Substance abuse and psychological strengths as predictors of coping amongst adolescents

by

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DECLARATION

I (Monique Barnes) declare that this dissertation (in article format) hereby submitted by me for the Magister Artium degree (Counselling Psychology) at the University of the Free State is my own independent work and has not previously been submitted by me to another university/faculty. I furthermore cede copyright of this dissertation in favour of the University of the Free State.

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Abstract

Adolescence is a period of significant physical, cognitive and socio-emotional changes. In addition, South African adolescents are exposed to a variety of environmental stressors daily. These stressors include poverty, conflict within the family, and inequality in schooling environments. Furthermore, the lack of resources within the South African context increases stress. Coping effectively with these stressors is, therefore, imperative for South African adolescents' well-being. Adolescents who lack adequate coping strategies are at risk for psychological and behavioural problems. Both substance abuse as a risk factor and psychological strengths as protective factors might influence an individual's ability to cope. The aim of this study was, therefore, to investigate the variance in coping, caused by substance abuse and psychological strengths, amongst adolescents in the Free State. The role of gender on this relationship was also investigated.

A quantitative, non-experimental, correlational design was used in this study. The measuring instruments included a biographical questionnaire, the Behavioural and Emotional Rating Scale (BERS 2) and the Coping Schema Inventory (R-CSI). The data were analysed by conducting a multivariate regression analysis.

The results indicated that psychological strengths have a significant influence on adolescent coping. School engagement specifically relates to an increase in coping abilities amongst adolescents. Substance abuse, however, influenced only religious coping. Significant gender differences were reported for only religious coping. Furthermore, the results indicated low levels of psychological strengths and coping abilities for the adolescents in the Free State. These findings emphasise the importance of further research on the topic of adolescent coping and psychological strengths within the South African context, because it is evident that more knowledge and insight into the process of coping amongst adolescents is needed.

Key words: coping, substance abuse, psychological strengths, stress, adolescents, gender, South Africa

Opsomming

Adolessensie is 'n tydperk van beduidende fisiese, kognitiewe en sosio-emosionele veranderinge. Suid-Afrikaanse adolessente word boonop daagliks aan 'n verskeidenheid omgewingstressors blootgestel. Hierdie stressors is onder meer armoede, gesinskonflik en ongelykheid in die skoolomgewing. Die gebrek aan hulpbronne in die Suid-Afrikaanse konteks dra ook by tot toenemende stres. Die doeltreffende hantering van hierdie stressors is dus noodsaaklik vir Suid-Afrikaanse adolessente se welsyn. Adolessente wat 'n gebrek aan coping-strategieë het, loop die risiko om sielkundige en gedragsprobleme te ontwikkel. Substansmisbruik as 'n risikofaktor, sowel as sielkundige sterk punte as beskermingsfaktore, kan 'n individu se vermoë om te cope affekteer. Die oogmerk van hierdie studie is dus om 'n ondersoek te doen na die variansie in coping, wat deur substansmisbruik en sielkundige sterktes punte veroorsaak word, onder adolessente in die Vrystaat. Die rol van geslag in hierdie verwantskap is ook ondersoek.

'n Kwantitatiewe, nie-eksperimentele, korrelatiewe ontwerp is in die studie gebruik. Die meetinstrumente het 'n biografiese vraelys, die Behavioural and Emotional Rating Scale (BERS 2) en die Coping Schema Inventory (R-CSI) ingesluit. Die data is deur middel van 'n meerveranderlike regressieontleding geanaliseer.

Die resultate toon dat sielkundige sterk punte 'n beduidende invloed op adolessente se coping het. Skoolbetrokkenheid spesifiek lei tot 'n toename in coping-vermoë onder adolessente. Substansmisbruik het egter net 'n invloed op godsdienstige coping. Beduidende geslagsverskille is gemeld vir slegs godsdientige coping. Die resultate toon ook lae vlakke van sielkundige sterk punte en coping-vermoëns vir die adolessente in die Vrystaat. Hierdie bevindinge beklemtoon die belangrikheid vir verdere navorsing oor die onderwerp van adolessente coping en sielkundige sterk punte binne die Suid-Afrikaanse konteks omdat dit duidelik blyk dat meer kennis en insig in die coping-proses onder adolessente nodig is.

Sleutelwoorde: coping, substansmisbruik, sielkundige sterktes, stres, adolessente, geslag, Suid-Afrika.

Introduction and Literature Review

South African adolescents are exposed to a wide range of environmental stressors daily (Brook, Morojele, Pahl, & Brook, 2006), which has an effect on their psychological well-being (Brook, Rubenstone, Zhang, Morojele, & Brook, 2011). These stressors include the changes associated with the transition from apartheid to equality, crime and violence, unemployment, technological changes and the Aids epidemic (Brook, Morojele, Pahl & Brook, 2006). Some stress factors are not only evident in the South African context, but have also been found to play a role in adolescent functioning globally. These stressors include poverty, the schooling environment, conflict within the family and normal developmental changes.

Poverty is a prominent source of distress in South Africa (Chandra & Batada, 2006; Safarino & Smith, 2012; Van Niekerk, 2014). Low income in families creates a different type of stressor for adolescents in comparison to other stressors in their lives (Wadsworth & Santiago, 2008). These adolescents and their families have to learn to cope with poverty-related stressors which occur daily. Research indicates that living in conditions of persistent poverty-related stress has a negative impact on one's psychological health (Santiago, Wadsworth, & Stump, 2011). Individuals and families living in poverty experience more uncontrollable and chronic life events and stressors than the general population (Santiago et al. 2011). These stressors leave them more vulnerable to maladaptive coping strategies and has an influence on their ability to plan for the future (Drimie & Casale, 2009).

The school environment is another reported source of stress for adolescents. The three main sources of school stress can be identified as success and failure; tests and achievement; and fear and anxiety (Baumgardner & Crothers, 2010). However, these are not the only school stressors that adolescents have to cope with. The transition from primary school to secondary school and the accompanying adjustments are a source of stress to most adolescents (Hussain, Kumar, & Husain, 2008). This transition includes the encounter of a new environment, as well as significant individual and developmental changes (Taylor, Spray, & Pearson, 2014). The onset of puberty during this time contributes to the stressful nature of the transition (Waters, Lester, Wenden, & Cross, 2012).

Some adolescents experience their families as one of their main sources of stress (Baumgardner & Crothers, 2010), which is often a result of parent–child interaction (Seiffge-

Krenke, Aunola, & Nurmi, 2009). As adolescents strive for autonomy, conflict with their parents is a normal part of development (Sigelman & Rider, 2009). The majority of adolescents struggle with finding autonomy and experience communication problems with their parents (Seiffge-Krenke et al., 2009). Minor everyday conflicts with their parents have been identified as a source of stress for most adolescents (Seiffge-Krenke et al., 2009) which increase risk factors such as alcohol use during adolescence (Tomcikova, Madarasova Geckova, Orosova, Van Dijk, & Reijneveld, 2009)

Aside from contextual stressors, a developmental period in itself can pose significant stress to the individual. Adolescence is a period of significant physical, cognitive and socio-emotional changes (Lerner & Steinberg, 2009) and the individual is confronted with a range of developmental challenges (Piko, 2011). During this developmental stage, a variety of issues emerge that must be dealt with daily (Seiffge-Krenke et al., 2009). The cultural context in which adolescents develop also needs to be taken into consideration. According to Nsamenang (2003) children in different cultures are exposed to cultural rather than universal influences. Bearing in mind that the study was conducted from a South African point of view, the culture that relates to the participants would have an influence on the contextual stressors that adolescents have to deal with on a daily basis. Therefore South African adolescents will be exposed to different stressors with in their culture such as different parental practices, collectivistic and individualistic cultures and child headed households (Louw & Louw, 2014).

Adolescents typically have concerns about their identities, including changes in their appearance, body, characteristics and traits (Seiffge-Krenke et al., 2009). Moreover, they need to develop interpersonal skills to be able to adjust in society (Dass-Brailsford, 2005). However, many adolescents struggle to adjust to social institutions due to their inability to understand the nature and risks that form part of society (Moneta, Schneider, & Csikszentmihalyi, 2001). Adolescents are also expected to establish romantic relationships, expand their social networks and mediate a healthy relationship with their parents (Seiffge-Krenke et al., 2009). In addition to dealing with these developmental changes, adolescents need to be able to manage problems and unpredictable events (Lerner & Steinberg, 2009).

Stress has numerous consequences for adolescents. Research reports that the magnitude and speed of the changes adolescents are confronted with overwhelm most of them (Byrne, Davenport, & Mazanov, 2007). The exposure to stressors during adolescence has been linked to risky behaviour and compromising lifestyle choices including physical

inactivity, obesity, early and heavy use of alcohol, and cigarette smoking (Byrne et al., 2007). Adolescents who lack adequate coping abilities are at risk of developing psychological and behavioural problems (Downey, Johnston, Hansen, Birney, & Stough, 2010). To minimise the risk of the aforementioned, adolescents have to learn how to cope with the stressors they are confronted with.

A study conducted on adolescent coping reported that it is not only traumatic events and chronic stressors that play a role in their coping. Even the mildly stressful situations that adolescents experience daily play an essential role in how they learn to cope (Seiffge-Krenke et al., 2009). Therefore, adolescents might experience daily life as stressful in nature. Applying adaptive coping strategies are, therefore, imperative for all adolescents.

Coping

Coping refers to conscious and cognitive attempts to regulate emotions, cognition, behaviour, physiology and the environment in response to stressful events or circumstances (Flouri, Mavroveli, & Panourgia, 2013). According to Lazarus and Folkman (1984), coping includes reducing or mastering all internal and external demands that present during stressful situations. To achieve this, individuals apply several strategies, but these do not always have the desired outcome (Flouri et al., 2013).

Lazarus and Folkman's (1984) definition of coping entails three key features. First, coping is process oriented. It focuses on how a person reacts to and thinks about a stressful situation, and how these reactions and thoughts change as the situation unfolds. This process can be explained through primary and secondary appraisal. Primary appraisal refers to the way in which an individual evaluates the potential harm or benefit of an event. The individual then needs to evaluate their coping options, which constitutes secondary appraisal (Ohannessian et al., 2010).

Secondly, coping is contextual, referring to the demands a situation places on a person and the resources a person has to cope with it (Lazarus & Folkman, 1984). This will differ from person to person. Individual differences will have a profound effect on the coping resources that individuals choose to employ (Taylor & Stanton, 2007). These resources might be internal or external to an individual. In South Africa, many individuals live in resource-poor communities, which has a direct impact on their ability to cope with stressors (Reid & Vogel, 2006).

Thirdly, there are no objective indicators of successful coping. The situation in which coping needs to occur will play a role in whether it is perceived as adaptive or maladaptive coping (Lazarus & Folkman, 1984). A coping style that usually seems maladaptive, such as avoidance, might be beneficial in a traumatic situation, for example, if a person were being held hostage.

As individuals, we choose to cope with stressful situations in different ways. Research has reported that individuals' and groups' reactions to stressors differ widely (Eaton & Bradley, 2008). According to Lazarus and Folkman (1984), coping styles can be divided into two broad categories, namely problem-focused coping and emotion-focused coping. Problem- and emotion-focused coping help to mediate the impact of appraisal after a stressful event has occurred (Riley & Park, 2014).

Problem-focused coping

Lazarus and Folkman (1984) define problem-focused coping as a coping style in which an individual makes use of practical strategies in order to change the situation that causes stress. Lapierre and Allen (2006) describe problem-focused coping as a person's defence against environmental stressors which is directed at defining a problem, generating alternative solutions, weighing the alternatives according to costs and benefits, and choosing the best solution and acting on it. This coping style attempts to confront and control the crisis in a direct manner (Ivancovich, 2004). Problem-focused coping is, therefore, applied to influence the source of stress. This strategy includes active coping, self-control and social support (Lazarus & Folkman, 1984).

The majority of studies conducted across countries found problem-focused coping to be adaptive. Researchers who support this notion argued that problem-focused coping foresee better mental and physical health than that of emotion-focused coping (Carver & Connor-Smith, 2010). Problem-focused coping throughout adolescence are associated with better psychological adjustment (Downey et al., 2010; Herman & Tetrick, 2009). In fact, even in low-control situations, problem-focused coping still yield better outcomes than emotion-focused coping (Riley & Park, 2014).

Emotion-focused coping

Emotion-focused coping can be defined as an individual's attempts to change or reduce negative emotions by suppressing the emotional reaction that the stressor elicits, or by

increasing positive emotions (Lazarus & Folkman, 1984). This coping style can, therefore, be subdivided into cognitive emotion-focused coping and behavioural emotion-focused coping (Lazarus & Folkman, 1984). Cognitive emotion-focused coping refers to the process in which an individual attempts to use positive emotions in order to change the way they think about a problem, whereas behavioural emotion-focused coping refers to the behaviour used to feel better. This does not necessarily solve the problem, but it is a strategy to help forget about the problem (Lazarus & Folkman, 1984). A broad range of emotion-focused coping strategies exist, including denial, venting emotions, seeking social support and positively reinterpreting events (Baker & Berenbaum, 2007).

Gruszczyńska (2013) states that emotion-focused coping is more complex than people tend to assume. Many earlier studies found emotion-focused coping to be not as adaptive as problem-focused coping (Penley, Tomaka, & Wiebe, 2002). However, the complexity of emotion-focused coping has increasingly gained attention over the past few years (Aldwin, 2007). It has been recognised, for example, that emotion-focused coping is adaptive in specific situations, such as conditions of maltreatment in childhood (Hager & Runtz, 2012).

Nevertheless, the predominant view in stress and coping literature is that emotion-focused coping processes are maladaptive (Baker & Berenbaum, 2007). This might be due to the fact that the effectiveness of emotion-focused coping depends on the strategy chosen, because certain emotion-focused strategies encourage approach, and not only avoidance (Baker & Berenbaum, 2007). In a study, Frydenberg and Lewis (1993) found that adolescents who employ problem-focused coping styles were able to control their problems more successfully than those employing emotion-focused coping. The same study reported, however, that emotion-focused coping helped adolescents cope with problems that could not be resolved (Frydenberg & Lewis, 1993). Furthermore, a study conducted by Baker and Berenbaum (2007) reported that those who experienced interpersonal stressors employed emotion-focused coping more than those who experienced achievement stressors. Most people tend to use strategies from both problem-focused coping and emotion-focused coping (Riley & Park, 2014), which they will then apply in accordance with the context or situation.

Although problem- and emotion-focused coping are the two most well-known coping styles, some researchers still argue that up to 40% of responses to stress cannot be distinctly assigned to these styles (Seiffge-Krenke et al., 2009). Therefore, existential and religious coping styles will also be discussed.

Existential coping and religious coping

Existential coping and religious coping were introduced as a mode of coping in situations where unavoidable problems could shatter the individual's previous assumptions of the world or threaten our existence (Wong, 2013). Existential coping refers to one's affirmation of meaning in life and acceptance. Personal meaning makes it possible for individuals to overcome the obstacles of life and cope with adversity and suffering (Wong, 2013).

Religious coping refers to a strategy that changes one's world view, personal meaning-value system, beliefs and lifestyle as a result of a spiritual transformation or enlightenment (Wong, 2013; Wong, Wong, & Scott, 2006). Spirituality and religion are abstract constructs, but adolescents are able to process such complex concepts and can, thus, understand spirituality and religion (Smith, 2014). Adolescents with higher levels of spirituality who employ this as a coping strategy are less likely to participate in risky behaviour such as substance abuse (Smith, 2014; Terreri & Glenwick, 2013). Religious coping provides meaning and comfort to those who employ it. Religious coping refers to how people apply their religious beliefs to understand and adapt to life stressors (Vivat, 2008) and has been associated with good mental health (Terreri & Glenwick, 2013). Numerous studies in this field emphasise spiritual or religious coping during bereavement, illness and anticipating death (Vivat, 2008). Employing spiritual or religious coping with these severe stressors has led to greater adaption in individuals (Vivat, 2008).

Researchers in the field of stress and coping have been grappling with understanding factors which contribute to both effective and maladaptive coping (Wong, Wong, & Lonner, 2006). Wong and colleagues purport that the effective application of sufficient resources could prove to be definitive in a person's way of coping. Therefore, coping efficacy depends on congruence between the coping response, the nature of the stress, and the cultural context in which the stressful event takes place (Wong et al., 2006).

Researchers in the South African context found that, while coping contributes to positive outcomes, adolescents' coping strategies are often not activated when they are exposed to trauma (Botha, 2014; George, 2009; Katz et al., 2009). This implies that congruent coping does not always occur amongst South African adolescents.

Coping in adolescence

Gender and age have been reported to have a crucial influence on the coping strategies that individuals employ (Piko, 2011). Studies conducted on coping and gender support the belief that males tend to use problem-focused coping and females choose to use emotion-focused coping (Eaton & Bradley, 2008). Gender differences have been reported, with female adolescents using emotional and social support more than males (Eschenbeck, Kohlmann, & Lohaus, 2007; Vancu, 2014). Research indicated that females tend to use social support, religion and the venting of emotions to cope, where males are more likely to use avoidance, disengagement and humour (Ohannessian et al., 2010). Most research conducted on gender differences and coping concludes that females use more active coping strategies and support-seeking than males (Seiffge-Krenke et al., 2009). Males and females usually increase their use of emotion-focused coping strategies during early adolescence, but mostly females continue to use this strategy into late adolescence (Piko, 2011). However, no significant gender differences have been reported relating to problem-focused coping (Eaton & Bradley, 2008).

Adolescents' problem-solving skills tend to develop with age and improve as their cognitive functioning develops and social experiences grow (Chapman & Mullis, 2000). Adolescence is an important stage for the development of cognitive coping skills, as adolescents acquire more advanced cognitive abilities (Garnefski, Legerstee, Kraaij, Van den Kommer, & Teerds, 2002). These developing cognitive abilities will enable adolescents to consider scenarios hypothetically and to take the perspective of others into account. Furthermore, it enables them to plan ahead and foresee future consequences, as well as formulate alternative explanations for events in their lives (Garnefski et al., 2002). These thoughts and cognitions, in turn, help adolescents to regulate their emotions and feelings (Garnefski et al., 2002). Thus, as their cognitive abilities develop, adolescents will be better able to cope with stressors and not be overwhelmed by them in daily life.

A study by Seiffge-Krenke et al. (2009) conducted on the interplay between developmental changes in stress and coping during adolescence indeed confirmed that adolescent stress is very high during early adolescence and starts decreasing into late adolescence. This might be due to the fact that adolescents acquire more effective coping styles as time progresses. Therefore, the perception of stress and use of coping styles changes from early to late adolescence. Also, a recent study by Arsenio and Loria (2014) concluded

that, as adolescents develop from early adolescence into late adolescence, they become better equipped to control their general mood and academic stress by means of more adaptive coping styles.

Various contributors enhance or hinder coping in the adolescent years. For the purposes of this study, one factor hindering adaptive coping (namely substance abuse) and five strengths that might contribute to adaptive coping will be investigated. These will be discussed in what follows.

Substance abuse

Substance abuse amongst adolescents is on the rise globally (Kishore & Gopiram, 2014). While it is a world-wide risk factor and problem, little research has been conducted on substance abuse as a risk factor amongst South African adolescents (Florence & Koch, 2011). This lack of research is a grave concern considering the increased incidence of substance abuse amongst adolescents (Sussman, Sun, Rohrbach, & Spruijt-Metz, 2012).

Substance abuse refers to the continued misuse of drugs, alcohol, tobacco and other medication (Barlow & Durand, 2009; Parry & Bennetts, 2001). Researchers concur that any use of substances in children or adolescents under the age of 18 years should be classified as substance abuse (Barlow & Durand, 2009; Parry & Bennetts, 2001). Therefore, this study will refer to substance abuse during adolescence, rather than substance use in general, as all participants in the study were under the age of 18 years.

Substance abuse during adolescence is a social and health problem in most countries, including South Africa (Van Niekerk, 2014). Currently, 66% of the South African population is below the age of 35 years. With a population of over 54 million South Africans, 18.5% are between the ages of 10 and 19, and 24% are aged 15 to 24 (Statistics South Africa, 2013).

The South African Medical Research Council released results of the second South African National Youth Risk Behaviour Survey (NYRBS) in 2008. This survey was conducted amongst 10 270 adolescents ranging from Grades 8 through 11 in 207 schools across South Africa. The results were as follows: one in every five learners smoked (21%); one in every two learners have consumed one alcoholic beverage in their lifetime (49.6%); and 28.5% of learners have had more than five alcoholic drinks in their lifetime. The use of marijuana was reported at 12.7%. Significant differences were evident between male and

female adolescents, with males reporting more substance use than females (NYRBS, 2008). Conducted in 2008, this survey's results were already worrisome for South Africans.

According to the Central Drug Authority, the substance abuse problem amongst South African adolescents is spiralling out of control (Thomson, 2013). A recent study found that 60% of South African adolescents aged 18 years consume alcohol regularly. In addition, the substance abuse rate amongst adolescents in South Africa is rising yearly (Thomson, 2013).

In contrast with the NYRBS's findings above, Schulte, Ramo, and Brown (2009) reported that significant gender differences in substance abuse occur only after the age of 18 and that the patterns of experimentation in male and female adolescents are usually quite similar. Nevertheless, some studies do indicate a gender difference in the use of alcohol as a substance during adolescence (Visser & Routledge, 2007). Schulte et al. (2009) reported a consistent finding that males consume more alcohol and have more alcohol-related problems than females.

Increased risk-taking behaviour is a characteristic of the adolescent life stage (Doremus-Fitzwater, Varlinskaya, & Spear, 2010). During this phase, adolescents tend to experiment and seek out new experiences. Although risk-taking behaviour is a normal part of adolescent development, risky behaviour contributes to current and future substance use and abuse in adolescents (Doremus-Fitzwater et al., 2010). As stressors increase during adolescence, so does the risk for substance abuse (Barlow & Durand, 2009). In a study by Dow and Kelly (2013), 24.2% of adolescent participants used alcohol because of stress-related problems.

Some adolescents use substances instead of effective coping strategies in order to deal with stressful situations (Burrow-Sanchez, Martinez, Hops, & Wrona, 2011; Kishore & Gopiram, 2014). Substance abuse is, furthermore, a risk factor that decreases the probability of effective coping. Kuntsche et al. (2011) examined reasons for alcohol use in adolescents and categorised adolescent alcohol users into two groups, namely enhancement drinkers and coping drinkers. Enhancement drinkers used substance to enhance a positive state as a way of positive reinforcement, whereas coping drinkers used substance to cope with a negative state. The motivation for coping drinkers was based on negative reinforcement. These adolescents drank to forget their problems, or were experiencing a negative emotion such as anxiety or depression. A longitudinal study by Patrick et al. (2009) reported that negative coping motives at age 18 were related to heavier alcohol use and alcohol use disorder in later years.

Certain types of coping strategies, such as avoidance, have been linked to substance use and abuse (Hussong & Chassin, 2004; Ohannessian et al., 2010). Research conducted by Garcia (2010) and Chaudhary and Joseph (2010) found that adolescents with poor problem-solving skills are more prone to substance abuse. Therefore, adaptive coping strategies are imperative in decreasing the risk for alcohol use in adolescents.

Psychological strengths

Effective resources increase the chances of effective coping. Studies have demonstrated that both internal and external resources have a positive influence on a person's ability to cope (Taylor & Stanton, 2007). Psychological strengths of adolescents include both internal (interpersonal strengths, intrapersonal strengths and affective strengths) and external (family involvement and school functioning) resources (Epstein, 1999). These strengths emphasise the positive aspects present in an individual's life rather than the deficits (Linley, Joseph, Harrington, & Wood, 2006; Littman-Ovadia & Lavy, 2012).

According to Epstein (1999), intrapersonal strengths refer to a child's or adolescent's view of their successes or accomplishments. This includes their self-confidence, self-awareness and competence. The development of self-esteem is a large part of an adolescent's journey towards developing self-understanding which, in turn, forms a central part of their psychological functioning (Moksnes, Moljord, Espnes, & Byrne, 2010). It has been reported that adolescents with low self-esteem struggle with maladaptive coping styles (Lopez & Gormley, 2002), while high self-esteem promotes better coping mechanisms and facilitates productive achievement (Trzesniewski et al., 2006). Self-esteem, thus, predisposes adolescents to using certain coping styles (Seiffge-Krenke et al., 2009). In the face of challenging circumstances and stress, adolescents with high self-esteem cope better and are protected against the consequences of the stressful life events (Moksnes et al., 2010).

Competence can be defined as the experience that one is effective in dealing with one's environment (Prelow, Weaver, & Swenson, 2006). An individual can display competence in different areas of their lives. Social competence, for example, refers to having a range of skills which include getting along with others, being liked by others and being helpful (Zimmer-Gembeck, Lees, & Skinner, 2011). Research suggests that social competence correlates with adolescents ability to cope with stress (Zimmer-Gembeck et al., 2011). Academic competence has also been found to play a role in adolescent coping, and a relationship between academic competence and coping styles have been reported (Zimmer-

Gembeck et al., 2011). Adolescents who have adaptive coping styles seem to be more academically competent and vice versa.

Affective strengths refer to adolescents' ability to give and receive affection and can influence adolescents' behaviour and cognitions (Epstein, 2000; Steinberg, 2005). These strengths include emotional intelligence and emotional regulation. Individuals with high emotional intelligence possess the intellectual and social resources necessary for successful coping (Mavroveli, Petrides, Rieffe, & Bakker, 2007). Individuals who are emotionally intelligent can cope better with challenges in their lives (Downey et al., 2010). Consequently, this will have a positive effect on psychological health. Moreover, a correlation has been found between adolescents with low emotional intelligence and problem behaviour (Downey et al., 2010; Petrides, Frederickdon, & Furnham, 2004). In contrast, adolescents with high emotional intelligence tend to use more productive coping styles (Downey et al., 2010).

Emotional regulation involves the management of different systems and components, including internal systems, and behavioural and external components (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). It is further defined as an extrinsic and intrinsic process entailing the monitoring, evaluation and modification of emotional reactions (Zeman et al., 2006). A positive correlation between emotional regulation and coping with interpersonal stress has been reported (Zimmer-Gembeck et al., 2011). The ability to regulate one's emotions increases during adolescence (Zeman et al., 2006). If adolescents do not regulate their emotions well, high stress situations will result in maladaptive coping efforts (Zeman et al., 2006).

Interpersonal strengths refer to adolescents' ability to control their social behaviour, and include social skills and relationships (Prinsloo, 2013). During adolescence, social influences become more prominent due to adolescents' increased awareness of others (Louw & Louw, 2007). Therefore, social skills form an essential part of their daily interactions. Social skills can be defined as distinct and specific verbal and non-verbal behaviours, which include effective and appropriate initiations and responses in social settings (Merrell, 1998). Those with adequate social skills will be less prone to negative mood states and present with more adaptive behaviour (Masten et al., 2009). Furthermore, adequate social skills lead to academic and interpersonal success. A meta-analysis of after-school programmes, which sought to enhance the social skills of children and adolescents, found that the experimental group had an increase in self-perception, positive social behaviour, school grades and levels

of academic achievement (Durlak, Weissberg, & Pachan, 2010). Interpersonal strengths which include social abilities will enable adolescents to form and maintain relationships. Through socialisation adolescents then learn what is expected of them as individuals in society (Sigelman & Rider, 2009).

External resources are resources that one can use from the environment (Taylor & Stanton, 2007). These include family involvement and school functioning (Epstein, 1999), because connectedness to family and school has been shown to be a protective factor for adolescents (Carter, McGee, Taylor, & Williams, 2007). First, family involvement refers to their involvement and relationships within their family members (Epstein, 2000). It also includes the parental warmth, support and supervision which help individuals cope better amidst challenging environments (Frey, Ruchkin, Martin, & Schwab-Stone, 2009). The social support offered by the family can protect adolescents against succumbing to peer pressure and risk-taking behaviour (Graber, Nichols, & Brooks-Gunn, 2010). For instance, adolescents with high levels of connectedness to their families are less at risk to engage in substance abuse (Carter et al., 2007).

Parental support has been reported to be a predictor of resilience in various areas of adolescents' lives, including substance abuse (Frey et al., 2009). Hutchinson, Baldwin, and Oh (2006) have argued that younger adolescents rely more on their parents for emotional support and helping them make decisions, whereas older adolescents rely more on their peers. Nevertheless, social environments such as families, which include both support for personal decision making and warm, connected, structured and predictable relations, have been found to promote active coping behaviours (Zimmer-Gembeck & Locke, 2007). Moreover, a link between effective coping and family support and involvement has been established (Frydenberg, 2008). Therefore, parents play a vital role in the development of coping resources, starting during childhood (Zimmer-Gembeck et al., 2011).

Secondly, school functioning refers to educational abilities and classroom functioning. School engagement can be seen as a protective factor during adolescence. In a study conducted by Carter et al. (2007) it was reported that school engagement during adolescence is highly associated with promoting positive behaviours. These adolescents reported significantly lower levels of risk behaviours, including the use of alcohol and drugs (Carter et al., 2007). Although there is a general decline of academic achievement during adolescence, gains in intellectual abilities such as reading social and emotional cues are

reported which, in turn, contribute to the development of their psychological strengths (Dotterer & Lowe, 2011).

Jimerson (2005) asserted that researchers should consider adolescents' strengths and weaknesses in order to determine whether they would be successful in all areas of their lives.

As discussed above, adolescents are faced with a variety of challenges daily. It is, therefore, imperative for them to employ adaptive coping strategies in order to deal with these challenges in a positive manner. However, not all adolescents employ adaptive coping strategies which, in turn, lead to risk behaviour. The current study will, therefore, aim to determine the proportion of variance in coping which can be explained by substance abuse and strengths for South African adolescents – especially since little research has been done in this regard (EbscoHost, 10 March 2015).

Methodology

The following section consists of a discussion of the research questions and the research design of the current study, the research participants, the data-gathering procedure, and the measuring instruments that were used. The ethical considerations that were relevant to the study will also be described briefly.

Research questions

The aim of the study was to investigate substance abuse and strengths as predictors of coping amongst adolescents. The following research questions were investigated:

1) What percentage of the variance in coping can be explained by substance abuse and strengths?

2) Does gender play a role in the above-mentioned relationship?

Research design

This is a quantitative, non-experimental study (Maree & Pietersen, 2007). A correlational design was used to investigate the research questions (Maree & Pietersen, 2007). Correlational designs are used frequently to observe and describe relationships between two or more variables (MacDonald, Wong, & Dionne, 2015). However, this design does not enable the researcher to prove a causal relationship between the variables (Goodwin, 2010).

Research participants

An existing data set which has been collected in 2012 as part of a larger project (Risk and Resilience in Adolescents in the Free State Province) was used. Two schools from each of the five districts in the Free State were randomly selected to participate in the study. Both urban and rural areas were included in this study. One of the schools withdrew from the study before the data collection phase had commenced. The entire Grade 10 group from each of the remaining nine schools participated in the study. In South Africa, Grade 10 learners are 15 years and older; thus, they are classified as adolescents. The sample consisted of 973 learners (N=973) with a mean age of 16.34 years (SD=.836). Table 1 provides frequency statistics that describe the biographical characteristics of the participants.

Table 1

Biographical description of the participants (N=973)

Variable	Category	Participants	
		N	Valid Percentage
Gender		**966**	
	Male	413	42.8%
	Female	553	57.2%
Race		**965**	
	Black	692	71.7%
	White	165	17.1%
	Coloured	84	8.6%
	Asian	23	2.4%
Language		**959**	
	Sesotho	431	44.9%
	Afrikaans	226	23.6%
	Tswana	127	13.2%
	Xhosa	99	10.3%
	English	43	4.5%

Zulu	30	3.1%
Pedi	3	0.3%

According to table 1, females accounted for the majority of participants. According to the mid-year population estimates (2013) in the age group 15–19 years, females in the Free State represent 49.7% and males represent 50.3% of the population (Stats SA, 2013). From these statistics, it is evident that females were overrepresented in the study. This can be explained by the fact that one of the participating schools was an all-girls school. According to Statistics South Africa (2013), the different racial groups are distributed as follows: black (80.2%), white (8.4%), coloured (8.8%) and Asian/Indian (2.5%). It is evident from the statistics that black participants were underrepresented, while white participants were overrepresented. The coloured and Asian groups were correctly represented in this study. The above-mentioned will be taken into consideration when interpreting the results.

Data-gathering procedures

The data were collected by means of standardised psychometric tests which were administered during school days under the supervision of registered psychologists and psychometrists. The questionnaires were available in English, Afrikaans and Sesotho. Accredited translators translated the questionnaires by using the back-translation method (Brislin, 1970; Foxcroft & Roodt, 2007). The questionnaires were bound in booklets and were completed in groups of 20–30 participants. The administration of the survey took place over a period of three hours with regular breaks.

Measuring instruments

The following measuring instruments were administered to collect the data relevant to the study:

1) A *Biographical Questionnaire*, consisting of 36 questions, was used by the research team to obtain information regarding demographic variables such as age, gender, race, home language, and socio-economic status. Additional questions about the frequency of substance use amongst participants were added to the questionnaire. These questions were derived from the *Substance Abuse Subtle Screening Inventory for Adolescents* (SASSI-A2) (SASSI Institute, 2001). These questions were used to

indicate the presence or absence of any substance use amongst the adolescents (Miller & Lazowski, 2001), as well as to categorise participants' substance use as follows:

a)   No substance use

b)   Using substances less than once per month

c)   Using substances between one and three times per month

d)   Using substances once per week

e)   Using substances about twice per week

f)   Using substances more than twice per week

Since substance abuse is a categorical variable in the current study, the alpha coefficients for these items were not calculated.

2) The *Behavioural and Emotional Rating Scale* (BERS-2) was administered to measure five domains of strengths (Epstein, 1999). These domains include interpersonal, intrapersonal and affective strengths, as well as family involvement and school functioning (Rudolph & Epstein, 2000). The BERS-2 consists of a 57-item self-report questionnaire that helps determine the level of behavioural and emotional strengths of 11- to 18-year-old adolescents (Epstein, Mooney, Ryser, & Pierce, 2004). For purposes of this study, only the first 52 items were used, because the other five questions pertained to demographics which were included in the biographical questionnaire designed for the participants. The central idea of the BERS-2 is to identify adolescents' strengths in order to investigate the resources used to overcome behavioural and emotional challenges. These strengths/resources can enable adolescents to overcome adversity (Payne, 2011).

The BERS-2 uses a four-point Likert-type scale where respondents have to rate the extent to which each statement applies to them. A high score indicates a higher level of strength/resources, while lower scores indicate lower levels of strengths/resources. The BERS-2 has been found to have a high level of internal consistency (Epstein, 1999). Alpha coefficients of between 0.66 and 0.77 were obtained for a group of South African children in an earlier study (De Villiers, 2009).

In the current study, Cronbach's alpha coefficient obtained for the subscales of the BERS-2 was as follows: interpersonal strengths (0.839), family involvement (0.754), intrapersonal strengths (0.786), school functioning (0.788) and affective strengths (0.742). This indicates that this instrument has a high internal consistency for the

current group of participants, since an alpha coefficient of ≥0.70 is indicative of a satisfactory reliability for a non-cognitive construct (Nunnally & Burnstein, 1994).

3) The *Coping Schema Inventory* (R-CSI) (Wong et al., 2006) was used to determine coping strategies used by adolescents. This questionnaire measures adolescents' preference for coping strategies. The measuring instrument consists of 72 items representing four modes of coping, namely problem-focused coping (consisting of the situational coping, self-restructuring, and social support subscales); emotion-focused coping (active emotional coping, passive emotional coping and stress reduction subscales); spiritual coping (religious coping subscales); and existential coping (consisting of the meaning and acceptance subscales). The R-CSI uses a five-point Likert-type scale where respondents have to rate how often they use specific coping strategies. The total scores for each coping subscale are then calculated. A high score indicates that the coping strategy is used often by the respondent, whereas a low score indicates that the coping strategy is used less frequently.

The internal consistency of the data has been proven acceptable, with an alpha coefficient between 0.72 and 0.98 for an American group of students (Wong et al., 2006). In the current study, Cronbach's alpha coefficient obtained for the subscales of the R-CSI was as follows: problem-focused coping (0.903), emotion-focused coping (0.872), existential coping (0.827) and religious coping (0.903). Therefore, this instrument has a high internal consistency for the current group of participants.

Ethical considerations

Permission to conduct this study was granted by both the Provincial Department of Education and the principals of all the participating schools. The project was accepted and approved by the Committee for Title Registrations (CTR) of the Faculty of Humanities, University of the Free State (UFS). The Health Professional Council of South Africa's (HPCSA) guidelines for the process of data collection and analysis were adhered to as stipulated in the ethical rules of conduct for practitioners registered under the Health Professions Act, 1974 (Government Gazette, 2006).

Informed consent was obtained from both the learners and their parents. Participation was voluntary, and all information was treated confidentially (Salkin, 2008). Participants were informed that they were allowed to withdraw from the study at any time without experiencing any negative consequences, in keeping with the ethical principle of autonomy

(Allan, 2008). The ethical committee of the Faculty of Humanities at the UFS had approved the consent forms before they were sent to the participating schools, parents and learners.

When the participants experienced problems during the administration of the questionnaires, the fieldworkers provided support. In addition, learners who requested further help after completion of the questionnaires were referred to psychologists. Each school was given psycho-educational pamphlets on coping to distribute amongst the learners. Therefore, the research team considered the participants' well-being at all times (Allan, 2008).

Statistical analysis

The *Statistical Package for the Social Sciences* (SPSS) (Pallant, 2007) was used to analyse the data. In order to obtain the results, a multivariate regression analysis (Howell, 2008) was conducted to assess the amount of variance that each predictor variable (substance abuse and strengths) explains in the outcome variable (coping). A multivariate regression analysis was used because the statistical model had two or more outcome variables and one or more predictor variables (substance abuse and the five strengths) (Hidalgo & Goodman, 2013). This enables the analyses of more than one statistical outcome variable at a time (Hidalgo & Goodman, 2013). When using regression analyses, predictors are selected based on past work (Field, 2013) as was the case with the current study. The results obtained for the current group of adolescent participants will be discussed next.

<div align="center">

Results

</div>

Descriptive statistics

The descriptive statistics for each of the measuring instruments was calculated using SPSS and are presented below.

Table 2

Descriptive statistics of the measuring instruments

Measuring Instrument	Description	Mean	Range Min Max		SD	Cronbach's Alpha Coefficient	Skewness	Kurtosis
Behavioural and Emotional Rating Scale	Interpersonal strengths	24.22	14	45	5.58	0.84	0.184	−5.05
	Family involvement	15.22	8	30	3.75	0.79	0.472	0.001
	Intrapersonal strengths	16.09	9	33	3.75	0.79	0.752	0.567
	School functioning	15.20	8	27	3.61	0.79	0.199	−0.393
	Affective strengths	11.57	5	21	2.94	0.79	0.286	−0.257
Coping Schemas Inventory	Problem-focused coping	49.26	0	87	14.97	0.90	−0.169	0.113
	Emotion-focused coping	58.86	0	112	16.86	0.87	0.057	0.0697

Existential coping	30.46	0 52	9.14	0.83	0.190	0.171
Religious coping	27.70	0 38	8.22	0.90	−1.1136	0.730

According to table 2, the skewness value for the religious coping scale in the current study was −1.11, indicating that the scores for this scale were not normally distributed and that the majority of participants had high scores. The skewness value for religious coping in Botha (2014) was also reported at −1.11, which indicated that the majority of learners obtained high scores on this scale.

A comparison of the current results to existing data in the South African context is challenging, because limited studies have been conducted on adolescents (EbscoHost, 20 May 2015). The current study was, however, compared to a study conducted by Botha (2014) that used the *Behavioural and Emotional Rating Scale* in the same Risk and Resilience programme with Grade 8 learners in 2010.

Table 3

Comparison of current results to existing study (Botha, 2014) for the Behavioural and Emotional Rating Scale

Description	Current Study Mean Score	Current Study SD	Botha (2014) Mean Score	Botha (2014) SD
Interpersonal strengths	24.22	5.58	33.73	7.25
Family involvement	15.11	3.75	23.16	5.13
Intrapersonal strengths	16.09	3.75	26.95	5.25
School functioning	15.20	3.61	20.84	4.57
Affective strengths	11.57	2.94	15.69	3.93

According to table 3, a comparison of the two groups (present study and Botha, 2014) revealed that the current study's scores were all lower than the mean scores obtained by Botha (2014), which were interpreted as average. Therefore, it could be inferred that the participants in the current study have low levels of psychological strengths.

Table 4

Comparison of current results to existing study (Botha, 2014) for the Coping Schema Inventory

Description	Current Study Mean Score	Current Study SD	Botha (2014) Mean Score	Botha (2014) SD
Problem-focused coping	49.26	14.97	73.08	13.61
Emotion-focused coping	58.86	16.86	88.70	15.91
Existential coping	30.46	9.14	44.70	8.45
Religious coping	27.70	8.22	38.09	6.88

According to table 4 in comparison with the mean scores obtained by Botha (2014) and interpreted as average, the current study's scores for the Coping Schema Inventory were all below average. Although religious coping in the current study also reported lower scores, the skewness value indicated that the participants scored higher on this scale than the other coping scales.

Table 5

Descriptive statistics for the Substance Abuse Subtle Screening Inventory for Adolescents (N=973)

Use of alcohol and drugs

Category	Frequency	Valid Percentages
None	527	54.2%
Less than once per month	186	19.1%
Between one and three times per month	119	12.2%
Once per week	52	5.3%
About twice per week	28	2.9%
More than twice per week	61	6.2%

Table 5 displays the frequency of alcohol and drug use by adolescents in the Free State. More than half of the participants indicated that they do not use alcohol and drugs. This can be explained by the South African law prohibiting the distribution of legal substances to people younger than 18 years of age. However, 45.8% of adolescents have used alcohol and drugs, which accounts for almost half of the participants. This correlates with findings that adolescence is a time of experimentation (Sigelman & Rider, 2009). Experimentation with substances is attributed to adolescents' needs to have new experiences, peer pressure and the increase in risk-taking behaviour (Haller, Handley, Chassin, & Bountress, 2010). Burrow-Sanchez (2006) emphasise that, although experimentation during adolescence is normal, the risk for alcohol and drug dependence after experimentation is still present. The fact that almost half of the adolescent participants use alcohol and drugs in the past is, therefore, a concern.

Inferential statistics

Multivariate regression analysis was used to assess the ability of strengths and substance abuse to predict levels of coping, after controlling for the influence of gender. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The data for the religious coping subscale were not normally distributed, but a logarithmic transformation did not offer improvement in the distribution of the data. Thus, the original variable will be used in the analysis, but the fact that the data were negatively skewed should be kept in mind in interpreting the results.

Multivariate results

Table 6

Multivariate tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.520	193.933[b]	4.000	716.000	.000
	Wilks' Lambda	.480	193.933[b]	4.000	716.000	.000
	Hotelling's Trace	1.083	193.933[b]	4.000	716.000	.000
	Roy's Largest Root	1.083	193.933[b]	4.000	716.000	.000
Gender	Pillai's Trace	.017	3.064[b]	4.000	716.000	.016
	Wilks' Lambda	.983	3.064[b]	4.000	716.000	.016
	Hotelling's Trace	.017	3.064[b]	4.000	716.000	.016
	Roy's Largest Root	.017	3.064[b]	4.000	716.000	.016
Substance abuse 2 (Less than once a week versus all the other categories)	Pillai's Trace	.008	1.375[b]	4.000	716.000	.241
	Wilks' Lambda	.992	1.375[b]	4.000	716.000	.241
	Hotelling's Trace	.008	1.375[b]	4.000	716.000	.241
	Roy's Largest Root	.008	1.375[b]	4.000	716.000	.241

Effect		Value	F	Hypothesis df	Error df	Sig.
Substance abuse 3 (Between once and three times per month versus all the categories)	Pillai's Trace	.005	.873[b]	4.000	716.000	.480
	Wilks' Lambda	.995	.873[b]	4.000	716.000	.480
	Hotelling's Trace	.005	.873[b]	4.000	716.000	.480
	Roy's Largest Root	.005	.873[b]	4.000	716.000	.480
Substance abuse 4 (Once per week versus all other categories)	Pillai's Trace	.009	1.668[b]	4.000	716.000	.156
	Wilks' Lambda	.991	1.668[b]	4.000	716.000	.156
	Hotelling's Trace	.009	1.668[b]	4.000	716.000	.156
	Roy's Largest Root	.009	1.668[b]	4.000	716.000	.156
Substance abuse 5 (About twice per week versus all the other categories)	Pillai's Trace	.005	.959[b]	4.000	716.000	.429
	Wilks' Lambda	.995	.959[b]	4.000	716.000	.429
	Hotelling's Trace	.005	.959[b]	4.000	716.000	.429
	Roy's Largest Root	.005	.959[b]	4.000	716.000	.429
Substance abuse 6 (More than twice a week versus all other categories)	Pillai's Trace	.019	3.559[b]	4.000	716.000	.007
	Wilks' Lambda	.981	3.559[b]	4.000	716.000	.007
	Hotelling's Trace	.020	3.559[b]	4.000	716.000	.007
	Roy's Largest Root	.020	3.559[b]	4.000	716.000	.007
Interpersonal strengths	Pillai's Trace	.009	1.614[b]	4.000	716.000	.169
	Wilks' Lambda	.991	1.614[b]	4.000	716.000	.169
	Hotelling's Trace	.009	1.614[b]	4.000	716.000	.169
	Roy's Largest Root	.009	1.614[b]	4.000	716.000	.169

Effect		Value	F	Hypothesis df	Error df	Sig.
Family involvement	Pillai's Trace	.015	2.638[b]	4.000	716.000	.033
	Wilks' Lambda	.985	2.638[b]	4.000	716.000	.033
	Hotelling's Trace	.015	2.638[b]	4.000	716.000	.033
	Roy's Largest Root	.015	2.638[b]	4.000	716.000	.033
Intrapersonal strengths	Pillai's Trace	.038	7.044[b]	4.000	716.000	.000
	Wilks' Lambda	.962	7.044[b]	4.000	716.000	.000
	Hotelling's Trace	.039	7.044[b]	4.000	716.000	.000
	Roy's Largest Root	.039	7.044[b]	4.000	716.000	.000
School functioning	Pillai's Trace	.015	2.658[b]	4.000	716.000	.032
	Wilks' Lambda	.985	2.658[b]	4.000	716.000	.032
	Hotelling's Trace	.015	2.658[b]	4.000	716.000	.032
	Roy's Largest Root	.015	2.658[b]	4.000	716.000	.032
Affective strength	Pillai's Trace	.022	4.021[b]	4.000	716.000	.003
	Wilks' Lambda	.978	4.021[b]	4.000	716.000	.003
	Hotelling's Trace	.022	4.021[b]	4.000	716.000	.003
	Roy's Largest Root	.022	4.021[b]	4.000	716.000	.003

As can be seen in the rows highlighted in grey in the table above, gender (F=3.064; p=0.016), family involvement (F=2.638; p=0.033), intrapersonal strength (F=7.044; p=0.000), school functioning (F=2.658; p=0.032) and affective strength (F=4.021; p=0.003) were all significant predictors of the combined dependent variable (the four coping subscales). Regarding substance abuse, only the comparison between no use of alcohol or drugs, and use of alcohol or drugs more than twice per week, was a significant predictor of

the combined dependent variable (F=3.559; *p*=0.007). In order to examine the results in more detail, the univariate test results will be discussed below.

Table 7

Tests of between-subjects effects

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Problem-focused coping	18311.167[a]	11	1664.652	8.939	.000
	Emotion-focused coping	12290.516[b]	11	1117.320	4.323	.000
	Existential coping	5225.786[c]	11	475.071	6.641	.000
	Religious coping	5059.031[d]	11	459.912	8.750	.000

a. R Squared = .120

b. R Squared = .062

c. R Squared = .092

d. R Squared = .118

From the table, it can be seen that the full set of independent variables explained a significant proportion of the variance in all the modes of coping: 12% of the variance in problem-focused coping (F=8.939; *p*=0.000; R squared=0.120); 6.2% of the variance in emotion-focused coping (F=4.323; *p*=0.000; R squared=0.062); 9.2% of the variance in existential coping (F=6.641; *p*=0.000; R squared=0.092); and 11.8% in religious coping (F=8.750; *p*=0.000; R squared=0.118). These results were further explored.

Table 8

Parameter estimates

Dependent Variable		B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Problem-focused coping	Intercept	72.115	2.870	25.123	.000	66.479	77.750
	Gender	.189	1.060	.178	.859	−1.892	2.270
	Substance abuse 2	−.783	1.341	−.584	.559	−3.415	1.849
	Substance abuse 3	−1.304	1.674	−.779	.436	−4.591	1.982
	Substance abuse 4	−1.688	2.249	−.750	.453	−6.103	2.728
	Substance abuse 5	3.820	3.643	1.048	.295	−3.333	10.973
	Substance abuse 6	.208	2.345	.089	.929	−4.395	4.811
	Interpersonal strengths	−.281	.142	−1.980	.048	−.559	−.002
	Family involvement	−.562	.190	−2.961	.003	−.934	−.189
	Intrapersonal strengths	−.637	.203	−3.142	.002	−1.034	−.239
	School functioning	.333	.181	1.846	.065	−.021	.688
	Affective strength	−.101	.238	−.425	.671	−.568	.366
Emotion-focused coping	Intercept	75.443	3.382	22.310	.000	68.804	82.082
	Gender	.259	1.249	.208	.836	−2.193	2.712
	Substance abuse 2	.208	1.579	.132	.895	−2.892	3.309
	Substance abuse 3	−.967	1.972	−.490	.624	−4.838	2.905
	Substance abuse 4	−4.358	2.650	−1.645	.100	−9.560	.843
	Substance abuse 5	−.010	4.292	−.002	.998	−8.436	8.417
	Substance abuse 6	1.957	2.762	.708	.479	−3.466	7.380
	Interpersonal strengths	−.236	.167	−1.410	.159	−.564	.092

Dependent Variable		B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
	Family involvement	−.377	.223	−1.687	.092	−.816	.062
	Intrapersonal strengths	−.310	.239	−1.299	.194	−.779	.158
	School functioning	.434	.213	2.042	.042	.017	.852
	Affective strength	−.534	.280	−1.904	.057	−1.085	.017
Existential coping	Intercept	40.215	1.779	22.603	.000	36.722	43.708
	Gender	.853	.657	1.298	.195	−.437	2.143
	Substance abuse 2	.221	.831	.266	.790	−1.410	1.852
	Substance abuse 3	−1.666	1.038	−1.605	.109	−3.703	.371
	Substance abuse 4	−2.464	1.394	−1.768	.078	−5.201	.273
	Substance abuse 5	.702	2.258	.311	.756	−3.732	5.135
	Substance abuse 6	−1.885	1.453	−1.297	.195	−4.738	.968
	Interpersonal strengths	−.209	.088	−2.374	.018	−.381	−.036
	Family involvement	−.304	.118	−2.584	.010	−.535	−.073
	Intrapersonal strengths	−.340	.126	−2.709	.007	−.587	−.094
	School functioning	.302	.112	2.698	.007	.082	.522
	Affective strength	.119	.148	.803	.422	−.171	.408
Religious coping	Intercept	34.633	1.525	22.711	.000	31.639	37.627
	Gender	1.678	.563	2.979	.003	.572	2.784
	Substance abuse 2	1.062	.712	1.491	.137	−.337	2.460
	Substance abuse 3	−.942	.889	−1.060	.290	−2.688	.804
	Substance abuse 4	−2.103	1.195	−1.760	.079	−4.448	.243
	Substance abuse 5	−.879	1.936	−.454	.650	−4.679	2.921

Dependent Variable	B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Substance abuse 6	−3.392	1.246	−2.723	.007	−5.837	−.946
Interpersonal strengths	−.062	.075	−.826	.409	−.210	.086
Family involvement	−.236	.101	−2.347	.019	−.434	−.039
Intrapersonal strengths	−.536	.108	−4.982	.000	−.748	−.325
School functioning	.276	.096	2.881	.004	.088	.465
Affective strength	.244	.126	1.927	.054	−.005	.492

Interpersonal strengths ($p=0.048$), family involvement ($p=0.003$) and intrapersonal strengths ($p=0.002$) made statistically significant unique contributions to the prediction of problem-focused coping, after the effects of all other variables had been taken into account. From the B column, it can be seen that a one-unit increase in each of these strengths resulted in a decrease in problem-focused coping.

Only school functioning made a statistically significant unique contribution to the prediction of emotion-focused coping ($p=0.042$), after all other variables had been controlled for. From the B column, it is clear that a one-unit increase in school functioning led to an increase in emotion-focused coping.

Interpersonal strengths ($p=0.018$), family involvement ($p=0.010$), intrapersonal strengths ($p=0.007$) and school functioning ($p=0.007$) all made statistically significant unique contributions to the prediction of existential coping, after the effects of all other variables had been taken into account. The B column indicates that a one-unit increase in each of interpersonal strengths, family involvement and intrapersonal strengths led to a decrease in existential coping, whereas a one-unit increase in school functioning led to an increase in existential coping.

Gender ($p=0.003$), family involvement ($p=0.019$), intrapersonal strengths ($p=0.000$), and school functioning ($p=0.004$) all made statistically significant unique contributions to the

prediction of religious coping, after the effects of all other variables had been taken into account. With regard to gender, females scored 1.678 higher than males in religious coping, after controlling for the effects of all other variables. From the B column, it can also be seen that a one-unit increase in each of family involvement and intrapersonal strengths led to a decrease in religious coping, whereas a one-unit increase in school functioning led to an increase in religious coping.

In addition, a statistically significant result can also be seen for the substance abuse variable, which represents the comparison between religious coping scores for participants who do not use any alcohol or drugs, and participants who use alcohol or drugs more than twice per week (p=0.007). From the B column, it is evident that the estimated value of religious coping is 3.392 lower for participants who use alcohol or drugs more than twice per week than for participants who use no alcohol or drugs, after controlling for the effects of all other variables.

The above results clearly indicate low levels of psychological strengths and coping for the participants. Furthermore, psychological strengths have a significant influence on adolescent coping. Substance abuse, however, only influenced religious coping.

Discussion

The aim of the study was to investigate substance abuse and strengths as predictors of coping amongst adolescents. The predictor variables were substance abuse and strengths, and the outcome variable, coping. The results from the study yielded a number of findings which will be discussed below. The relatively low average scores obtained for both psychological strengths and coping amongst the adolescent participants has to be taken into consideration in interpreting the results.

Low levels of coping strategies and strengths

The results indicate that the participants obtained overall low scores in the coping domains. This implies that the current group of participants do not use coping strategies frequently. There are various possible explanations for this finding.

First, South African adolescents have limited access to resources (Reid & Vogel, 2006) and live in chronic stressful situations. Coping resources are vital to the coping process (Du Plessis, 2012; Hobfoll, 1988). Hobfoll (1988) reported that resource availability influences the individual's appraisal of the situation, as well as the choice of coping strategy.

Also, insufficient resources lead to defensive or destructive coping styles (Du Plessis, 2012; Hobfoll, 1988). Therefore, the lack of resources in the South African context will have a profound effect on the extent to which adolescents will employ coping strategies. This could explain not only the low scores adolescents obtained for coping, but also the discrepancies found in comparing these findings to studies conducted in other countries. Gaylord-Harden, Gipson, Mance and Grant (2008), for example, reported that African American adolescents living in chronic stressful life conditions in poor urban communities employ a wide variety of coping strategies, including social support, guidance seeking, and active and avoidant coping. These adolescents might not be using the same coping strategies then their white counterparts, but they do employ different coping strategies that benefit them within their social context. Therefore, unlike South African adolescents who also have limited resources and live in chronic stressful situations, these adolescents *do* make use of different coping strategies.

The low scores on coping can also be explained by the fact that participants represent different cultural groups. A study among a sample of 101 Zimbabwean adolescents reported that cultural factors bear significant influence on adolescents' choice of coping strategy (Magaya, Asner-Self, & Schreiber, 2005). Both George (2009) and Du Plessis (2012) found that dysfunctional coping strategies were used more frequently amongst black and coloured participants than by white participants. As black participants constituted the majority of the current participant group, this finding could indicate the extent to which participants use maladaptive coping strategies over and above adaptive strategies. The preference for dysfunctional coping strategies could be influenced by the past political environment (unequal access to resources), leading to the use of maladaptive coping strategies such as avoidance and denial (Plaaitjie, 2006; Chapman & Mullis, 2002).

The current participants scored low on all the strengths domains. There could be various explanations for this finding. The South African context poses unique challenges due to political and socio-economic changes that have taken place post-apartheid (Mattes, 2011). Although the democratic elections in 1994 provided South Africans with more political stability , problems such as crime and violence and inequality in the distribution of resources such as healthcare, housing, community infrastructure and education, have increased (Amoateng, Heaton, & Human Sciences Research Council, 2007). South African adolescents might be so overwhelmed by the challenges posed by these problems daily that they do not have the opportunity or energy to develop psychological strengths. Therefore, the conclusion

can be drawn that, if an individual's daily life is a struggle, it will be more important to focus on aspects of survival than to focus on developing psychological strengths.

The current study included participants from urban and rural schools in South Africa. Rural schools in South Africa often do not have adequate academic resources; therefore, these learners do not have the same learning opportunities as students who attend urban schools. Furthermore, the majority of these students struggle with a language barrier, since they are not educated in their mother tongue (Probyn, 2009). In addition, they usually come from poorer families and reside in townships throughout South Africa (Probyn, 2009). One can, therefore, understand why these learners might not experience high levels of school functioning or family support. They might also not have the same opportunities to develop intrapersonal, interpersonal and affective strengths as those more privileged have. A study conducted by Ngcobo and Tikly (2010) on rural schools in South Africa found that a sense of hopelessness was prominent for children in these schools. They would engage in risk-taking behaviour such as substance use as an attempt to cope with this sense of hopelessness. Therefore, little place is left for developing protective factors such as psychological strengths in these individuals' lives.

Prinsloo (2013) reported that many South African children are not adequately guided towards developing positive self-esteem or realising their potential and competencies. Numerous factors contribute to this, including economic circumstances, poverty, disintegrated families and child-headed households. All these factors could contribute to stressful living situations for South African adolescents and inhibit them from developing psychological strengths such as a positive self-esteem.

School functioning

The results of the current study indicate that school functioning correlates positively with coping. More specifically, there is a positive relationship between school functioning and emotion-focused coping, existential coping and religious coping.

There are various explanations for this finding. First, school engagement is a protective factor during adolescence. Adolescents who are engaged in school are less likely to engage in risk-taking behaviour. Studies confirm that school engagement is associated with decreased risk taking, promotion of positive behaviour, as well as intellectual abilities such as reading social and emotional cues (Carter et al., 2007; Dotterer & Lowe, 2011). Furthermore, school

engagement and school functioning contribute to the overall well-being of adolescents. Research by Abbott-Chapman, Martin, Ollington, Venn, Dwyer and Gall (2014) has pointed to a positive correlation between school engagement and self-concept amongst adolescents. As their self-concept grows stronger, adolescents will develop more confidence in their abilities to cope with difficult situations which will enable them to employ emotion-focused coping more effectively. In this regard, Malindi & MacHenjedze (2012) reported that adolescents with high levels of school engagement were better able to use general coping abilities when facing adverse circumstances.

Another explanation for the positive correlation between school functioning and emotion-focused coping can be attributed to the gender of the participants in the current study. As reported earlier, females were over-represented in the current study. Numerous studies reported that female adolescents employ emotion-focused coping more in their daily lives than adolescent males (Eschenbeck et al., 2007; Piko, 2011; Moodley, Esterhuyse, & Beukes, 2012). Furthermore, gender differences in relation to school engagement have been widely reported (Janosz, Archambault, Morizot, & Pagani, 2008). Overall, males have lower levels of school engagement than females (Van de Gaer, Pustjens, Van Damme, & De Munter, 2009). Therefore, the over-representation of females in the current study can contribute to the correlation between school engagement and the use of emotion-focused coping.

The results in the current study suggest that higher levels of school functioning lead to higher levels of existential and religious coping. Existential coping refers to our affirmation of meaning in life and acceptance (Tomer, Eliason, & Wong, 2007), whereas religious coping refers to how individuals apply their religious beliefs to understand and adapt to life stressors (Richardson, 2014). Although both forms of coping are complex, adolescents are able to process abstract concepts as their cognitive abilities increase. As mentioned previously, school functioning contributes to adolescents cognitive abilities, including their emotional and social abilities (Dotterer & Lowe, 2011). Therefore, higher school functioning might enable them to comprehend and use these coping strategies more effectively.

Religious practices are still a part of many schools in South Africa. The Uniting Christian Association of South Africa (UCSA), for example, is an organisation which aims to promote ministry within South African schools. In the Free State alone there are currently 92 UCSA branches throughout the region (Van den Berg, 2012). Religious associations like

these promote learners' religious and spiritual growth within the school environment. Learners' exposure to these associations within the school environment could explain why the use of religious coping is likely to be prominent in this context.

Family involvement

The results suggest that an increase in family involvement leads to a decrease in adolescents' use of problem-focused coping. This finding is contradictory to what literature suggests, as social support is a strategy employed when using problem-focused coping (Lazarus & Folkman, 1984). However, it might be that too much family involvement is detrimental to the development of adolescent autonomy which, in turn, could be important to problem-focused coping. A decrease in family involvement is prominent during adolescence when adolescents' strive for autonomy increases. The current study's participants were in middle adolescence. During this stage of adolescence, gaining autonomy is much more important than in early adolescence (Zimmer-Gembeck & Collins, 2003). If autonomy is hindered during middle adolescence, it could lead to various psychological problems such as low self-esteem and a lack of self-direction (Zimmer-Gembeck & Collins, 2003). Therefore, striving for autonomy during this stage is not only age appropriate, but also vital for normal psychological development.

Problem-focused coping strategies imply becoming aware of the stressor and employing attempts to reduce negative outcomes (Lazarus & Folkman, 1984). To employ problem-focused coping strategies, one would have to be able to think logically and independently about the stressor that one is faced with – this implies a sense of autonomy. If families are over-involved and do not give adolescents the opportunity to function more autonomously, they might not develop the skills needed for problem-focused coping. Van Ryzin, Gravely and Roseth (2009) conducted a study on autonomy as one of the contributors to psychological well-being and reported that allowing adolescents the opportunity to function more autonomously by means of self-direction and choice is critical for their healthy psychological development.

Therefore, an increase in family involvement can lead to a decrease in problem-focused coping if adolescents are too reliant on their families to make decisions for them. Although social support is also a form of active coping, adolescents can find this social support in peers and their growing social network, and not only in their families.

The above finding can also be explained by the diversity of the South African culture. In general, South African society tends to be a mixture between collectivistic and individualistic cultures (Vogt & Laher, 2009). In collectivistic cultures, families are perceived as an important social support system (Visser & Moleko, 2012). Furthermore, a prominent characteristic of collectivistic cultures, as opposed to individualistic cultures, is dependence rather than independence (Van Dyk & De Kock, 2004). Adolescents within collectivistic cultures will, therefore, rely more on their families for support and guidance than on their own problem-solving abilities. Norris et al. (2008) reported that black and coloured youth within the South African context are more collectivistic in comparison with white and Indian adolescents, who are more individualistic. In the current study, 71.7% of participants were black. Thus, the majority of the current participants will, therefore, belong to a collectivistic culture and might not value the development of problem-focused coping skills since it does not form part of their culture.

Intrapersonal strengths

The results suggest an increase in intrapersonal strengths leading to a decrease in problem-focused, existential and religious coping. Intrapersonal strength refers to adolescents' perception of the self, and their accomplishments and competencies which play a role in their social abilities (Bradbury, 2012). Furthermore, the development of self-confidence plays an imperative role in adolescent coping. Therefore, the results are contradictory to what is generally believed, because problem-focused coping is associated with competencies and the belief that one is able to manage or control a situation (Taylor & Stanton, 2007).

Confidence in one's abilities is critical in overcoming challenging life transitions (Chemers, Hu, & Garcia, 2001; De Beer, 2010). However, De Beer (2010) found that first-year South African students tend to over-estimate their abilities due to the fact that they attended schools with low standards and, consequently, low demands for success. Thus, over-estimation of one's intrapersonal strengths could keep one from developing specific coping strategies. The current participants might, therefore, have over-estimated their own competencies when facing adverse situations and not deemed it necessary to resort to specific coping strategies in adverse situations.

Interpersonal strengths

The results indicate that, as interpersonal strengths increase, adolescents' problem-focused coping abilities will decrease. Interpersonal strengths refer to adolescents' abilities to control their social behaviour, which include their social skills and relationships (De Villiers, 2009). As they grow older, adolescents rely more on their peers for emotional and social support than on their parents (Bokhorst, Sumter, & Westenberg, 2010; Hutchinson et al., 2006). Although greater reliance on the peer group is considered age appropriate, concerns have been raised about the fact that peer relationships can also hamper the development of autonomy during adolescence. An increase in peer relationships and social support makes adolescents less inclined to rely on autonomous decision-making skills (Peer, 2006). As social support forms a part of problem-focused coping strategies, it can explain why an increase in interpersonal strength can lead to a decrease in problem-focused coping.

Substance abuse

According to the results, individuals who use alcohol or drugs twice per week report lower levels of religious coping than those who do not use alcohol or drugs. This result concurs with the results of previous research. A study conducted by Pence et al. (2008) reported a negative correlation between religious coping and alcohol or drug use. Another study on variation in coping behaviour amongst a large multi-ethnic sample found the use of religious coping to be associated with less alcohol consumption (Aldrige-Gerry et al., 2011). In the same vein, Puffer, Skalski and Meade (2012) identified an association between positive religious coping and alcohol abstinence amongst individuals who are part of Alcoholics Anonymous. Therefore, it could be inferred that adolescents who do not use alcohol and drugs will have higher levels of religious coping.

Gender

The results suggest that females have higher levels of religious coping than males. A study on the effects of adolescents' religion and gender on well-being reported that females view religion as more important than males (Milot & Ludden, 2008). Furthermore, the study indicated that female adolescents turn to religion more often than males to cope with hardship (Milot & Ludden, 2009). Therefore, the current study's results are in keeping with previous studies.

No significant gender differences have been found for any of the other coping scales. Piko (2011) conducted a study on gender differences and similarities in adolescents' ways of coping and reported no significant gender differences in the use of problem-focused coping. In addition, Zimmer-Gembeck and Locke (2007) claimed that adolescents' ways of coping with stress is most likely influenced by socialisation with significant others. As the participants in the current study came from different cultural backgrounds, and as culture seems to have a significant effect on coping (as explained earlier), it might be that culture, rather than gender, have an impact on choice of coping strategy amongst South African adolescents. Lastly, the developmental stage of the adolescents has to be considered. Seiffge-Krenke et al. (2009) mentioned that, from middle adolescence onwards, the use of coping strategies become more flexible and diverse.

From the discussion above, it is evident that most of the results are contradictory to prior research. The low scores on coping and psychological strengths obtained by the participants are a concern. These findings, however, are interpreted by referring to aspects unique to the South African context. Furthermore, the findings suggest that South African adolescents' strengths have differing effects on their use of coping strategies. Only high levels of school functioning seem to be promoting the use of coping styles amongst these adolescents.

Limitations and Recommendations

The current study contributes towards the understanding and knowledge of substance abuse and psychological strengths as predictors of coping amongst adolescents within the South African context. It provides evidence of the limited knowledge and insight within the field of coping amongst adolescents. It further highlights the low levels of coping and psychological strengths within the South African adolescent population. This information can be used to create intervention or psycho-education programmes in order to assist adolescents in developing their coping abilities within a context characterised by diversity. However, it is important to interpret the results in light of the following limitations.

The first limitation of the study relates to the gender of the participants. It is important to bear in mind that females were over-represented in the current study, which might have influenced the results. Studies on coping indicate that females tend to use certain coping strategies, such as venting and social support more often in comparison with males. The

findings on coping specifically might, therefore, have been influenced by the fact that there were so many female participants.

It is further crucial to note that the data for religious coping were not normally distributed, but negatively skewed instead. This indicates that the majority of learners rely on religious coping which, in turn, might have influenced the results.

The current study employed self-report measuring instruments. Self-report measuring instruments have low criterion validity and only moderately relate to the individual's actual behaviour (Boase & Ling, 2013). Thus, the participants could have provided information that is not a true reflection of their psychological strengths, coping ability or substance use. This can particularly be relevant to the questions relating to the frequency of alcohol use, because adolescents are aware that the use of alcohol and drugs is illegal for individuals under the age of 18 years in South Africa.

Another limitation of the study pertains to the use of the strengths questionnaire (BERS-2), as well as the Coping Schema Inventory (R-CSI). Both these questionnaires were developed for the American population (Epstein & Sharma, 1998; Wong et al. 2006). Although both questionnaires have high reliability, their validity still has to be determined within the South African population. A factor analysis of both questionnaires based on data obtained from South African population groups could be of value.

A recommendation for future studies would be to employ an alternative measuring instrument to obtain information related to the choice of coping strategies, as well as the behavioural and emotional strengths relevant for the South African population. Another possibility is measuring adolescents' coping strategies and their behavioural and emotional strengths qualitatively. This will enable the researcher to gain more in-depth knowledge into the coping strategies, as well as into the behavioural and emotional strengths, of adolescents within the South African context.

From the results of the study, it is evident that we still struggle to understand the development and use of psychological strengths and coping strategies within the South African context. Thus, thorough research into this field should remain a priority in order to gain knowledge and insight into the world of the South African adolescent. This will also enable researchers to develop programmes to increase adolescents' coping abilities and their psychological strengths.

Conclusion

The aim of the study was to investigate the variance in coping as influenced by psychological strengths and substance abuse amongst adolescents. In addition, the study sought to explore the role of gender on the above-mentioned relationship. The study confirmed that psychological strengths do have an influence on an adolescents' ability to cope, whether adaptively or not.

The study also confirmed that higher levels of school functioning lead to an increase in adolescents' coping abilities. This emphasise the importance of encouraging adolescents to engage in schooling as this is a protective factor and will enable them to cope better with daily life challenges. Furthermore, it emphasised the importance of autonomy during adolescence, because the results suggest that an increase in family involvement might decrease adolescents' ability to use problem-focused coping. Contradictory to previous literature, the results suggest that an increase in interpersonal and intrapersonal strengths leads to a decrease in problem-focused coping. This finding can, however, be explained with a better understanding of the unique challenges within the South African context.

With regard to religious coping, the study confirms two assumptions. First, adolescents who use alcohol or drugs frequently have lower levels of religious coping. Secondly, females use religious coping more often than males. Pertaining to gender, it was interesting to note that no significant gender differences were reported for any other coping scales.

Although the low levels of coping strategies and psychological strengths reported by the participants are concerning, they emphasise the importance of further research into these variables within the South African context. The study, thus, also contributes to the field of Positive Psychology and emphasises the importance of further research into coping and the development of psychological strengths within the South African adolescent population.

The findings and knowledge gained from the study can inform psycho-education programmes that are aimed at promoting the development of coping styles and context- and age-appropriate strengths for adolescents within the South African context.

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