-taking behaviour, and substance use (Larson et al., 2017).

Findings further captured that community violence had manifested in various ways, which included vigilante justice in response to crime. While this form of violence may impede on adolescents' health, it may also arguably place adolescents at risk for adopting this violent behaviour in future due to social learning, informed by other members of the community. Of concern, it was evident that the participants of the present study had already witnessed fellow peers exhibiting extremely violent behaviour, with other researchers reporting the predictive relationship between exposure to community violence and delinquency and anti-social behaviour (Mrug & Windle, 2010).

While the present study explored violence as a risk factor for poor mental health, other determinants of poor mental health were revealed through participants' descriptive responses. These risk factors included exposure to substance abuse, exposure to sexual violence, witnessing physical and sexual abuse, being affected by gang violence, trauma related to exposure to violence and fear about being exposed to violence in future. The nature and complexity of these risk factors need to be considered when studying the mental health of adolescents living in at-risk communities, as they shed light of the possible cumulative stressors that adolescents are exposed to, especially since they are already affected by socio-economic stressors.

We argue that the design of a context and population appropriate intervention, focused on promoting mental health (such as Cognitive Behavioural Therapy) is dependent on the adolescents' personal accounts of daily life and the fears which they may have – which was captured in the present study. Notably, the prominent fears that emerge from these responses contribute to an understanding of the possible pathways to anxiety, given that fear outcomes and associated anxiety have been found to be linked to traumatic experiences (Muris et

al.,2008). The present study thus underscores the role of adolescents' voices in informing interventions based on promoting mental health.

Limitations

The present study had limitations relating to its sampling. Our limitations included that we used purposive sampling and only included participants from three different schools in three low-income regions of the Cape Metro in the Western Cape. We therefore cannot claim that the responses of these participants can be generalised to the entire population of school-going adolescents living in Cape Town's low-income communities or in South Africa in general. However, considering our aim was to capture the written descriptive responses of witnessed violence in the group of adolescents, we believe this research contributes to our understanding of the subjective experiences of violence, stressors and psychological stress for this group of adolescents.

Conclusion and Implications for Interventions

Considering the recent cases of violence in Cape Town (Etheridge, 2019), knowledge of the community violence that adolescents may be witnesses to is crucial as it may inform interventions and policies aimed at protecting South African youth. In particular, it is important to gain this knowledge from adolescents themselves, which is what the presented study achieved.

Our study aimed to highlight the written responses of violence of school-going adolescents who live in socio-economically adverse communities in the Cape Metro region of the Western Cape. The findings of this study indicated that adolescents were exposed to and experienced different forms of violence in their daily lives, which affected their well-being and may impede on their mental health. We argue that it is important to consider the multiple risk

factors that are present in adolescents' environments, as these have an impact on their mental health states. This approach to studying mental health and mental illness within adolescents' contexts, will provide researchers and interventionists with a holistic overview of the stressors and stress affecting young people. It is our hope that the present findings add to the literature that sheds light on the complexity of living in Cape Town's at-risk communities and the implications for well-being and mental health. Notably, as encouraged by other researchers focused on the impact of violence on adolescents' well-being in South Africa (Savahl et al., 2013), we note that an exploration of the protective factors (such as psychological strengths) that can buffer the impact of violence is necessary and pivotal to mental-health-promoting interventions.

We argue that the methodology used in this study could be applied in future investigations as having adolescents write about their perceptions of witnessed violence presents a "non-threatening" strategy for delving into a "threatening topic" – that being witnessed community violence. The spontaneous responses of adolescents may have been influenced by the other research-safeguards put into place (anonymity and referral options to see a mental health professional). The latter safeguards should, therefore, form part of the methodology used when exploring the written responses of vulnerable participants (involving sensitive topics).

Disclosure of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical standards and informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants for being included in the study.

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Chapter 7: Conclusion

The aim of the present study was to explore aspects of mental health for school-going adolescents residing in low-income communities of the Cape Metropole (in Cape Town, Western Cape province of South Africa), with specific focus on the mediating role of psychological strengths (including self-esteem, perceived social support and resilience) on the stress-coping process. To achieve this aim, a mixed-methods investigation was conducted focused on answering the following central questions:

1. What is the nature of the relationship between the variables (psychological stress, coping strategies and psychological strengths) and the mental health among school-going adolescents from low-income communities of the Cape Metropole?
2. What are the subjective experiences of stress and coping for adolescents who reside in the Cape Metropole's low-income communities, and what psychological strengths (if any) do they make use of in coping with psychological stress?

The following chapter integrates the findings from the quantitative manuscript (Chapter 4) and qualitative manuscripts (Chapters 5 and 6). The results are interpreted collectively and implications for interventions and future research are discussed. It is noteworthy that the present summary is centred around 8 topics:

1. The impact of psychological strengths on the mental health of the adolescents
2. The impact of coping strategies on the mental health of the adolescents
3. The context as a source of psychological stress: Risk factors to consider when studying adolescent mental health in at-risk contexts
4. Implications for interventions: A focus on psychological strengths and coping strategies
5. Impact of the study
6. Self-reflexivity

7. Limitations of the present study
8. Concluding thoughts

7.1. The Impact of Psychological Strengths on the Mental Health of the Adolescents

The primary aim of the present study was to explore the psychological strengths that influenced the mental health of school-going adolescents who lived in scarce-resource contexts of the Cape Metropole in Cape Town, and who may have to deal with a range of development-related and contextual stressors. I emphasised, as also argued by Lazarus and Folkman (1984), that the individual characteristics that adolescents have do influence their management of stressors or the psychological stress that they appraise. Pertaining to the quantitative manuscript (Chapter 4), the argued psychological strengths, namely self-esteem, resilience and perceived social support, emerged as significant predictors of mental health, with psychological strengths having a positive impact on the mental health of adolescents who experienced psychological stress. Moreover, these three psychological strengths also emerged through participants' narratives of stress and coping, which further emphasised that these factors should be viewed as protective resources to the mental health of adolescents who are exposed to a multitude of risk factors.

While psychological strengths operated collectively to positively influence the mental health of adolescents (please see Figure 2 in Chapter 4), their individual contributing characteristics were considered in the study. Through both quantitative findings and participants' subjective experiences of stress and coping, self-esteem emerged as a protective factor in the experience of mental health for at-risk adolescents under study. Notably, self-esteem could be viewed as central to the mental health of adolescents because it may have informed adolescents' perceived competence in being able to cope with stressors or psychological stress endured, thereby prompting them to utilise the coping strategies they

possess to address a stressor or stress symptoms that they endure. Considering self-esteem's characteristics, it may operate at both the primary appraisal and secondary appraisal stage (Lazarus & Folkman, 1984), either mitigating the experience of psychological stress or leading to the activation of coping strategies when attempting to manage the psychological stress experienced.

In addition, it may be argued that through the process of secondary appraisal (Lazarus & Folkman, 1984), perceived social support also guided adolescents to recognising certain support networks or sources of support that they had available when they were in need. In the present study, perceived social support emerged as a psychological strength/ protective factor to the mental health of adolescents through both quantitative findings as well as participants' subjective narratives of those resources that aided them when they experienced challenges/ psychological stress. I argue that the utilisation of social support was largely dependent on adolescents' appraisals of social support as experienced as available from significant others within the social milieu. Therefore, the consideration of avenues for enlisting social support could not be activated without the already existing knowledge and perceptions of such support that was readily available when adolescents were in need of it. As was the case with self-esteem, perceived social support was, therefore, also a psychological strength that may have lead to the activation of adaptative coping strategies (i.e. social support-seeking coping), which may explain its association with positive mental health among at-risk adolescents.

The adolescents who participated in the present study could be argued as presenting with resilience as they attend school regardless of the challenging circumstances that they may have endured in the context of socio-economic adverse livelihoods, which include stressors inherent in their daily routines, such as walking to school with the fear of being harmed while on route to school. Resilience as a psychological strength itself emerged from both quantitative and qualitative findings, indicating a sense of adaptation regardless of adversity endured.

Resilience can be seen as positively informing the process of secondary appraisal (Lazarus & Folkman, 1984), and may have, therefore, influenced the adolescents' self-esteem and therefore belief that they were capable of coping with the stressors/ psychological stress experienced.

To summarise, the identified psychological strengths (self-esteem, perceived social support and resilience) emerged through participants' subjective narratives as essential protective factors. Moreover, the psychological strengths also acted as buffers to the mental health states of adolescents who experienced psychological stress. Therefore, I argue that these psychological strengths could be considered as vital to intervention studies that target the promotion of mental health in adolescents or the prevention of mental illness in adolescents who display symptoms of psychological stress. Interventions should focus on developing or amplifying self-esteem, increasing perceptions of social support through social support-building strategies as well as increasing levels of resilience.

In terms of future research studies, it is worth noting that when reflecting on the findings, resilience did not emerge strongly through participants' narratives and therefore additional qualitative research is necessary to delve into what may inform at-risk adolescents' perceptions of resilience regardless of the adversity endured.

7.2. The Impact of Coping Strategies on the Mental Health of the Adolescents

The centrality of coping strategies for the mental health of the adolescents was of particular importance in the study. The presence and influence of coping strategies on mental health was therefore explored in the present study. Reflecting on the results from the quantitative study, it was evident that problem-solving coping did not aid the mental health of adolescents who experienced psychological stress symptoms in the context of socio-economic adversity. While this finding was not expected, it was theorised that, because problem solving coping would be an *attempt* to manage a stressful encounter/ psychological stress symptoms,

it does not necessary mean that this attempt led to the successful management of the encounter or symptoms of distress. In this case, symptoms of psychological stress may still be endured, which could explain the relationship between problem-solving coping and poor mental health. Moreover, it was further theorised that some of the problems or challenges that adolescents may have endured (for example community violence) may not be successfully solved as they 'resided' outside the realm of that which adolescents in the present study could control. In this case problem-solving coping, when employed against the backdrop of uncontrollable events, may not have led to the successful management of stress as a result of stressful circumstances. Related to this, Coyne and Racioppo (2000) have held the notion that, rather than minimising distress, task-completion-oriented activities (here understood as problem-focussed – and solution-focussed tasks) are strongly associated with (short-term) increases in psychological distress. It is possible that, instead of problem-solving coping strategies having an inverse relationship with psychological stress, these strategies might have been reflective of the internal emotional turmoil that the adolescents in the present study experienced, owing to a wide range of social problems (including heightened insecurity over ongoing crime and community violence) they have to contend with in their communities. It is also possible that, against the background of feelings of helplessness (and uncontrollability over events around them), problem-solving efforts functioned as a psychological tool that helped the adolescents somehow regain some semblance of control over that which they may have experienced as inherently uncontrollable.

It is noteworthy, however, that qualitative findings seemed to be in contrast to the quantitative findings as it was evident that problem-solving coping was a relied-on and helpful strategy used by adolescents when necessary. This finding emphasises the importance of follow-up qualitative inquiries as it expands on the quantitative findings and capture participants' own narratives of stress and coping. The qualitative findings therefore underscore

the benefits of problem-solving coping as a protective resource for adolescents. There is therefore a need for interventions to focus on developing and enhancing problem-solving skills among adolescents who experience socio-economic adversity to equip them with the problem-solving abilities that can be helpful when necessary.

Pertaining to social support seeking coping, the quantitative inquiry yielded a not-significant relationship between social support seeking and mental health. However, qualitative findings emphasised that social support seeking coping was a vital and depended-on resource to the adolescents who shared their subjective experiences of stress and coping. Adolescents sought support from a range of individuals (i.e. parents, friends, siblings, community members and teachers). It is positive that adolescents perceived and sought support from various sources because the social support received may be viewed as a protective resource to the mental health of adolescents (Camara, Bacigalupe, & Padilla, 2017). While quantitative findings could not establish the importance of social support seeking coping, adolescents' subjective narratives confirmed the importance of this strategy to adolescents living in scarce resource contexts. Considering these findings, it is essential for interventions to be focused on aiding adolescents in identifying and solidifying the social relationships that may be beneficial to them when they are in need.

The findings focused on avoidant coping emphasise that avoidant coping should be considered as a risk factor to the mental health of adolescents who live in scarce-resource contexts. The quantitative findings revealed that adolescents who experienced psychological stress showed a high use of the avoidant coping. However, the long-term adaptability of avoidance as a coping strategy, and its sustainability for overall psychological well-being, has been questioned (Stein, 1996; cf. Sue, 1986), as avoidance was associated with poor mental health. Notably, while avoidance may provide short-term relief when coping with stressors/psychological stress (as noted in the subjective accounts of stress and coping) and may be a

strategy relied on by adolescents (evident through both quantitative and qualitative results), it was not associated with positive mental health. I argue that avoidant coping is not related to the active engagement with stressors and stress and therefore is not an adaptive coping strategy that has a positive impact on mental health but, instead, poses a risk to adolescents' mental health (Horwitz, Hill, & King, 2011). Further research is necessary to delve into the reasons why avoidance is a strategy used and perhaps preferred by some adolescents as to further shed light onto the role of this coping strategy for at-risk adolescents.

Other than exploring the direct relationships between coping strategies and mental health I was interested in understanding the nature of the relationships between psychological strengths and coping strategies. It was evident that psychological strengths predicted the use of all three coping strategies (social support-seeking, problem-solving coping and avoidant coping). These results, as ascertained via the quantitative inquiry of the present study, indicate that high levels of self-esteem, perceived social support and resilience collectively led to the activation of the three coping strategies. For future research, a qualitative investigation would add value (via adolescents' personal narratives) if it was aimed at understanding which strategies adolescents with a high level of psychological strengths use to cope and why they deem the various coping strategies as useful to their mental health.

7.3. The Context as a Source of Stress: Risk Factors to Consider when Studying Adolescent Mental Health in At-Risk Contexts

Lazarus and Folkman (1984) emphasise that the transaction between the individual with their unique characteristics and the environment should be considered in the study of psychological stress impacting on human development. Similarly, Bronfenbrenner (1994) emphasizes that an individual is affected by various contextual factors that has an impact on their development. In this dissertation, I have argued that, while adolescents who live in low-

income communities in South Africa are experiencing the developmental challenges that are associated with adolescence (Gouws, 2014), they are also exposed to a myriad of risk factors that may adversely impact on the psychological stress that they experience (Harrison et al., 2019), and consequently their mental health states.

In this case, it is worth reflecting on the subject of violence which emerged as a significant stressor (and theme) in the dissertation. In Chapter 4, relevant participants' experiences of violence were captured and the results revealed that participants' daily realities were majorly affected by crime and community violence, with many safety concerns being voiced by adolescents. Violence was further discussed in the qualitative chapters (Chapters 5 and 6), and participants' personal narratives (written and verbal) of their livelihoods were also dominated by daily experiences of violence in their communities. Chapter 6 was dedicated to capturing these experiences and the following themes emerged: Violence in everyday community life (*Some boys wanted to rob a girl, then the girl refused and they shot her*); Violence related to substance use and abuse (*The witnessed violence in my community is that there is many crime and drug abuse*); Violence directed towards women and children (*Where I stay children go missing and get later raped*); Experiences of anxiety and fear (*I was very scared, didn't know what to do at that moment. I was anxious*); and Acts of adolescent violence committed by other children or adolescents (*I once saw a group of boys fighting with sharp objects killing each other*). Moreover, the theme of community violence also emerged from participants' narratives in Chapter 5 (*Yes sometimes, they don't worry, they would shoot someone dead in front of you. They don't worry about you that's standing there.*).

Violent experiences such as recurring trauma (i.e. exposure to relentless violence) (Larson, Chapman, Spetz, & Brindis, 2017) hold negative implications for adolescent mental health. And indicators of risk factors for poor mental health tied to violence were captured in the adolescents' narratives. These included adolescents feeling scared, anxious, experiencing

post-traumatic stress and relentless stress. The emotional reactions and psychological stress tied to experiences of violence in the community emphasise the importance of studying human development with consideration for adolescents' contexts, in which risk factors are embedded (Bronfenbrenner, 1994; Causadias & Cichetti, 2018).

With recent News reports reporting about fatalities in Cape Town as a result of violence (Ngqakamba, 2019; Petersen, 2019), and considering participants' narratives, it is therefore evident that violence and crime are prominent risk factors in the Cape Metropole. The present study has made a significant contribution to the deepened understanding of the theme of violence in Cape Town by capturing the subjective experiences of adolescents who are affected by violence in their daily lives. Understanding these experiences and the consequences thereof for the mental health of adolescents are arguably pivotal to the design of appropriate interventions to prevent mental illness following exposure to and experiences of violence.

Suggested interventions for the prevention of mental illness in at-risk adolescents may be focused on the primary, secondary and tertiary level. While primary prevention programmes could target the reduction of community violence, secondary prevention programmes could be focused on fostering adaptive coping strategies in at-risk adolescents prior to their experience of stress related to a stressor in the community. In this way, it is hoped that these coping strategies would aid adolescents in managing their emotional responses to stressful experiences. Tertiary intervention programmes are suggested to target the psychological stress symptoms that adolescents may experience as a result of the experience of violence. In this case, the threat of developing mental illness can be reduced.

7.4. Implications for Interventions: A Focus on Psychological Strengths and Coping Strategies

Petersen, Bhana, Flisher, Swartz and Richter (2010) have developed a framework to guide mental-health-promotion and prevention interventions in scarce-resource contexts. The authors argue that the development of mental health promoting and prevention programmes in scarce resource contexts should be considered in relation specific stages. The first stage is the selection of a theory that would guide the understanding of risk and protective factors influencing individuals (and in this case, adolescents), for the present study the theory was Bronfenbrenner's ecological systems theory (1994) as well as Lazarus and Folkman's (1984) transactional theory of stress and coping. The second stage involves an identification of the risk and protective factors (including contextual-level factors) that affect the mental health of the adolescents (the findings of the study informs our understanding of the individual and contextual risk and protective factors affecting adolescents' mental health). The third stage involves the development and implementation of a mental-health-promoting or mental-illness-preventing intervention that is informed by theory as well as the adolescents' contexts (Petersen et al., 2010). The fourth stage involves the assessment of the intervention through consideration of the "measurable variables of change", which would have been identified as part of third stage. The third and fourth stages were outside the scope of the present dissertation, however I suggest that interventions be focused on developing and enhancing the protective factors - the psychological strengths and adaptive coping strategies that I have identified as vital to mental health.

In consideration of the various interventions that can be implemented, Petersen and associates (2010) note that interventions can be focused on the intrapersonal level, micro-level, within the group/ cultural/ organisational level and within the policy system. Considering the framework and the results of the study, I propose that interventions be focused on the

intrapersonal level (i.e. strengthening the adolescents' psychological strengths) and microsystem level (i.e. strengthening the adolescents' interpersonal relationships) that have an impact on adolescents' mental health states (Petersen et al., 2010). In this case, intrapersonal level interventions could be focused on enhancing self-esteem, resilience, perceptions of social support and problem-solving coping, which are the psychological strengths/ protective factors that were found to be essential to the mental health of at-risk adolescents. In addition, micro-level interventions can be focused on strengthening the social support networks and resources of adolescents and consequently their social support seeking behaviours. In addition, micro-level interventions could be further focused on developing self-esteem, resilience and perceptions of social support.

In relation to the present study, I propose that interventions that target the mental health of adolescents who live in low-income communities be focused on:

1. Enhancing self-esteem, through psycho-educational workshops that incorporate age-appropriate activities (i.e. sports-based or arts-based) focused on building or enhancing self-esteem.
2. Enhancing social support through peer and parent support groups focused on delving into and harnessing the value of social support and strategies for utilising social support networks.
3. Enhancing resilience through exploring personal stories and delving into how certain adolescents may use other psychological strengths (i.e. self-esteem) to aid in fostering resilience.
4. Psycho-educational workshops focused on coping strategies that can be employed when experiencing psychological stress based on experiences that adolescents have no control over (exposure to and experiences of community violence).

While the present study adds to the understanding of the psychological strengths affecting adolescents, future research is necessary to delve into how these psychological strengths could be developed/ enhanced through intervention studies. Interventionists and researchers could learn from some proposed intervention studies (while upholding the importance of theoretically informed intervention strategies; Cicchetti & Hinshaw, 2002). For example, Mfidi, Thupayagale-Tshweneagae and Akpor (2018) recently proposed a model to promote social and emotional well-being in South African adolescents. The TEAM model focuses on adolescents:

- T = Treating each other with respect.
- E = Engaging in schools; earning the right to be at school; and have supportive peers
- A = Acknowledging differences of strengths and weaknesses in both self and others
- M = Membership in positive gangs to promote social and emotional well-being; teach adolescents to look out for one another; respect others' strengths and weaknesses; and learn to live responsibly in schools as a community (Mfidi et al., 2018, p. 105).

The above-mentioned proposed intervention is based on theory and research and therefore aligns to the importance of interventions to be grounded in theory and research. Notably, in their review of mental health promoting interventions in schools, O'Reilly, Svirydzenka, Adams, and Dogra (2018) have noted that a benefit of school-based interventions is that it could target large amounts of participants. School-based interventions targeting the general population of adolescents via mental health promoting strategies may therefore be an ideal manner of accessing as many participants for the programme as possible, with these being implemented in scarce-resource contexts in the case of this study. Notably, the factors such as cost-effectiveness, time constraints and feasibility would need to be considered by interventionists.

7.5. Impact of the Study

Reflecting on the present study, I believe that the impact of this dissertation relates to knowledge, practice and theory.

I argue that the present dissertation sheds light on the experiences of vulnerable African adolescents, who experience socio-economic adversity. The study, therefore, contributes to the knowledge base of the lives of adolescents who are “growing up” in Africa. Results therefore contribute to fostering an understanding of African adolescents’ stressors, stress, coping strategies and their psychological strengths.

The study provided knowledge that is vital to the broadening of the quantitative and qualitative body of knowledge regarding aspects of mental health for adolescents in at-risk contexts. Quantitative findings primarily explicated the role of psychological strengths on the mental health of adolescents, with these findings fostering our understanding of those psychological strengths that act as protective factors to the mental health of adolescents. Moreover, qualitative findings primarily contributed to our understanding of vulnerable adolescents’ subjective experiences of stressors, psychological stress and the psychological strengths that aid their coping efforts – and locates the experience of these within the participants’ social context. The quantitative and qualitative contributions of the study therefore add to the knowledge base on vulnerable African adolescents’ experiences. Moreover, considering the quantitative and qualitative findings of this study, the primary impact of the present study is that it could inform the design and implementation of interventions that are focused on mental health promotion and mental illness prevention.

This study also contributed to the knowledge base concerning the theoretical frameworks that are appropriate for the study of adolescent-development in Africa. The theoretical lenses offered by Bronfenbrenner’s ecological theory (1994) and Lazarus and Folkman’s (1984) transactional theory of stress and coping, proved to be appropriate lenses

that could be useful in deepening the understanding of adolescent mental health and - development in South Africa, and therefore could be used by other researchers working in African contexts.

7.6. Self-reflexivity

Tracey (2010) suggests eight criteria for excellent qualitative research. These include a worthy topic, rich rigor, credibility, resonance, significant contribution, ethical aspects, meaningful coherence and sincerity. Pertaining to sincerity, self-reflexivity about the researcher's positioning and transparency of the challenges are among the aspects that should be considered in quality qualitative studies (Tracey, 2010). I believe that self-reflexivity need not be isolated from the quantitative research process, and therefore in this section I reflect on my salient experiences, not only when conducting the qualitative research component of my research, but throughout the study which I believe were pertinent in both collection of the data during fieldwork, and in making sense of the data for final analyses and during the write-up of my dissertation.

7.6.1. Factors that had a direct influence on findings and how these were managed.

During the process of qualitative collection, and with me being much older than the participants, conducting research on younger participants (more so, adolescents of school-going age) may have its pitfalls, including responding to questions in ways they think is expected of them, rather than from their own frame of reference and experience. Without being aware of this going to fieldwork could have easily rendered the data gathered being a reflection of responding to by providing answers that they assumed an older person may have wanted to see and hear, and, thereby, giving "socially desirable" answers. It may also be that the (perceivably) black (Coloured and African) participants somehow looked up to me as a young Coloured researcher completing a doctorate degree. The latter could also have potentially

affected participants in providing desirable answers. However, I believe that three factors (the principal of voluntary participation, confidentiality and the emphasis on participants' own experiences), which I emphasised throughout the process of recruitment and survey completion (quantitative data) and follow-up individual interviews (qualitative) may have mitigated against this potential drawback.

I emphasised to adolescents that they need only volunteer to share their experiences if they wished to do so, and that there would be no consequences tied to their refusal to participate. In this case, hopefully only those adolescents who were willing to share their honest experiences participated. Moreover, participants were assured that their responses would remain confidential and that their names would not be published in the dissertation. The expressed commitment to keep their responses confidential may have been enough persuasion for the adolescents to participate freely in the study. I remain firm in my conviction that the data gathered truly reflected participants' own experiences.

7.6.2. Those factors that were salient because they impacted on the experience of conducting research in schools located in communities affected by violence and socio-economic adversity.

Pertaining to the challenges I experienced, I realized that while I have had personal and work-related experiences in Cape Town's low-income communities, I was not prepared for the social unrest (community-delivery protests that pervaded the communities in which the schools were situated and ongoing violence), which took place during the time of data collection (visit to the schools). I was not only worried for my own safety (with one principal cautioning me that they cannot guarantee my safety), but I was distressed about not being able to complete my study within the prescribed timeframes. The delays this brought to the data collection phase of my research meant that the data collection was extended for a substantial time-period. While

this was frustrating to no end, in a way, it also enabled me to develop profound insight into the stresses embedded in “being” and living in low-income communities. Without a fear of contradiction, I can also assert that the experiences provided me with more insight into the daily challenges and stress that the adolescent-participants may experience by simply walking to and from school.

I believe that my experience while being embedded in the low-income school community made me more aware of my own positioning and experience and ensured that I could recognize those factors (i.e. knowledge of the dangers of being in low-income communities) that could affect my analyses of the data. However, when analysing the data, I remained committed to continuously approaching the process by “letting the data speak for itself”.

Throughout the process of conducting this research, I was aware of my own anger and dissatisfaction with the socio-economic adversity and violence experienced by the participants and so many other people living in Cape Town’s low-income communities. I found an appreciation for the levels of resilience that the adolescents show by “soldiering on” regardless of the numerous stressors that they may confront. It was important for me to tell these stories of resilience and other psychological strengths that are prevalent in the lives of adolescents who face socio-economic difficulties.

7.7. Study Limitations

This study (as valuable as it was, given that it was the first of its kind that investigated the mediating effects of psychological strengths and coping in the experience of psychological stress and overall mental health in adolescents residing in at-risk communities), it also had its limitations. The first limitation is that due to the scope of the study, it was limited to school-

going adolescents who lived in the earmarked low-income communities of the Cape Metropole. Since it excluded non-school-going adolescents who also lived in the same communities as those who took part in the study, it was impossible to ascertain if the experiences shared by participants (and the nature of the observed relationships between variables) were reflective of adolescent experiences in the school setting or in communities at large. It is recommended that future research should consider including those adolescents who are non-school going as well to gain a comprehensive and representative understanding of the general experiences of adolescents from the Cape Metropole.

The second limitation of the study is that it was limited to the Cape Metropole region of the Western Cape Province, South Africa. This excludes the experiences of adolescents from different regions of the Western Cape as well as different provinces in South Africa. It is recommended that future studies aim to include these adolescents as well. It would be of interest to note the differences or similarities of the experiences of those adolescents from different provinces in the country.

A third limitation is the cross-sectional nature of the study. This means that it could not be determined whether the findings were reflective of the experiences of the psychological stress, psychological strengths, coping and overall mental health as limited to one time-point or whether a pattern of the same or different findings would be obtained if observed at different time periods. Longitudinal research investigating these patterns at different waves of data collection (i.e. different time points), is recommended for future research as a way of addressing this limitation.

7.8. Concluding Thoughts

The primary contribution of the present study was the advancement of the understanding of those psychological strengths that positively impacted on at-risk adolescents'

mental health when they experienced psychological stress. Interventions focused on promoting mental health and preventing mental illness could use these findings to design appropriate interventions targeting the enhancement of psychological strengths as well as the coping strategies that I have identified as having a positive impact on mental health. It is hoped that this study will inspire the design and implementation of interventions focused on mental-health-promotion and mental-illness-prevention for those adolescents who live in South Africa's low-income communities.

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Appendix A: Qualitative Interview Schedule

Interview schedule
<p>Checklist</p> <ul style="list-style-type: none"> • Consent form/ assent form completed? • Explanation of interview procedures • Recorder switched on? <p>Participant details: _____</p> <p>Date of interview: _____</p>

It is worth noting that this schedule provides a list of envisaged questions that shall feature in the follow-up interviews. This is a semi-structured interview schedule and therefore some of the questions will be guided by the responses of the participants during the interview.

1. Icebreaking introduction to the follow-up interviews

- Thank you for availing yourself for today's follow-up interview session.
- As I indicated when you filled in the questionnaire, you would possibly be one of the learners asked to volunteer to participate in these follow-up sessions.
- I will be asking you a few questions and would like you to share as much as you would like – remember that there are no right or wrong answers (for as long as you tell me about your own thoughts, feelings and experiences).
- As a start, could you tell me how you experienced (and what you thought about) the

questions you were asked when you answered the series of questions on the questionnaire?

2. Introduction and background

The questions I am going to ask you will, I hope, help me get to know you a bit better – Remember that these questions are about you and there are no right or wrong answers (so you answer in terms of how YOU (not someone else), feel and think.

- a) Tell me more about yourself, who are you as a person and what do you enjoy doing?
 - b) Tell me more about your family [is there anyone you are close to? Who is that person? How would you describe your relationship with them?]
 - c) Tell me more about your friends [close friends/ many friends – and your relationship with them].
-
-
-

3. Community stress and impact on well-being

Now that you have told me about yourself, I am interested to find out more about your experiences in your community (neighbourhood/township as well as home and its surroundings).

- a) Describe the community that you live in. Different people often have similar or different experiences about where they live: Tell me more about how you feel about

living in your community.

- b) Would you say that there is anything in your community that makes you feel stressed?

Tell me more about this.

- c) Would you say that there is anything about your community that you like /dislike? If so, what would this be? Tell me more about this.

- d) Are there any specific difficulties or challenges that you experience in your daily life?

If so, what sort of challenges are these?

4. Anxiety and impact on well-being

Now that you have spoken to me about your experiences (and challenges) in your community, I would like to ask you to think about moments that you would say make you fearful, anxious, nervous or have a sense of dread. Think about these for a moment – and I am going to ask you share these experiences with me, as I ask the questions that come next.

- a) Are there any times you feel quite anxious [nervous, uneasy, worried]? What were you worried about in particular? Tell me about how this experience was for you? Do you often feel this way? If so, how often?
- b) When was the last time you felt this way? How long did you feel this way?
- c) Is there anything else that makes you feel anxious? If so, could you tell me more about this?

5. Depression and impact on well-being

Now that you have shared your experiences of being worried/ nervous, I would like you to think about those moments, if any exist, in which you felt a little worn down, like being ‘down in the dumps’, or feeling very sad or angry for long times. Think about these for a moment as I ask you questions relating to these.

- a) Are there any times you feel sad, down, angry or guilty? What was this about? What made you feel sad, down, angry or guilty?
 - Do you often feel this way? If so, how often?
 - When was the last time you felt this way? How long did you feel this way?
- b) Is there anything else that makes you feel depressed? If so, could you describe these to me?
- c) Are there any other feelings/ emotions you have when you encountered challenges or problems? Could you describe some of these feelings? [General]

6. Coping

Now that you have told me about some of the difficult moments and uneasy feelings (and challenges that you experience), the questions I am about to ask you will be about how you handled/managed/cope with the challenges that you faced. Different people handle/manage/cope with challenges in their own ways – I am interested in how YOU have dealt with yours...

- a) Speaking about the sort of challenges/difficult moments and uneasy feelings that you

shared with me [examples from things participant referred to earlier in the interview], how do you deal with the problem? Tell me more about how you tend to deal with the problem/ challenge.

- b) Have you found the way of managing/dealing with/handling/coping with the problem helpful or unhelpful? How was this helpful/ unhelpful?
 - c) Some people often report different feelings about (and after) handling a problem or challenge in a particular way - Tell me about your own feelings (whether you feel better or worse) after you deal with the [issue, feeling, problem] that you just spoke to me about? Describe how you feel after addressing a problem.
-
-
-

7. Psychological strengths and well-being

Now that we have spoken about coping, I would like to ask you to think about those things that you feel somehow help you cope/feel better no matter how hard things look and seem to you and others – those things that you would say help you protect you from feeling the hardships (some people often report that, for them, there are those things or people that help them overcome the hardships). I would like you to think about these as I ask you the questions relating to your own experiences and those things that, for you, made you not feel as bad or worse about your challenges or difficulties.

- a) What would you say are the strengths you rely on when you face a stressful situation? (those things that help you feel better: some people for instance think support from friends/family is the strength that enables them to overcome hardships).

Shall we talk about each in detail?

- Specifically, more about what you think makes these strengths helpful to you?
 - How do these strengths help you to cope with stressful moments?
-
-
-

7.1. Pertaining to: Perceived social support (as a psychological strength)

While we are on the topic of psychological strengths, as already mentioned, people say that support from family or friends is one strength they rely on to overcome challenges.

- a) Could you tell me what you understand by social support from others?
- b) When you experience stressful moment, difficulty or challenge, is there anyone who you feel you can turn to [family, friends, peers, teachers, school staff, community members]?
 - Could you tell me more about who you can turn to?
 - Could you describe how this person(s) offers you support?
 - Would you say that this support is helpful to you? Tell me more about this.
- c) Who offers you most/ least support; could you tell me how this person(s) offers/ does not offer you support?

7.2. Pertaining to: Self-esteem (as a psychological strength)

Some people say the feeling of inner confidence (being confident of one's own abilities to manage problems and generally feeling good about themselves - known as self-esteem) is another strength. I would like you think about this for a moment as I ask the questions

relating to this about you.

- a) Tell me more about your views of your own confidence about yourself (and general inner feelings about your general abilities)? Are there specific moments that you felt this inner confidence? Tell me more about them (would you say this is high [high self-esteem] or low [low self-esteem])?
- b) Would you say having a low/ high self-esteem makes it easier for you to deal with stress [in your community, depression, anxiety]? Tell me more about this.
- c) How would you say self-esteem influences your ability to deal with challenges or stress [community, feelings, peers/ parents]?

7.3 Pertaining to: Resilience (as a psychological strength)

Still on the subject of strengths, some people say being able to overcome the challenges, or succeeding against all odds (something known as resilience) is yet another strength for them. One television programme on e-tv channel, for example (known as 'Against All Odds') deals with people sharing their experiences of succeeding against odds.

- a) Could you tell me more about your own personal experiences of feeling that you have beaten the odds (that you have pulled yourself through, despite the challenges or against all odds)?
- b) How would you say the experience of you having beaten the odds makes you feel about your ability to deal with challenges or stress [community, feelings, peers/ parents]?

8. Subjective ratings of their own mental health

As we get nearer the end of the interview, I am interested to find out how you rate your own mental health, I have a couple of questions that I would like to ask you, remember, there are no right or wrong answers.

- a) Could you describe what you think it means to have a healthy state of mind? Could you tell me about yourself and your state of mind?

9. Concluding remarks

As we conclude our interview,

- a) Do you have any questions for me?
- b) Is there anything in particular we have spoken about, but that you wanted to talk about a bit more? Or is there anything you would like to comment on?
- c) If you were the interviewer (in my position), what would you have asked about you?
- d) Is there anything about the interview, its questions or research that you would like to ask me about?

Thank you very much for your time and personal experiences you have shared with me.

Appendix B: Research Ethics Committee (Human Research) Approval



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Approved with Stipulations New Application

29-Nov-2016
Harrison, Carmen C

Proposal #: SU-HSD-003988

Title: Psychological strengths mediating the stress-coping experience: Implications for mental health in school-going adolescents from low-income communities of the Cape Metropole.

Dear Ms Carmen Harrison,

Your **New Application** received on **07-Nov-2016**, was reviewed by the Research Ethics Committee: Human Research (Humanities) via Committee Review procedures on **24-Nov-2016**.

Please note the following information about your approved research proposal:

Proposal Approval Period: 24-Nov-2016 -23-Nov-2017



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UNIVERSITY

APPROVAL NOTICE
Progress Report

14 December 2017

Project number: SU-HSD-003988

Project title: Psychological strengths mediating the stress-coping experience: Implications for mental health in school-going adolescents from low-income communities of the Cape Metropole

Dear Carmen Harrison

Your progress report submitted on 27 November 2017 was reviewed and approved by the REC: Humanities.

Ethics approval period: 14 December 2017 – 13 December 2018

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Appendix C: Western Cape Education Department (WCED) Approval



Directorate: Research

Audrey.wyngaard@westerncape.gov.za

tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

REFERENCE: 20161012 – 4966

ENQUIRIES: Dr A T Wyngaard

Ms Carmen Harrison
Department of Psychology
Stellenbosch University
~~Matieland~~
7602

Dear Ms Carmen Harrison

RESEARCH PROPOSAL: PSYCHOLOGICAL STRENGTHS MEDIATING THE STRESS-COPING EXPERIENCE: IMPLICATIONS FOR MENTAL HEALTH IN SCHOOL-GOING ADOLESCENTS FROM LOW-INCOME COMMUNITIES OF THE CAPE METROPOLE

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 **16 January 2017 till 29 September 2017**
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



Western Cape
Government

Education

Directorate: Research

Audrey.wyngaard@westerncape.gov.za

tel: +27 021 467 9272

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Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20161012 – 4966

ENQUIRIES: Dr A T Wyngaard

Ms Carmen Harrison
Department of Psychology
Stellenbosch University
Matieland
7602

Dear Ms Carmen Harrison

RESEARCH PROPOSAL: PSYCHOLOGICAL STRENGTHS MEDIATING THE STRESS-COPING EXPERIENCE: IMPLICATIONS FOR MENTAL HEALTH IN SCHOOL-GOING ADOLESCENTS FROM LOW-INCOME COMMUNITIES OF THE CAPE METROPOLE

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 **23 January 2018 till 28 March 2018**
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



Directorate: Research

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REFERENCE: 20161012 – 4966

ENQUIRIES: Dr A T Wyngaard

Ms Carmen Harrison
Department of Psychology
Stellenbosch University
Matieland
7602

Dear Ms Carmen Harrison

RESEARCH PROPOSAL: PSYCHOLOGICAL STRENGTHS MEDIATING THE STRESS-COPING EXPERIENCE: IMPLICATIONS FOR MENTAL HEALTH IN SCHOOL-GOING ADOLESCENTS FROM LOW-INCOME COMMUNITIES OF THE CAPE METROPOLE

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 **10 April 2018 till 28 September 2018**
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

Appendix D: Declaration regarding approval from school principals to collect data in their schools

I hereby declare that I received permission from the principal of each school at which data was collected. I have furnished my supervisors with the copies of these letters of permission for their records.

I have chosen not to include the approval letters from the principals due to confidentiality concerns.

Sincerely,

Carmen Harrison (5 October 2019)

Appendix E: Participant information sheet and assent/ consent form



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ASSENT/ CONSENT TO PARTICIPATE IN RESEARCH

Quantitative study

Title of the study:

Psychological strengths mediating the stress-coping experience: Implications for mental health in school-going adolescents from low-income communities of the Cape Metropole.

I am conducting a study about young people's mental health at your school this year, and I would like to invite you to participate in the study by completing a questionnaire.

This process will take place at school, in the third school term of 2017.

You have been selected as a possible participant because you are a young person aged between 12 and 21 years, and who is in Grades 8, 9, 10 or 11 in a no-fees school attended mostly by learners who come from communities with low income.

The study will be conducted by myself, Ms Carmen Harrison (Doctoral student in Psychology at Stellenbosch University) under the supervision of Dr Nceba Z. Somhlaba. My research assistant, Ms Megan Butt, who is a Masters student in Psychology at Stellenbosch University will also be assisting with the

research project. Ms Lutho Magengelele, an Honours student in Psychology at Stellenbosch University, may also assist with the research project.

1. PURPOSE OF THE STUDY IN WHICH THE QUESTIONNAIRE WILL BE USED

The study seeks to learn about the mental health of young people living in low-income communities, specifically how self-esteem, social support from family, friends and others allows coping when facing difficulties. When information is available on what people use to manage stressful moments, this information could be used to find ways of preventing mental health problems in young people.

2. PROCEDURES

If you volunteer to participate in completing the questionnaire, I would ask you to do the following things:

1. If you are under the age of 18 and would like to participate, your parents would need to provide their permission for you to partake in the study, by signing their consent form.
2. You will be asked to give your permission to participate by signing this form.
3. The instructions will be explained to you by the researcher or a research assistant and if you do not understand, you can ask as many questions as you like.
4. You will get a questionnaire to fill out, by using a pen. In addition:
 - a. The questionnaire should take 40 to 60 minutes to complete.

- b. Some of the questions will ask about basic things like age and the name of the neighbourhood/ area where you live. Other questions will ask about your feelings, emotions and stress, while the remainder of the questions will be about your self-confidence, support from friends and family and how you deal with problems.
5. Depending on some of your answers to the questions, you will be asked to volunteer to be part of the one-on-one follow-up interviews that will be held with some of the participants in the study. These 30 minute audio-recorded interviews will be focused on your experience of stress and the resources that may assist you in coping with your problems and will be conducted by myself if you are Afrikaans or English speaking and will involve a translator if you prefer to be interviewed in isiXhosa.

3. POTENTIAL RISKS AND DISCOMFORTS

If you feel uneasy at any point as a participant in the study, you can tell myself or your teacher and I will arrange for you to speak to someone who is specially trained to help people deal with their problems through talking about the challenges they have.

4. POTENTIAL BENEFITS TO PARTICIPANTS AND TO SOCIETY

By answering the questions, you will help me understand how young people living in low-income communities feel, the stress the experience, what helps them in times of difficulty and how they cope. When researchers have information on the resources that positively affect coping with stress and mental health, they can use this information to develop programmes to prevent mental illness in young people.

5. PAYMENT FOR PARTICIPATION

You will not be paid for participating in this study. You will receive a small snack if you participate in the study.

6. CONFIDENTIALITY

All the answers you give will remain private and will be revealed only with your permission or if it is required by law. The guidelines below will be followed:

- The answers you give will be kept in such a way that no one will know that it is your answers.
- I will write a report about the questionnaire results, which will be freely available for download from the University's library website, however, I will not use your name when writing this report.
- The name of the school will also not be printed in the report.
- Only the researcher (Ms Harrison), her supervisor (Dr Somhlaba), and the research assistants (Ms Butt and Ms Magengelele) will see the answers and they will be safely stored at the researcher's office at the University of Stellenbosch. Five years after the study is completed, the answer sheets will be destroyed.

7. PARTICIPATION AND WITHDRAWAL

If you agree to participate at first, but do not want to do so anymore, you can stop at any time. You will not be in trouble if you do not want to participate anymore. The researcher may withdraw you from this research if circumstances arise which call for doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions, please do not hesitate to contact Ms Harrison or her supervisor. The details of the research assistants are also included below.

Ms Carmen Harrison (Doctoral student in Psychology)

Phone number:

Email address:

Dr Nceba Z. Somhlaba (Supervisor of Ms Harrison)

Phone number:

Email address:

Ms Megan Butt (Masters student in Psychology and research assistant to Ms Harrison)

Phone number:

Email address:

Ms Lutho Magengelele (Honours student in Psychology and research assistant to Ms Harrison)

Phone number:

Email address:

9. RIGHTS OF RESEARCH PARTICIPANTS

You have the right to say no to participating in this study and even if you agree to partake in the study, but

then do not want to participate anymore you do not have to – and you will not be in trouble for not participating.

Even if your parents provide permission for you to participate, you can still choose to not partake in the study.

You are not giving up any legal claims, rights or remedies because of your participation in this research study. If you have questions about your rights as a participant, contact Ms Maléne Fouché [*mfouche@sun.ac.za*; 021 808 4622] at the Division for Research Development.

If you give your permission at first, but then do not want to participate anymore you do not have to. You are not giving up any legal claims, rights or remedies because of your participation in this research study. If you have questions about your rights as a participant, contact Ms Maléne Fouché [*mfouche@sun.ac.za*; 021 808 4622] at the Division for Research Development.

SIGNATURE OF PARTICIPANT

The information above was described to me by the researcher, in *[Afrikaans/English/Xhosa/]* and I understand this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction. I have been given a copy of this form.

[I hereby consent voluntarily to participate in this study]

Please write your name:

Please sign your name:

Date:

SIGNATURE OF RESEARCHER

I declare that I explained the information given in this document to the participant and they were encouraged and given ample time to ask me any questions. This conversation was conducted in *[Afrikaans/*English/*Xhosa/*Other]* and *[no translator was used/this conversation was translated into – by –]*.

Signature of researcher:

Date:

Appendix F: Information sheet and parent/ guardian consent form



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jou kennisvenoot • your knowledge partner

PARENTAL/GUARDIAN PERMISSION FOR CHILD TO PARTICIPATE IN RESEARCH STUDY

For participants under the age of 18

Title of the study:

Psychological strengths mediating the stress-coping experience: Implications for mental health in school-going adolescents from low-income communities of the Cape Metropole.

I am conducting a study about young people's mental health at your child's school this year and I would like to ask your permission for your child to participate in the study, by completing a questionnaire.

I would thus like to invite your child to please consider completing the questionnaire. This process will take place at school, in the third school term of 2017.

They have been selected as a possible participant because they are a young person aged between 12 and 21 years, and who is in Grades 8, 9, 10 or 11 in a no-fees school attended mostly by learners who come from communities with low income.

The study will be conducted by myself, Ms Carmen Harrison (Doctoral student in Psychology at

Stellenbosch University) under the supervision of Dr Nceba Z. Somhlaba. My research assistant, Ms Megan Butt, who is a Masters student in Psychology at Stellenbosch University will also be assisting with the research project. Ms Lutho Magengelele, an Honours student in Psychology at Stellenbosch University, may also assist with the research project.

1. PURPOSE OF THE STUDY IN WHICH THE QUESTIONNAIRE WILL BE USED

The study seeks to learn about the mental health of young people living in low-income communities, specifically how self-esteem, social support from family, friends and others allows coping when facing difficulties. When information is available on what people use to manage stressful moments, this information could be used to find ways of preventing mental health problems in young people.

2. PROCEDURES

If you provide your permission for your child to participate in completing the questionnaire, you should please sign this permission form. We will ask your child to do the following, if they would like to participate:

1. To give their permission to participate by signing an assent form (their permission form).
2. The instructions will be explained to them by the researcher or a research assistant and if they do not understand, they can ask as many questions as they like.
3. They will get a questionnaire to fill out, by using a pen. In addition:

- a. The questionnaire should take 40 to 60 minutes to complete.
 - b. Some of the questions will ask about basic things like age and the name of the neighbourhood/ area where they live. Other questions will ask about their feelings, emotions and stress, while the remainder of the questions will be about their self-confidence, support from friends and family and how they deal with problems.
4. Depending on some of their answers to the questions, they will be asked to volunteer to be part of the one-on-one follow-up interviews that will be held with some of the participants in the study. These 30-minute audio-recorded interviews will be focused on their experience of stress and the resources that may assist them in coping with their problems and will be conducted by myself if they are Afrikaans or English speaking and will involve a translator if they prefer to be interviewed in isiXhosa.

3. POTENTIAL RISKS AND DISCOMFORTS

If your child feels uneasy at any point as a participant in the study, they can tell myself or the teacher and I will arrange for them to speak to someone who is specially trained to help people deal with their problems through talking about the challenges they have.

4. POTENTIAL BENEFITS TO PARTICIPANTS AND TO SOCIETY

By participating in the study, your child will help me understand how young people living in low-income communities feel, the stress the experience, what helps them in times of difficulty and how they cope. When researchers have information on the resources that positively affect coping with stress and mental health, they can use this information to develop programmes to prevent mental illness in young people.

5. PAYMENT FOR PARTICIPATION

Your child will not be paid for participating in this study. They will receive a small snack if they participate.

6. CONFIDENTIALITY

All the answers your child gives will remain private and will be revealed only with their permission or if it is required by law. The guidelines below will be followed:

- The answers they give will be kept in such a way that no one will know that it is their answers.
- I will write a report about the questionnaire, which will be freely available for download from the University's library website, however, I will not use your child's name when writing this report.
- The name of the school will also not be printed in the report.
- Only the researcher (Ms Harrison), her supervisor (Dr Somhlaba), and the research assistants (Ms Butt and Ms Magengelele) will see the answers and they will be safely stored at the researcher's office at the University of Stellenbosch. Five years after the study is completed, the answer sheets will be destroyed.

7. PARTICIPATION AND WITHDRAWAL

Even if you permit your child to participate, they still have the right to decline participation. If they agree to participate at first, but do not want to do so anymore, they can stop at any time. They will not be in trouble if they do not want to participate anymore. The researcher may withdraw your child from this research if circumstances arise which call for doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions, please do not hesitate to contact Ms Harrison or her supervisor. The details of the research assistants are also included below.

Ms Carmen Harrison (Doctoral student in Psychology)

Phone number:

Email address:

Dr Nceba Z. Somhlaba (Supervisor of Ms Harrison)

Phone number:

Email address:

Ms Megan Butt (Masters student in Psychology and research assistant to Ms Harrison)

Phone number:

Email address:

Ms Lutho Magengelele (Honours student in Psychology and research assistant to Ms Harrison)

Phone number:

Email address:

9. RIGHTS OF RESEARCH PARTICIPANTS

Your child has the right to decline participation regardless of whether you permit them to participate in the study. They have the right to say no to participating in this study and even if they agree to partake in the study, but then do not want to participate anymore they do not have to – and will not be in trouble for not

participating.

If you have questions about your child's rights as a participant, contact Ms Maléne Fouché

[mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

SIGNATURE OF PARENT/ GUARDIAN

The information above was described to me in [*Afrikaans/English/Xhosa/*] and I understand this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction. I have been given a copy of this form.

[I hereby grant permission for my child to participate in the study]

Please write your child's name:

Please sign your name:

Please write your phone/ cellphone number:

Date:

Appendix G: Co-authors' declarations

Declaration by the candidate

Regarding Chapter three (manuscript 1), four (manuscript 2), five (manuscript 3) and six (manuscript 4) of this dissertation, the nature and scope of my contribution were as follows:

Nature of my contribution	Extent of my contribution (%)
<ul style="list-style-type: none"> • Pertaining to chapter 3 (article 1), I conceptualised and wrote the article with expert guidance provided by my supervisors pertaining to language, content, aspects for revision and additions. The article was published in <i>Child Care in Practice</i> and copyright regulations are captured in Appendix H. • Pertaining to the chapter 4 (article 2): <ul style="list-style-type: none"> ○ I carried out the data collection (by means of a research-questionnaire) with minimal assistance from my trained research assistants. ○ Translation services were used for translation of responses from isiXhosa to English. ○ I interpreted and discussed the quantitative data analysed by the assisting statistician, Prof Martin Kidd. ○ I wrote the quantitative manuscript with expert guidance and feedback provided by my supervisors. • Pertaining to chapter 5 (article 3) 	80%

<ul style="list-style-type: none">○ I carried out the data collection by means of qualitative interviews.○ I analysed the data and used Atlas.ti software and Microsoft Word software in the process.○ I wrote the qualitative manuscript with expert guidance and feedback provided by my supervisors.● Pertaining to chapter 6 (article 4)<ul style="list-style-type: none">○ I carried out the data collection by means of a research-questionnaire.○ Translation services were used for translation of responses from isiXhosa to English.○ I analysed the data using Atlas.ti software.○ I wrote the qualitative manuscript with expert guidance and feedback provided by my supervisors.	
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The following co-authors have contributed to Chapters three, four, five and six:

Name	Email address	Nature of contribution	Extent of contribution (%)
Professor Nceba Z. Somhlaba	nsomhlaba@uwc.ac.za	Professor Somhlaba provided expert supervision throughout the process of conducting the PhD study. He provided expert guidance, advice, feedback, points for revision and addition for each article (chapters 3,4,5 and 6).	10%
Professor Helene Loxton	hsl@sun.ac.za	Since becoming the co-supervisor for this study, Professor Loxton provided expert supervision throughout the process of conducting the PhD study. She provided expert guidance, advice, feedback, points for revision and addition for each article (chapters 3,4,5 and 6).	10%

Signature of candidate: Declaration with signature in possession of candidate and supervisors

Date: 24 September 2019

Declaration by co-authors

The undersigned hereby confirm that

1. The declaration above accurately reflects the nature and extent of the contributions of the candidate and the co-authors to Chapter Three, Four, Five and Six.
2. No other authors have contributed to Chapter Three, Four, Five and Six
3. Potential conflicts of interest have been revealed to all interested parties that the necessary arrangements have been made to use the material in Chapter Three, Four, Five and Six.

Co-author signature	Institutional affiliation	Date
Prof Nceba Z Somhlaba: declaration with signature in possession of candidate and supervisor	University of the Western Cape	24 September 2019
Prof Helene Loxton: declaration with signature in possession of candidate and supervisor	Stellenbosch University	24 September 2019

Appendix H: Extract from the publication agreement providing consent for Chapter 3 (Manuscript 1) to be published in this dissertation, given that it has been published previously in *Child Care in Practice*.

RIGHTS RETAINED BY YOU AS AUTHOR

4. These rights are personal to you, and your co-authors, and cannot be transferred by you to anyone else. Without prejudice to your rights as author set out below, you undertake that the fully reference-linked VoR will not be published elsewhere without our prior written consent. You assert and retain the following rights as author(s):
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