COPING AND RESILIENCE AS PREDICTORS OF ADOLESCENT SELF-HARM

WILMIE VAN DER WAL

Thesis submitted in fulfilment of the requirements for the degree

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UNIVERSITY OF THE FREE STATE

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Declaration

I, Wilmie van der Wal, declare that the thesis, "*Coping and Resilience as Predictors of Adolescent Self-Harm"*, submitted by me for the Master of Social Science (Psychology) degree at the University of the Free State is my own independent work and that I have not submitted it to another university/faculty previously. I cede copyright of this thesis in favour of the University of the Free State.

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Wilmie van der Wal February 2017

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I would like to express my heartfelt gratitude to the following wonderful people:

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I dedicate this thesis to my everlasting cheerleader, Ouma Minnie (1933-2016)

Declaration by Supervisor

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To whom it may concern

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As supervisor to said student Ms Wilmie van der Wal (student number 2012120446),permission is hereby granted for submission of her dissertation, titled, "**Coping and resilience as predictors of adolescent self-harm",** for examination purposes. It was not previously been submitted to any panel for examination purpose.

Kind regards

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ETHICAL CLEARANCE APPLICATION:

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Dear Ms Van der Wal

With reference to your application for ethical clearance with the Faculty of Education, I am pleased to inform you on behalf of the Ethics Board of the faculty that you have been granted ethical clearance for your research.

Your ethical clearance number, to be used in all correspondence, is:

UFS-EDU-2014-060

This ethical clearance number is valid for research conducted for three years from issuance. Should you require more time to complete this research, please apply for an extension in writing.

We request that any changes that may take place during the course of your research project be submitted in writing to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours sincerely,

Andrew Barclay
Faculty Ethics Officer

Abstract

Self-harm by adolescents is manifesting as one of the contemporary global mental health problems as incident rates are increasing worldwide. This self-harming trend is increasingly becoming a concern to South African adolescents who seemingly have adopted many practices of the Western World. Given the growing pains of transformation and high violence and crimes rates affecting the youth of the South African democracy, adolescents are being challenged continuously to cope with these circumstances. The aim of the study was to investigate whether coping and resilience can predict adolescent self-harm in the Free State Province in South Africa. A non-experimental, cross-sectional, correlational design was used in this study. A stratified randomised sample of 962 learners from nine schools in the Free State Province was selected. The measuring instruments included a biographical questionnaire, from which the criterion variable was measured in a single closed-ended question, the *Coping Schemas Inventory – Revised*, and the *Resiliency Scale for Children and Adolescents*. A logistic regression analysis method was used to investigate the extent to which coping and resilience can predict self-harming behaviour.

Results indicate a prevalence rate of self-harm of 17.35% among respondents. Females were more likely than males were to engage in self-harm (19.4% and 14.5% respectively); thus, gender significantly predicted self-harm ($p = 0.025$). Tension-reduction coping ($p = 0.029$) and emotional reactivity (resilience: $p = 0.000$) predicted membership to the self-harming group(s), whereas social support coping protects adolescents from self-harm ($p = 0.017$). Collectively, these variables explained 11.2% of the variance in self-harming behaviour.

Given the limited research on self-harm in South Africa, it is suggested that further mixed-methods design approaches and longitudinal research be done with a cohort representative of South African adolescents to explore self-harm in the South African context in more detail.

Keywords: coping, self-harm, resilience, tension-reduction coping, social support coping, emotional reactivity

Opsomming

Selfleed deur adolessente manifesteer as een van die kontemporêre geestesgesondheids-probleme in die wêreld soos wat voorkomssyfer wêreldwyd toeneem. Hierdie neiging tot selfleed word toenemend 'n bekommernis vir Suid-Afrikaanse adolessente wat skynbaar baie praktyke van die Westerse Wêreld aangeneem het. Gegewe die groeipyne van transformasie en hoë koerse van geweld en misdaad wat die jeug van die Suid-Afrikaanse demokrasie affekteer, word adolessente voortdurend uitgedaag om hierdie omstandighede te hanteer. Die doel van die studie was om te ondersoek of hantering ("coping") en veerkragtigheid ("resilience") selfleed deur adolessente in die Vrystaat Provinsie in Suid-Afrika kan voorspel. 'n Nie-eksperimentele, deursnee-, korrelasionele ontwerp is in hierdie studie gebruik. 'n Gestratifiseerde, ewekansige steekproef van 962 leerders van nege skole in die Vrystaat Provinsie is geselekteer. Die meetinstrumente het 'n biografiese vraelys, waaruit die kriteriumveranderlike in 'n enkele geslote vraag gemeet is, die *Coping Schemas Inventory- Revised*, en die *Resiliency Scale for Children and Adolescents* ingesluit. 'n Logistiese regressie-ontledingsmetode is gebruik om te ondersoek tot watter mate hantering ("coping") en veerkragtigheid ("resilience") selfleedgedrag kan voorspel.

Resultate toon 'n voorkomssyfer van selfleed van 17.35% onder respondente. Vroue het meer waarskynlik as mans by selfleed betrokke geraak (19.4% en 14.5% onderskeidelik); geslag voorspel dus selfleed beduidend ($p = 0.025$). Spanningvermindering-hantering ($p = 0.029$) en emosionele reaktiwiteit (veerkragtigheid: $p = 0.000$) het lidmaatskap van die selfleedgroep(e) voorspel, terwyl hantering ("coping") deur middel van sosiale ondersteuning adolessente teen selfleed beskerm het ($p = 0.017$). Gesamentlik het hierdie veranderlikes 11.2% van die variansie in selfleedgedrag verklaar.

Gegewe die beperkte navorsing oor selfleed in Suid-Afrika, word voorgestel dat verdere gemengdemetodeontwerp-benaderings gevolg word en longitudinale navorsing met 'n verteenwoordige groep Suid-Afrikaanse adolessente gedoen word om selfleed in meer besonderhede in die Suid-Afrikaanse konteks te verken.

Sleutelwoorde: hantering ("coping"), selfleed, veerkragtigheid ("resilience"), spanningvermindering-hantering, sosiale ondersteuning-hantering, emosionele reaktiwiteit

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Chapter 1: Context of the Study

This chapter serves as an outline of the current research study, focusing on the context, rationale, and theoretical perspectives applied. Emphasis is placed on the concepts of adolescence, self-harm, coping, and resilience. Various theoretical perspectives applicable to the research study are summarised. An overview of the research design and methodology used in this study is provided, and the chapter concludes with a delineation of the chapters in this study, and the chapter conclusion.

1.1 Context and Rationale of the Research

South Africa is a country rich in diversity with various cultures, belief systems, and languages (Moodley, 2008). In South Africa, approximately 9 747 000 young people call this country home (Reddy et al., 2010). Owing to political and socio-economic changes that have occurred since apartheid, South Africa has numerous unique challenges (Mattes, 2011). In South Africa, many adolescents are faced with poverty, inequality (Statistics South Africa, 2016), HIV/AIDS (Cluver, Orkin, Gardner, & Boyes, 2012), and high rates of violence and crime (Flannery, Singer, Van Dulmen, Kretschmar, & Belliston, 2007). Educational challenges such as the phasing out of outcome-based education (OBE) (Maodzwa-Taruvinga & Cross, 2012; Ramdass, 2009), the introduction of computer applications technology (CAT) (Department of Basic Education, 2011), the burden on learners from disadvantaged schools due to unequal distribution of resources (Ndimande, 2012), and escalating unemployment of graduates (Wijnberg, 2013) place undue stress on learners. Thus, adolescents are living in demanding and ever-changing environments (Weber, Puskar, & Ren, 2010). The build-up of such adverse conditions creates a context of higher risk for the development of emotional, social, and behavioural problems among the youth, which could lead to long-term problems and psychological disorders (Barbarin, 2003; Dawes & Donald, 1994; Lockhat & Van Niekerk, 2000; Reddy et al., 2010). Once health-risk behaviour has been formed in adolescence, related problems often persist into adulthood, accompanied by dangerous consequences such as traffic accidents, suicide, violent attacks, development of chronic diseases, psycho-social problems, unwanted pregnancies, and infectious diseases such as HIV and AIDS (Reddy et al., 2010). Such behaviours and their consequences place extra stress on the social, health, and educational infrastructure of South Africa (Reddy et al., 2010). Serious deficits exist in psychiatric and psychological services available at primary, secondary, and tertiary levels in South Africa,

which further exacerbate the problem for South African youth (Lockhat & Van Niekerk, 2000). The United Nations Population Fund (UNPF) South Africa (2016), the United Nations International Children's Fund (UNICEF) South Africa (2016) and Mould (2014) emphasise that female adolescents may be specifically vulnerable to further socio-economic hardships, such as domestic violence, sexual abuse, teenage pregnancy, human trafficking, and have higher risks of school dropout, HIV/AIDS, future unemployment and child-headed households due to HIV/AIDS.

All these factors and challenges could contribute to stressful living conditions for South African adolescents, leading them to become so overwhelmed by stressors in their daily lives that they are inhibited from developing psychological strengths (Barnes, 2015).

Soon, if not already, researchers may be facing a new challenge, as global reports seem to suggest self-harm is a growing problem among adolescents (Brown & Kimball, 2013). South African newspapers attest to this trend locally, with adolescent self-harm featuring in headlines (South African Press Association, 2016). Adolescents at this stage of their development experiment with risky and unsafe behaviour such as self-harm; moreover, many researchers view self-harm as behaviour common to adolescents (Idemudia, Maepa, & Moamogwe, 2016; Mental Health First Aid Australia, 2017; Ougrin, Tranah, Leigh, Taylor, & Asarnow, 2012), the onset of which is most often during adolescence (Nixon & Heath, 2009). Self-harm affects an adolescent's well-being negatively, as those who self-harm appear less happy and show increased risk for suicide behaviour (Fischer, Brunner, Parzer, Resch, & Kaess, 2013; McDougall, Armstrong, & Trainor, 2010). Prevalence rates of self-harm are on the increase and range between 13% and 45% worldwide (Fischer et al., 2013). Although some studies have been conducted in the area of self-harm (Louw & Parker, 2010), very few South African studies focused on self-harm among adolescents (Carshagen, 2012; Pillay, Bundhoo, & Bhowon, 2010). Brown and Kimball (2013) emphasise that uncertainty remains whether self-harm is linked to gender, but Adler and Adler (2011) maintain that girls engage in self-harm more frequently than boys do.

Research in the South African context has shown that passive emotional coping significantly predicts the risk of engaging in self-harm; however, social coping was found to buffer adolescents against the risk of self-harm (Carshagen, 2012). In addition, marked differences in how adolescents who self-harm cope have been found (Carshagen, 2012). With

regard to resilience, Carshagen (2012) found that high emotional reactivity is associated with an increased risk for self-harm.

The literature reviewed suggests that self-harming behaviour by adolescents is manifesting as one of the contemporary mental health problems, necessitating the further research of this behavioural phenomenon (Carshagen, 2012). In the light of limited research, especially in South Africa, the exploration of coping and resilience is envisaged as an added dimension in understanding the dynamics underlying adolescent self-harm better, especially as the focus of psychological research has shifted to prevention and the optimal development of human beings (Mould, 2014). For these reasons, this study includes the positive psychology concepts of coping and resilience.

The mental health of South African adolescents is a matter of grave concern, as highlighted by the second *South African National Youth Risk Behaviour Survey*, and it is a fact that the youth of today are our future and are ideally situated to change the 'fabric of society' by means of their own self-improvement and determination (Reddy et al., 2010). It is thus of paramount importance to promote their healthy development and making adolescent well-being and health a priority for the future development of South Africa (Reddy et al., 2010; Tancred, 2010).

The following research questions were formulated for this study:

1. What is the prevalence rate of self-harming behaviour for adolescents in the Free State Province?

2. Does gender and age predict group membership (self-harming versus non-self-harming groups) among adolescents in the Free State Province?

3. To what extent are coping and resilience able to predict group membership (self-harming versus non self-harming groups) among adolescents in the Free State Province?

1.2 Theoretical Perspectives Underpinning the Study

Adolescence may begin as a separate stage of development around the ages of 11 to 13 years, depending on biological, sociocultural and individual factors, and end at around 17 to 21 years (Louw & Louw, 2014). Self-harm behaviour emerges around early adolescence (Nock,

2009), and researchers agree that adolescence is a period of increased risk for self-harm (Muehlenkamp & Gutierrez, 2007; Sacarcelik, Turkcan, Guveli, & Yesilbas, 2011).

For the purposes of this study, the definition of self-harm proposed by Favazza (2011, p 197) will be used: "[Self-harm] is the deliberate, direct alteration or destruction of healthy body tissue without an intent to die". It should be noted that the terms *non-suicidal self-injury* (NSSI) and *self-harm* are viewed as synonymous throughout this study. Self-harm is distinct from suicide or a suicide attempt, but engaging in self-harm does increase the risk for suicide (Guan, Fox, & Prinstein, 2012; Hamza, Stewart, & Willoughby, 2012; Kerr, Stattin, & Burk, 2010; Muehlenkamp & Kerr, 2010). Favazza (2011) describes the distinction between self-harm and suicide based on the intent to die; self-harmers do not have an intent to die, but instead want to live without troubling emotions, cognitions, and behaviours. Self-harm has been added to the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) under its own diagnostic criteria for non-suicidal self-injury (NSSI) and is no longer regarded as only a symptom of borderline personality disorder (American Psychiatric Association – APA, 2013; Fischer et al., 2013).

Various models are used in this study to enable a better understanding of self-harm. Nock's (2009) integrated theoretical model of the development and maintenance of NSSI proposes reasons why childhood abuse and psychiatric disorders play a role in self-harm, whereas Sandy's (2013) self-harm explanatory model describes how self-harm may be elicited as a consequence of being detained in a secure setting and how it applies to nursing care. However, Yip's (2005) multi-dimensional view on adolescents' self-cutting includes sociocultural contexts, peer and parental influences as antecedents, and the process and aftermath of adolescents' self-cutting behaviour.

The multipath model of mental disorders, as used in Sue, Sue, and Sue (2010), was used in this study as an organisational framework for understanding self-harm. The multipath model facilitates the viewing of self-harm from a holistic viewpoint. The multipath model operates under five assumptions: Firstly, the complexity of the human condition and the development of mental disorders cannot be explained by any one theoretical perspective alone. Secondly, a single disorder may have multiple pathways and causes. Thirdly, biological, psychological, social, and sociocultural elements must be taken into account when positing explanations of abnormal behaviour. Fourthly, not all of the dimensions contribute equally to a particular

disorder. Lastly, the multipath model is integrative and interactive (Sue et al., 2010). The four dimensions respectively involve biological, psychological, social, and sociocultural factors.

The functions of self-harm are discussed with an introductory reference to Nock and Prinstein's (2004, 2005) four-factor model of self-harm. According to this model, the functions of self-harm are automatic negative reinforcement, automatic positive response, social positive reinforcement, and social negative reinforcement.

Stress is part of daily life, and coping with stress has important implications for positive development (Seiffge-Krenke, Aunola, & Nurmi, 2010). Coping is vital in understanding how adolescents respond to life stressors and is a significant point of intervention in their health trajectory (Garcia, 2010). Effective coping behaviour is associated with an increased probability for positive outcomes (academic success, feeling competent, and good health), while the lacking of coping or utilising less effective coping increases the likelihood for high-risk behaviour (Rew, Thomas, Horner, Resnick, & Beuhring, 2001; Zimmer-Gembeck & Skinner, 2008). Empowering adolescents with constructive coping skills may buffer youth against stressful life events (Puskar, Grabiak, Bernardo, & Ren, 2009).

Moos and Schaefer's (1993) integrated stress and coping model proposes that personal and environmental stressors and resources, life crises, and developmental transitions experienced by the individual, including cognitive appraisal and coping response systems, interact bidirectionally to determine the health and well-being of the individual.

Coping is an individual's behavioural and cognitive efforts to manage the demands placed on that person from within his/her environment (Frydenberg, 2008). Coping is defined as a "process that unfolds in the context of a situation or condition that is appraised as personally significant and as taxing or exceeding the individual's resources for coping" (Lazarus & Folkman, 1984, p. 78). Frydenberg (2008) further asserts that an individual's access to resources and styles and strategies used influences the coping process.

Wong, Reker, and Peacock's (2006) model of coping proposes that effective coping comprises sufficient resources and the suitable use of such resources and that, on the other hand, scarce resources and/or severe digressions from congruence could lead to ineffective coping and possibly stress-related disorders.

Self-harm is viewed as a maladaptive coping strategy (Guerreiro et al., 2013; McVey-Noble, Khemlani-Patel, & Neziroglu, 2006; Olson, 2006) and has been linked inversely with the use of effective coping strategies (Gratz & Roemer, 2008). Israelasvilli, Gilad-Osovitziki, and Asherov (2006) state that self-harm may be behaviour chosen by individuals due to a lack of adequate coping skills. Gregory and Mustata (2012) propose that, instead of employing adaptive coping strategies by symbolising and expressing negative emotions with language, self-harmers cut themselves as a means to regulate emotional states. Habitual self-harm may diminish coping resources in the long run (Garisch & Wilson, 2015).

In addition to coping, resilience also influences the well-being of adolescents (Noor & Alwi, 2013). Resilience is essential to positive mental health of adolescents and may guard against prospective threats to well-being (Khanlou & Wray, 2014). Resilience is an individual's ability to adapt successfully to disruptions in functioning and/or development (Narayanan, 2008). Resilience has been called the 'ordinary magic' that children and adolescents display in overcoming challenging social circumstances or traumatic life events (Masten, 2001). Resilience can be defined as a "dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma" (Luthar & Cicchetti, 2000, p. 858). Resilience could be seen as the ability to bounce back from substantial difficulties; successful adaptation in the face of stressful life events, or a positive outcome despite developmental risks (Gilmore, Campbell, Shochet, & Roberts 2013). Richardson (2002) adds that resilience reinforces and enhances protective factors.

Kumpfer's (1999) resilience model includes processes and outcomes predictive of resilience and identifies four areas of influence: the stressor or challenge, individual characteristics, the environmental context, and the outcome. This model also includes two transactional points between these areas (Kumpfer, 1999).

Research has linked self-harm with lower resilience, and it has been found that self-harm depletes resources for continuing self-management, as self-harm may become habitual (Everall, Altrows, & Paulson, 2006; Garisch & Wilson, 2015; Nixon, Cloutier, & Aggarwal, 2002).

1.3 Overview of the Research Design and Methods

For the purposes of this research study, a non-experimental, quantitative, and correlation approach (Terre Blanche, Durrheim, & Painter, 2010) was used to explore the relationship between self-harm and coping, as well as between self-harm and resilience in adolescent males and females.

Researchers of the Department of Psychology, University of the Free State, conducted a research project titled *Risk and Resilience of Adolescents in the Free State Province* (George, Van Den Berg, Taylor, Tadi, & Naidoo, & Botha, 2012). The study was conducted against the backdrop of two national surveys done in South Africa by Reddy et al., (2003, 2010). The current study was launched to gain a greater in-depth view into the dynamics that influence adolescent risk and protective behaviour and utilised data that were gathered from the 2012 research project mentioned above. English-medium secondary schools in the Free State Province were selected by using stratified random sampling, and selection focused on Grade 10 learners. In this study, various ethnic groups such as Sotho, Afrikaans, Tswana, Xhosa, Zulu, and Pedi were included.

Data were collected using a self-report battery that included a biographic questionnaire, *Exposure to Potentially Traumatic Events* (Goodman, Corcoran, Turner, Yuan, & Green, 1998), *Satisfaction with Life* (Pavot & Diener, 2008), *Resiliency Scale for Children and Adolescents* (Prince-Embury, 2007), *Suicide Ideation Questionnaire for Adolescents* (Miller, Renn, & Lazowski, 2001), *Emotional and Behavioural Rating Scale* (Epstein & Sharma), *Suicidal Questionnaire for Adolescents* (Reynolds, 1988), and the *Coping Schema Inventory – Revised* (Wong, Reker, & Peacock, 2006). The reliability of the measures for this sample was determined by using Cronbach's alpha coefficient (Pieterson & Maree, 2010). A logistical regression analysis (Field, 2009) was calculated to determine whether coping and resilience are predictors of self-harm among male and female adolescents.

1.4 Ethical Requirements

To conduct this research, ethical principles were adhered to (Allan, 2011). Permission was obtained from the Free State Department of Education and voluntary informed consent from the school principals and parents was obtained, as well as the voluntary participation of participants. Clearance was obtained from the Committee of Title Registrations of the Faculty

of the Humanities at the University of the Free State. As the study was carried out in an educational setting, ethical approval was obtained from the Ethics Committee of the Education Department at the University of the Free State. Other ethical considerations taken into account during the research were justice, confidentiality, anonymity, and non-maleficence.

1.5 Delineation of the Chapters

This thesis is organised into eight chapters.

Chapter 1: The aim of this chapter is to provide an outline of the current research study. In this chapter, the necessity for conducting research on adolescent self-harming behaviour is highlighted. It is also shown that coping and resilience have an effect on the development of self-harm. Emphasis is placed on the concepts of adolescence, self-harm, coping, and resilience. The chapter includes an overview of the research design and methods used in this study.

Chapter 2: The focus of this chapter is to clarify the concept of self-harm. The discussion commences with a historical overview of self-harm and proceeds to aspects of self-harm such as definitions, importance and prevalence of self-harm, and ways in which self-harm may be understood. To understand self-harm better, this chapter includes discussions of Nock's (2009) integrated theoretical model of the development and maintenance of NSSI, a self-harm explanatory model by Sandy (2013), and the multi-dimensional view on adolescents' self-cutting as formulated by Yip (2005). Risk factors are discussed under the proposed multi-dimensional model of self-harm, functions (with Nock and Prinstein's (2004, 2005) four-factor function model of self-harm), and triggers of self-harm. A discussion of the protective factors of self-harm concludes this chapter.

Chapter 3: In this chapter, the literature relating to coping is reviewed. The chapter begins with the integrated stress and coping model of Moos and Schaefer (1993). A definition of coping is given, and Wong et al.'s. (2006) resource-congruence model of coping is also included. The chapter also includes discussions of the types of coping and the intersection between coping and self-harm, as well as the intersection between coping and resilience.

Chapter 4: In this chapter, the literature relating to resilience is reviewed. Background on resilience is given, and the concept is defined. The chapter contains characteristics of resilient individuals, Kumpfer's resilience model (1999), types of resilience as formulated by Prince-Embury (2011), and a discussion of the intersection between self-harm and resilience.

Chapter 5: The aim of this chapter is to provide an accurate description of the methodology used in performing the research. The chapter focuses on the research context, design, sampling, participants, measuring instruments, data collection, ethical considerations, and data analysis.

Chapter 6: In this chapter, the results obtained are presented, and the descriptive and inferential statistics are discussed.

Chapter 7: Following the chapter on results, the findings and possible explanations as they relate to the research questions are presented and discussed.

Chapter 8: The aim of this chapter is to provide a conclusion to the current research study. The chapter focuses on the significant contributions and limitations of the study, as well as recommendations for future research.

1.6 Chapter Summary

In this chapter, the aim was to provide an outline of the entire research study. The context, rationale, and theoretical underpinning of the study were presented. A discussion of the research design and methods applied in the study was included. Finally, the chapter contained a description of the delineation of the chapters as set out in this study, and a summary of the chapter. The next chapter focuses more closely on self-harming behaviour.

Chapter 2: Self-Harm

2.1 Introduction

The focus of this chapter is on clarifying the concept of *self-harm*. The discussion commences with a historical overview of self-harm and proceeds to aspects of self-harm such as definitions, importance, prevalence, and ways in which self-harm may be understood. Risk factors are discussed under the proposed multipath model of self-harm, as well as functions and triggers of self-harm. This chapter concludes with a discussion of the protective factors of self-harm.

2.2 History of Self-Harm

A history of self-harm is given below to illustrate that self-harm has a long standing history and has occurred in various fields.

Self-harm is one of the least understood and most puzzling human behaviours (Favazza, 2011). One of the most important commentators on the historical nature of self-harm is Armando R. Favazza, who views self-harm as a universally cultural phenomenon (Favazza, 2011). Self-harm is a long-standing and extremely widespread behaviour that has occurred even before recorded history (Favazza, 2011; Sandy & Shaw, 2012). Acknowledging this, self-harm is behaviour that is not new to mankind (Sandy, 2013).

The first report of self-harm behaviour might have been in the fifth century BC, when Sophocles depicted Oedipus gouging his eyes out in reaction to unintentionally sleeping with his mother (Storr, 1912), as well as the account in Book Six of *The History* (fifth century BC) where Herodotus describes a Spartan leader mutilating himself (Thatcher, 1907).

Examples of historical self-harm include the initiating sickness of Shamans, the castrated priests of the great mother goddess Cybele, the suffering servant in the Old Testament, Jesus' wounds in the New Testament, the Christian desert fathers' punishment of their bodies, the Catholic Church's canonisation of people who mortified themselves as saints, Hindus piercing their bodies for the god Muruga, the Olmecs, and the Aztecs and Mayans using blood from their penises to consecrate idols (Favazza, 1998). The first published medical article on self-mutilation of a woman who enucleated both of her eyes was by Bergmann in 1846 (Favazza, 1998). In 1882, Warrington published the first case of genital mutilation, a man who castrated

himself (Favazza, 1998). Most of the nineteenth-century literature investigated eye enucleation and self-castration with the exception of Channing's (1877-1878) report of the case of Helen Miller, who would periodically inflict severe and painless cutting to her skin (Channing 1877-78; Favazza, 1998).

With the dawn of the twentieth century, the meaning of self-harm began to change, especially due to Freud's psychoanalytic theory and his opinion about masochism (Gilman, 2013). The focus shifted to cutting as a symptom, not as sexual self-degradation or self-mutilation (Gilman, 2013).

In a study done by Emerson in 1913, the term *self-mutilation* was featured when discussing self-cutting as a symbolic replacement for masturbation (McDougall, Armstrong, & Trainor, 2010). In 1920, Freud developed the idea of the death drive (*Thanatos*) and regarded suicide and self-mutilation as equal and both as symptoms of this drive (Favazza, 2011). Favazza (2011) asserts that many still regard suicide as a form of self-harm, even though the idea of a death drive has been rejected. At that time, the psychoanalysts believed that self-harm was symbolic castration. By the mid-twentieth century, psychiatric research concentrated on self-harm when Karl Menninger introduced the term *self-mutilation* (a destructive non-suicidal act) in 1938 (Adler & Adler, 2011). Karl Menninger adapted Freud's belief in asserting that self-mutilation was a form of self-healing (Favazza, 2011).

Studies done between 1960 and 1980 stimulated interest in the 'wrist-cutting syndrome' as more cases were being identified (Favazza, 2011; Graff & Mallin, 1967), and terms such as *delicate self-cutting*, *non-fatal self-harm* and *deliberate self-harm* were introduced in the literature (Adler & Adler, 2011; Favazza, 2011; Pao, 1969). Ross and McKay (1979) believe that self-mutilation was counter intentional to suicide; thus, explanations of suicide could not explain self-harming behaviour (Favazza, 2011).

The publication of two books: *Bodies under Siege* in 1987 by Favazza and Walsh and Rosen's *Self-Mutilation* in 1988 sparked discussions about self-mutilation and suicide existing as separate concepts (Favazza, 2011).

Favazza (2006) is of the opinion that until the late 1980s, self-harm was understood as a single, terrible, and irrational act, linked to suicidality that very few researchers endeavoured to understand. In 1992, Tantam and Whittaker (1992) supported a separate diagnostic category for repeated deliberate self-harm.

Adler and Adler (2011) describe the increase in public awareness of self-harm during the 1990s as the burgeoning awareness period during which books, movies, television shows, and music increasingly depicted self-harm. The social meaning and prevalence of self-harm changed significantly as it became a more well-known behaviour (Adler & Adler, 2011). Whereas self-harm was thought to be a psychological pathology favoured by young, white, middle-class women with mental illness, new meaning and members were added to self-harm as it expanded in the 1990s (Adler & Adler, 2011). Self-harm became a cult phenomenon, an expression of teenage angst, and was practised by individuals of varying ages, race, gender and class groups (Adler & Adler, 2011).

The first decade of the twenty-first century could be called the "decade of self-harm" (Millard. 2013, p. 127). Social contagion led to the spread of self-harm, and in the early 2000s, individuals got into self-harm via copycatting (Adler & Adler, 2011). Adler and Adler (2011) describe the period from 2001 as the cyber era, fuelled by the beginning of self-harm Internet websites and chat rooms. Self-harm was thought of as a trend, surrounded by an aura of allure that youth found inviting (Adler & Adler, 2011). Today it is acknowledged that self-harm is a social epidemic (Gilman, 2013). Self-harm has been added to the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* under its own diagnostic criteria of non-suicidal self-injury (NSSI) and is no longer regarded as just a symptom of borderline personality disorder (APA, 2013; Fischer et al., 2013).

2.3 Definitions of Self-Harm

Various terms for self-harm can be found in the literature, such as self-injury, deliberate injury, self-inflicted injury, self-injurious behaviour, self-mutilation, intentional injury to one's body, parasuicide, and attempted suicide (McDougall et al., 2010). The most recent concept, according to the DSM-5, is *non-suicidal self-injury* (NSSI), (APA, 2013).

The term *self-harm* has evolved over the years (Laukkanen, Rissanen, Tolmunen, Kylma, & Hintikka, 2013), although no universal definition of self-harm exists to date. Nevertheless, Favazza (2011) asserts that in order to understand self-harm, it must be defined. Favazza (1998, p. 260) defines NSSI as "the deliberate, direct destruction or alteration of body tissue without conscious suicidal intent". Nock (2009, p. 78) describes self-harm as "the direct, deliberate destruction of one's own body tissue in the absence of intent to die". Carshagen (2012, p. 1) writes that self-harm is "the deliberate destruction of body tissue or the alteration thereof,

without suicidal intent". According to the DSM-5 (APA, 2013, p. 803), NSSI is "intentional self-inflicted damage to the surface of his or her body of a sort likely to induce bleeding, bruising, or pain (e.g., cutting, burning, stabbing, hitting, excessive rubbing), with the expectation that the injury will lead to only minor or moderate physical harm (i.e., there is no suicidal intent)".

For the purposes of this study, the definition proposed by Favazza (2011, p 197) will be used: "[Self-harm] is the deliberate, direct alteration or destruction of healthy body tissue without an intent to die." It should be noted that the terms *non-suicidal self-injury* (NSSI) and *self-harm* are viewed as synonymous throughout this study.

As mentioned in Chapter 1, self-harm is a means of dealing with stressful life events and not an attempt to die (McDougall et al., 2010). Self-harm may be postulated as an ineffective coping strategy. Self-harm is distinct from suicide or a suicide attempt, but engaging in self-harm does increase the risk for suicide (Guan et al., 2012; Hamza et al., 2012; Kerr et al., 2010; Muehlenkamp & Kerr, 2010). Favazza (2011) describes the distinction between self-harm and suicide based on the intent to die; self-harmers do not intend to die, but instead want to live without troubling emotions, cognitions, and behaviours. "People who really want to die commit suicide. Suicide is an exit into death, an act of escape and a desire to end all feelings, but [self-harm] is a morbid act of regeneration, a return to a state of normalcy and a seeking to feel better" (Favazza, 2011, p. 198).

2.4 Importance and Prevalence of Self-Harm

Self-harm among adolescents is a serious public health problem (Guerry & Prinstein, 2010; Moran et al., 2012), and during the past decade, it has increased substantially (Greydanus & Apple, 2011). In South Africa, self-harm among adolescents is a growing concern, as can be seen in the frequency of newspaper reports on this topic (Carshagen, 2012). Tan, Rehfuss, Suarez, and Parks-Savage (2014) assert that self-harm is a global challenge, becoming a more acceptable form of social discourse among the youth (Gilman, 2013). Self-harm has become known as a form of typical behaviour for adolescents (Adler & Adler, 2011). On March the 1st, Self-injury Awareness Day, people are encouraged to wear orange ribbons (much like the red ribbons for Aids and the pink ribbons for breast cancer awareness) (Gilman, 2013). The concern for those who have been labelled as self-harmers echoes a global moral panic about these individuals' inner lives (Gilman, 2013).

Table 1

Prevalence Studies in Deliberate Self-Harm Behaviour (Greydanus & Apple, 2011, p. 184)

	Population	**Country**	**Prevalence**
Li, 2007	Adolescents and adults	Taiwan	1%
De Leo & Heller, 2004	3754 Adolescents	Australia	6.2%
Ystgaard, Reinholdt, Husby, & Mehlum, 2003	4060 Adolescents	Norway	6.6%
Morey, Corcoran, Arensman, & Perry, 2008	3881 Adolescents	Ireland	9.1%
Matsumoto, Imamura, Chiba, Katsunata, Kitani, & Takeshima, 2008	Adolescents	Japan	9.8%
Nixon, Cloutier, & Jansson, 2008	14-21-year-olds	Canada	17%
Yates, Tracy, & Luthar, 2008	13-18-year-olds	USA	26%-37%

As can be seen from the various studies reported in Table 1, the prevalence rates of self-harm range between 1% (found in Taiwan) and 37% (found in the United States).

Table 2 below presents various other prevalence rates that were found in the literature:

Table 2

Various Studies Indicating Self-Harm Prevalence Rates

Author	Population	Country	Prevalence
Portzky, De Wilde, & Van Heeringen (2008)	15-16-year-olds	Netherlands	4.1%
Portzky et al., (2008)	15-16-year-olds	Belgium	10.4%
Brunner, Parzer, Haffner, Steen, Roos, Klett, & Resch (2007)	Adolescents, 9th-grade students	Germany	10.9%
Laukkanen, Rissanen, Honkalampi, Kylma, Tolmunen, & Hintikka (2009)	13-18-year-olds	Finland	11.5%
Kvernmo & Rosenvinge (2009)	Adolescents	Norway	12.5%
Hawton, Rodham, Evans, & Weatherall (2002)	15-16-year-olds	England	13.2%
Landstedt & Gadin (2011)	17-year-olds	Sweden	17.1%
Carshagen (2012)	Grade 8 learners	South Africa	18.66%

It would be convenient to compare the above-mentioned prevalence rates at face value, but prevalence rates of self-harm among adolescents vary due to the definition and measurement method used, as well as the cohorts assessed (Kokkevi, Rotsika, Arapaki, & Richardson, 2012). Thus, the prevalence rates of self-harm in Table 2 range from 4.1% in the Netherlands to 18.66% in South Africa. Brunner et al. (2007) asked Grade 9 German pupils how frequently they engaged in self-harm (see Table 2) and defined self-harm as the intentional injuring of one's body without suicidal intent. Landstedt and Gadin (2011) asked Swedish 17-year-olds a close-ended question, namely whether they have self-harmed or not, and overdose was included in their definition of self-harm, which possibly could lead to a higher prevalence rate.

Carshagen (2012) studied Grade 8 learners in the Free State Province, South Africa, and determined the self-harm prevalence rate by asking a close-ended question, namely, *Have you ever cut or mutilated yourself?* with the answer either 'yes' or 'no'. The definition used was that of self-harm without suicidal intent.

McAllister (2003) claims that statistics on self-harm prevalence rates are unreliable. Self-harm is a social taboo; therefore it may be treated by individuals in private, and health care services may never bring many of the incidents that do occur to the attention of health care professionals, who in turn (when aware of such cases) may not label individuals as self-harming in order to protect them from being stigmatised (McAllister, 2003). Individuals who avoid health care services and professionals who fail to record all incidents seriously impede accurate reporting on prevalence rates of self-harm (McAllister, 2003).

In an article written about the predicament of mandatory reporting and confidentiality that school counsellors face in the United States, Stone (2005) writes that, legally, the law of negligence can apply to self-harm incidents, as such incidents may lead to the death of a student. According to Stone (2005), a number of legal proceedings were instituted against school counsellors of schools where suicide occurred and it has been found that the school counsellor had a legal duty to try to prevent such a suicide, but Stone (2005) has no knowledge of a court case involving self-harm. The Sydney Morning Herald reported a case in 2009 in which parents instituted legal proceedings against a school claiming that the school environment drove the girls to self-harm (Kontominas, 2009). Stone (2005) asserts that in the United States, the school counsellor must maintain a tricky balance between the duty to care and breaching of confidentiality.

The United Nations' Convention on the Rights of the Child (1989), Article 19, explicitly states that signatories (of which South Africa is one) must take all measures necessary to protect children from abuse (physical or mental violence, injury, neglect, maltreatment, and exploitation, including sexual abuse). Article 16 of the African Charter on the Rights and Welfare of the Child (1990) is in line with the UN's mandate and also calls on signatories to establish special monitoring units and to provide support for the abused child and families.

In South Africa, the Children's Act (2005), read in conjunction with the Children's Amendment Act (2007), makes explicit provision for the reporting of child abuse. However, as this discussion pertains to self-harm, no laws that make reporting of self-harm mandatory exist.

Some countries such as the United Arab Emirates regard suicide and attempted suicide as illegal, and individuals who attempt suicide are regarded as suspects and may be brought before the Court of Misdemeanours (Za'Za', 2011). Sharma (2014) states that committing suicide is illegal but not punishable in Japan, and in North Korea, the family of the suicide victim may be

penalised, whereas in Singapore, individuals who attempt suicide may be imprisoned for a year. However, South Africa has no such laws. In South Africa, suicide, self-harm, and other self-injurious behaviours are regulated largely by social taboos and the associated stigmas attached to such acts. Given the unchanging and slightly increased rates of self-injurious behaviour, social taboos seemingly may not have the desired deterring effect.

2.5 Understanding Self-Harm

To understand self-harm better, various models of self-harm are discussed below.

Nock's (2009) proposed theoretical model incorporates diverse literature findings, proposes reasons why childhood abuse and psychiatric disorders play a role in self-harm, and provides new questions and directions for further research. Nock's (2009) model suggests the following:

1. Self-harm is a way of regulating emotional or cognitive experiences and communicating with or influencing others.

2. Self-harm risk is increased by distal factors (such as childhood abuse) that may lead to affect regulation and interpersonal communication difficulties.

3. Various other factors that are more specific (such as social modelling) clarify why some individuals use self-harm to satisfy the above-mentioned factors.

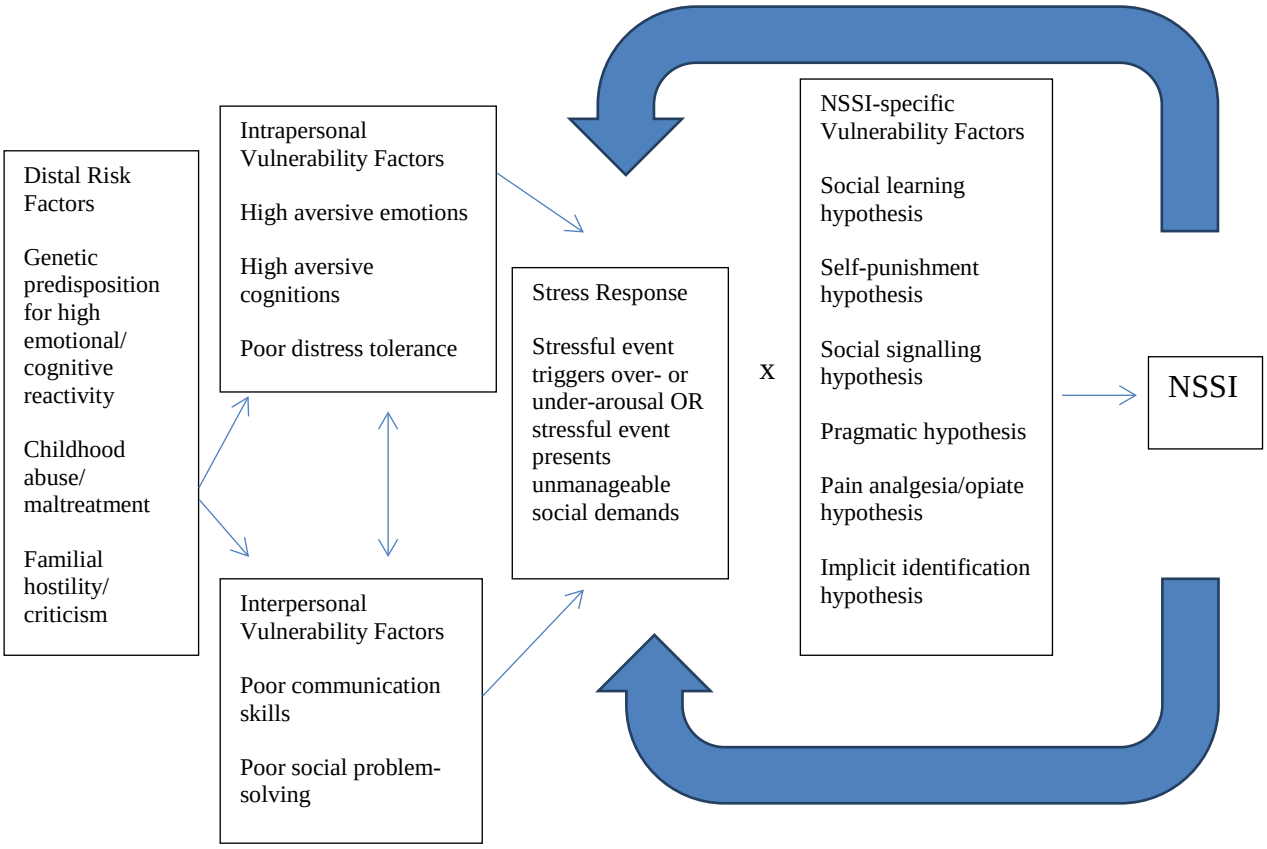

Figure 1. Nock's integrated theoretical model of the development and maintenance of NSSI (Nock, 2009).

In the model above, various distal risk factors are mentioned (such as genetic predisposition for high emotionality, cognitive reactivity, childhood abuse, maltreatment, familial hostility, criticism), which, when coupled with intrapersonal and interpersonal vulnerability factors, lead to a stress response and ultimately to self-harm. In asking the question why some individuals engage in self-harm to regulate their emotions and others not, Nock (2009) proposes that the following hypothetical processes play a role in individuals' engagement with self-harming behaviour:

1. Social learning hypothesis: Deciding to self-harm is influenced by observing others self-harm. Individuals may observe self-harming behaviour from friends, family and the media. Whitlock, Purington, and Gershkovich (2009) found that self-harm references in movies, songs, print media and the Internet have increased over the past decade, accompanied by an increase in self-harm behaviour over the same period.

2. Self-punishment hypothesis: Self-harm may function as self-directed abuse learned from childhood abuse. Many self-harmers state that they use self-harm to self-punish (Nock & Prinstein 2004).

3. Social signalling hypothesis: Self-harm may be a form of communication when other forms (such as speaking and yelling) have failed them. Self-harm is an intense signal and may be particularly effective social communication, as it is harmful and costly behaviour.

4. Pragmatic hypothesis: Self-harm is an easily accessible method and is relatively fast in comparison with alcohol and drugs.

5. Pain analgesia/opiate hypothesis: Self-harmers report experiencing little or no pain during self-harm and have shown pain analgesia in lab tests of pain tolerance.

6. Implicit identification hypothesis: Some individuals identify with and value self-harm as a means to reach their desired goal or outcome. Such identification may maintain self-harming behaviour, as individuals prefer it over other means.

Nock (2009) asserts that a functional approach considers behaviour as determined by immediate antecedents and consequences. Thus, as Nock's (2009) approach focuses on local determinants, it cannot explain all the causal factors influencing self-harm. However, functional perspectives have resulted in better understanding and treatment of many mental health disorders (Nock, 2009). According to Nock (2009), a functional approach proposes that self-harm is maintained by the following reinforcement processes:

1. Intrapersonal negative reinforcement (self-harm alleviates aversive thoughts or feelings).

2. Intrapersonal positive reinforcement (self-harm leads to desired feelings or stimulation).

3. Interpersonal positive reinforcement (self-harm enables help-seeking behaviour).

4. Interpersonal negative reinforcement (self-harm enables distraction of negative social circumstances).

Sandy (2013) proposes a self-harm explanatory model in which it is described how self-harm may be triggered as a consequence of being detained in a secure setting and how it applies to nursing care. According to Sandy (2013), self-harming behaviour is a response to the detention and neglect experienced by individuals in care, which ultimately leads to a depletion of coping skills. The relationship between self-harm, control, and depletion of coping skills is illustrated in Figure 2 below. The directions of the arrows in the figure indicate the sequence of events, relating to control, that may result in self-harm (Sandy, 2013). Individuals may feel powerless, frustrated and angry, due to being detained especially due to the environmental controls, rigid rules and negative attitudes associated with being detained (Sandy, 2013). This combination of emotions may lead to self-harm (Sandy, 2013). When self-harm occurs in such a setting, it could lead to harsher controls and thus possibly further increase the individual's frustration and thus lead to further self-harm (Sandy, 2013), a self-perpetuating cycle.

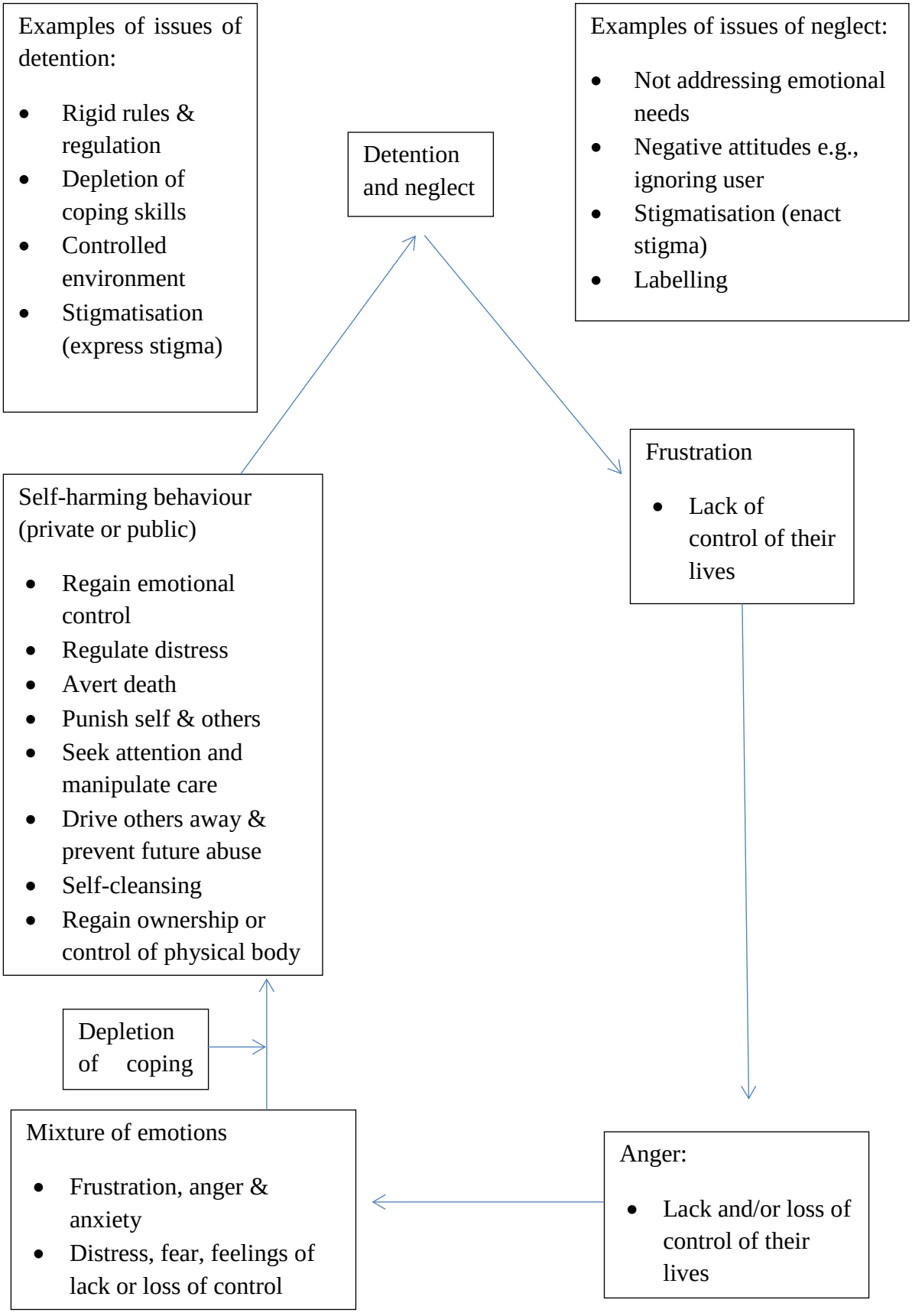

Figure 2. Self-harm explanatory model (Sandy, 2013).

Yip's (2005) multi-dimensional view on adolescents' self-cutting (see Figure 3 below) is based on a sociocultural perspective, and according to McAllister (2003), sociocultural theories explore traumatic or damaging social experiences as risk factors for self-harming behaviour.

According to Yip (2005), within the sociocultural context of an adolescent, the following may be noted: Firstly, supportive and inappropriate parental and peer influences interact with antecedents (precursors) of self-cutting (such as an unpleasant social environment, the accumulation of anxiety and tension, deficits and problems in emotional control and high impulsivity). Secondly, inappropriate parental and peer influences interact with the process of self-cutting (such as provoking events, accumulation of tension and stress to an intolerable level, sense of release, and sense of regaining self-control). Thirdly, supportive and inappropriate parental and peer responses interact with the aftermath of self-cutting (which includes further frustration and tension, amongst others).

This model ties in with the literature on risk factors, functions, and triggers of self-harm, as well as protective factors discussed later in this chapter.

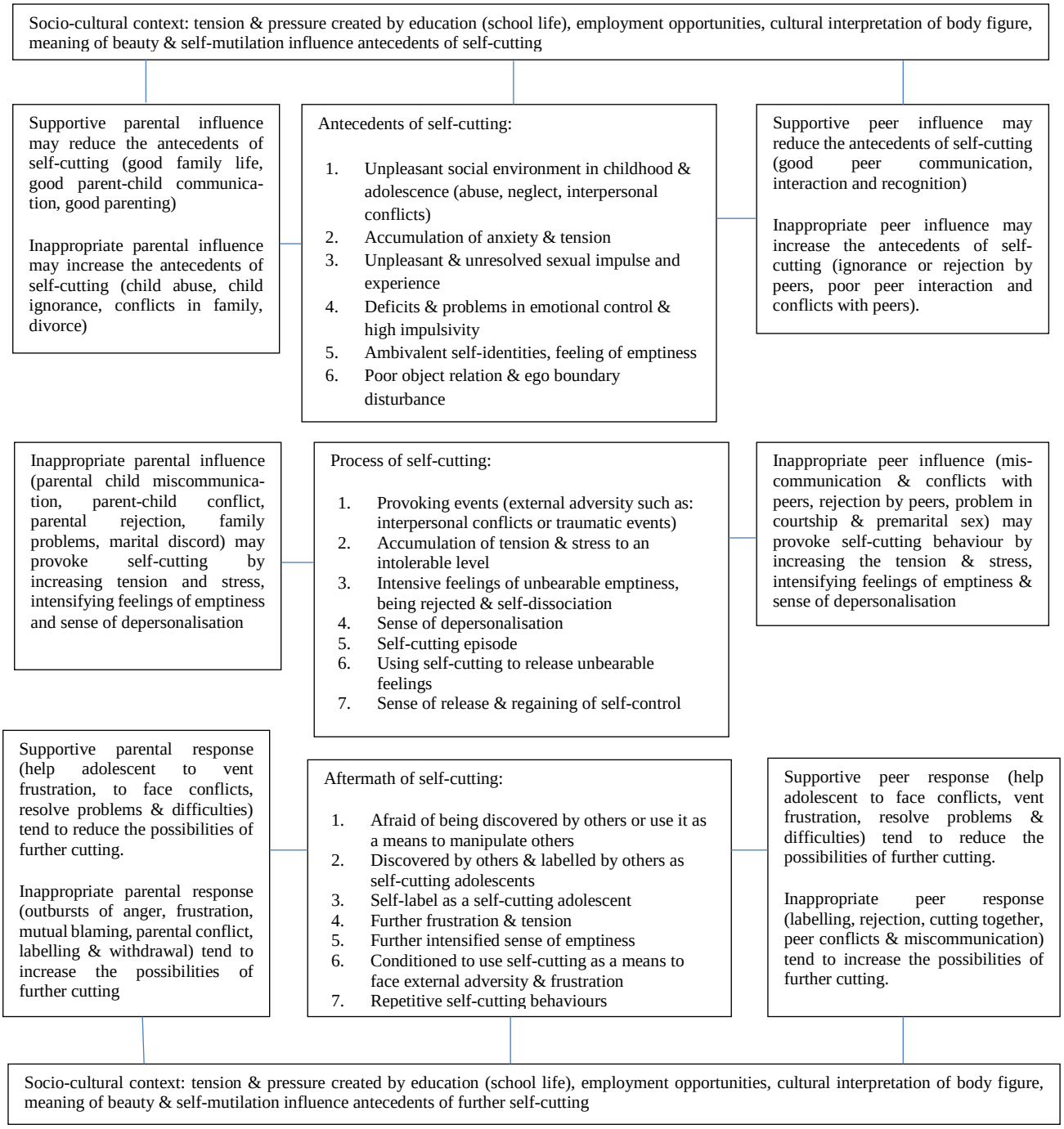

Figure 3. A multi-dimensional view on adolescents' self-cutting (Yip, 2005).

Brief mention should be made of psychodynamic and behavioural theories as they apply to self-harm. Psychodynamic theories regard self-harm as anger turned inward, showing psychic distress without verbalising it, and repressed guilt regarding sexual conflict or emotional catharsis (McAllister, 2003). According to Favazza (2011), psychodynamic theories regarding self-harm include concepts such as symbolism, the unconscious mind, repression, sublimation, mental defence mechanisms, libido, ego-superego-id, transference and

countertransference, and psychic energy, whereas behavioural theories look at how self-harming behaviour is learnt and becomes self-reinforcing (McAllister, 2003).

2.6 Self-Harm Risk Factors

Children are more susceptible to adverse circumstances than adults are due to their immature developmental status, having no or little economic, social, political, and legal power, as well as being reliant upon the people, institutions, and systems that might be responsible for their maltreatment (Louw & Louw, 2014). Variables that increase the likelihood of an event or situation having a negative effect on children and/or variables that precede a negative outcome and increase the chances of that outcome to occur are called risk factors (Louw & Louw, 2014; Mash & Wolfe, 2010).

Risk behaviours function in a clustering effect, as risk behaviours often serve the same psychological functions and have similar underlying social determinants for adolescents (DuRant, Smith, Kreiter, & Krowchuk, 1999). Govender et al. (2013) insist that research has shown that, instead of the effects of risk factors accumulating, the effects actually multiply.

From a developmental psychopathology perspective, a risk or protective factor can become the other depending on the developmental stage in which the person is, and the presence or absence of a life context or experience may translate into a potential risk or protective factor (Kerig, Ludlow, & Wenar, 2012).

The multipath model of mental disorders, as used in Sue et al. (2010), was used in this study as an organisational framework for understanding self-harm. The multipath model enables viewing self-harm from a holistic viewpoint. The multipath model operates under five assumptions: Firstly, the complexity of the human condition and the development of mental disorders cannot be explained by any one theoretical perspective alone. Secondly, a single disorder may have multiple pathways and causes. Thirdly, biological, psychological, social, and sociocultural dimensions must be taken into account when positing explanations of abnormal behaviour. Fourthly, not all of the dimensions contribute equally to a particular disorder. Lastly, the multipath model is integrative and interactive (Sue et al., 2010).

A breakdown of the four dimensions is as follows: Dimension 1: Biological factors including genetics, brain anatomy, biochemical imbalances, central nervous system functioning, and autonomic nervous system reactivity. Dimension 2: Psychological factors such

as personality, cognitions, emotions, learning, stress, coping, self-esteem, self-efficacy, values, and developmental history. Dimension 3: Social factors could be, amongst others, family, relationships, social support, belonging, love, and community. Dimension 4: Sociocultural factors may include race, gender, sexual orientation, religion, socioeconomic status, ethnicity, and culture (Sue et al., 2010). Self-harm risk factors as organised into the multipath model are discussed next.

2.6.1 The biological dimension. Research concerning the biological underpinnings of self-harm is unclear (Stanford & Jones, 2009). Even though there are complex biological findings that are encouraging, it still remains a scantily understood area connected to self-harm (Favazza, 2011). Fatigue, insomnia, illness, and intoxication may influence self-harm (Walsh, 2007). Previous studies found that physical illness among participants and a recent change in physical health may be related to self-harm (Hawton et al., 2003). In contrast, the study by Grover, Sarkar, Chakrabarti, Malhorta, and Avasthi (2015) found no physical illness within their sample.

Adolescence may begin as a separate stage of development around the ages of 11 to 13 years, depending on biological, sociocultural and individual factors, and end around 17 to 21 years (Louw & Louw, 2014). Self-harm behaviour emerges around early adolescence (Nock, 2009) and researchers agree that adolescence is a period of increased risk for self-harm (Muehlenkamp & Gutierrez, 2007; Sacarcelik et al., 2011). Self-harm among adolescents has been a growing research subject over the past decade; yet, only a few studies specifically investigate self-harm among adolescents (Bakken & Gunter, 2012).

During adolescence, the following factors may predispose an individual to self-harm: social distress and isolation, underdeveloped emotional reactive processing, heightened emotional reactivity, decreased impulse control, turning against the body, experimentation, and the quest for identity and self-image (Anderson, Woodward, & Armstrong, 2004; Ballard, Bosk, & Pao, 2010).

Although Favazza (2011) contends that claims regarding the role of specific ***brain processes*** and self-harm are conjectural at this time, a connection indeed does exist between brain processes and self-harm. Most biological studies investigating self-harm focus on cutting behaviour and the role of chemicals in transmitting impulses in the brain; yet, a multitude of known neurotransmitters acts on multiple neural pathways, affecting various behavioural and

physiological processes (Favazza, 2011). Each process (behavioural and/or physiological) is controlled by various neurotransmitters, and focusing on only dopamine or beta-endorphins (for example) may lead to deficient conclusions about brain functioning (Favazza, 2011).

Researchers do not yet fully understand the neurobiological aetiology of self-harm, and limited research on this topic currently exists (Osuch & Payne, 2009). Osuch and Payne (2009) contend that the impulsivity, self-aggression, mood symptoms, and addiction aspects of self-harm are linked with certain neurotransmitters. Deficits and problems in emotional control and high impulsivity are mentioned in Yip's (2005) multidimensional view on adolescents' self-cutting (see Figure 3) as an antecedent of self-cutting. Osuch and Payne (2009) suggest that in understanding how neurotransmitter systems are linked to these aspects, researchers can understand the neurobiological foundations of self-harm better. Serotonin, dopamine, and opioids are currently the best understood major neurotransmitters and associated pathways relevant to self-harm (Osuch & Payne, 2009).

Researchers have found that the adolescent brain continues to mature in the 20s, with myelination of the prefrontal cortex only occurring in the early 20s or later (Johnson, Blum, & Gledd, 2009; Rubia et al., 2000; Sowell et al., 2003). Some researchers assert that the frontal lobes, responsible for executive functioning, are the last brain areas to mature at approximately 35yrs of age (Sowell, Thompson, Holmes, Jernigan, & Toga, 1999).

The pain analgesia or opiate hypothesis which was formulated in response to the question why some individuals self-harm and others do not may offer another explanation of self-harm. According to above hypothesis individuals who engage in self-harm report experiencing little or no pain during self-harm and have shown pain analgesia in lab tests of pain tolerance (Nock, 2009).

Self-harm has been viewed as an addictive behaviour (Victor, Glenn, & Klonsky, 2012) and there may be resemblances between the physiology of self-harm and that of heroin addiction (Brown & Kimball, 2013). Following a self-harm episode an individual may experience increased opioid production and combined with conditioning biochemical processes, this subconscious physiological process may create dependency and thus lead to self-harm becoming addictive (Sandman & Hetick, 1995).

In a study examining the hypothesis that repetitive self-harm has addictive qualities, self-harm was found to be consistent with an addiction model (Nixon et al., 2002). A more recent study compared the nature of cravings for self-harm behaviour and substance use to clarify the similarities and differences between self-harm and addictive behaviours (Victor et al., 2012). The results indicated that cravings for self-harm behaviour were substantially lower than cravings for substance use and that the cravings for self-harm behaviour occurred largely in the context of negative emotions (Victor et al., 2012). Although discussions on self-harm as an addictive behaviour exist in the literature, it is sparse and the link not clearly established, thus necessitating further research into this area.

2.6.2 The psychological dimension. Various psychological factors and numerous psychological stressors are associated with self-harm (Stanford & Jones, 2009; Williams & Hasking, 2010).

Studies have shown that individuals who present with self-harming behaviour are likely to have ***mental health disorders and/or psychiatric problems*** as well as previous admissions to a psychiatric facility (Hawton, Saunders, & O'Connor, 2012; Isohookana, Riala, Hakko, & Rasanen, 2012; Kyriakopoulos, 2010; Lereya et al., 2013). An individual who recently underwent a change in his or her mental health status is also at risk for self-harm (Hawton et al., 2003).

Borderline personality disorder (BPD) has been implicated specifically in self-harm (Bridge, Goldstein, & Brent, 2006; Favazza 2011; Jacobson & Gould, 2007). In contrast Lereya et al. (2011) found no association between BPD and self-harm. McAllister (2003) states that the cultural bias in psychiatry may have been responsible for the exaggerated relationship between BPD and self-harm. Bunclark (2000) adds to this by stating that individuals who self-harm have often been diagnosed with BPD, but may display no other BPD symptoms. Self-harm is no longer viewed as only a symptom of borderline personality disorder. The Diagnostic and Statistical Manual of Mental Disorders, Volume 5, (DSM-5) makes room for self-harm as a separate diagnosable disorder known as *non-suicidal self-injury* (APA, 2013).

Nock, Joiner, Gordon, Lloyd-Richardson, and Prinstein, (2006) found that 87.6% of adolescents who self-harm have a DSM-IV Axis 1 disorder, of which the most common were externalising disorders, posttraumatic stress disorder (PTSD), and cannabis abuse or

dependence. An Indian study by Grover et al., (2015) found diagnosable psychiatric illness in more than one-fifth of their sample which they assert was less than the 30-52% found in a study by Krishnakumar, Geeta, and Riyaz (2011).

Mood disorders play a role in self-harm (Kyriakopoulos, 2010; Laukkanen et al., 2013), and the most commonly cited disorder in connection with self-harm is depression (Fischer et al., 2013; Kidger, Heron, Lewis, Evans, & Gunnell, 2012; Moran et al., 2012). Self-harm has also been associated with bipolar disorder, posttraumatic stress disorder, obsessive-compulsive disorder, conduct disorder, eating disorders, and schizophrenia (Ballard et al., 2010; Favazza 2011; Haavisto et al., 2005; Jacobson, Muehlenkamp, Miller, & Turner, 2008; Laukkanen et al., 2013; Nock et al., 2006).

A number of ***emotion-regulating difficulties*** was noted in self-harmers and such individuals may have insufficient skills in expressing and managing their emotions (Gratz & Roemer, 2008; Klonsky & Glenn 2009). Regulation of emotion is the "extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (Thompson, 1994, pp. 27-28). It is hypothesised that self-harm is a tool used by individuals to regulate emotions in the absence of appropriate emotion-regulation strategies (Nock & Prinstein, 2004). Alexithymia has been found among self-harmers, which means that they struggle to understand their feelings (Zlotnick et al., 1996), and it appears that self-harmers are less mindful of their emotions (Lundh, Karim, & Quilisch, 2007). Self-harmers may also fall short on emotional intelligence (Mikolajczak, Petrides, & Hurry, 2009).

Ballard et al. (2010) conducted research into emotional dysregulation, somatosensory and affective pain processing in self-harmers and noted that intense emotional distress was present. During adolescence, emotion-regulating abilities increase, but if adolescents do not regulate their emotions well while exposed to high stress, it could lead to maladaptive coping efforts (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). It is plausible that adolescent self-harmers do not handle distress well and may undergo elevated physiologic reactivity in connection with stressful events (Deliberto & Nock, 2008; Nock & Mendes, 2008). Also, it has been shown that self-harmers experience stress frequently (Guan et al., 2012).

Chapman, Gratz, and Brown (2006) assert that self-harmers have low emotional arousal and distress tolerance; therefore, such individuals will turn to self-harm when experiencing

emotional distress. Based on clinical observations, Favazza (2011) observes that self-harmers have a deficient ability to tolerate distress. The participants in Nock and Mendes's (2008) study showed increased physiological arousal and lower distress tolerance.

Linehan (1993) regards self-harm as a maladaptive emotion-regulation strategy; individuals unable to regulate negative emotions may resort to self-harm. Research into the psychological correlates and functions of self-harm validates this contention (Klonsky & Glenn, 2009), and a comprehensive review illuminated that self-harm follows negative emotions, reduced emotions, relief, and calmness are experienced after a self-harm episode, and self-harmers report a desire to relieve negative emotions as a reason for their self-harm (Klonsky, 2007). The results from a study undertaken by Bakken and Gunter (2012) found that male and female respondents who reported negative emotional states were more inclined to report self-harm behaviour. High emotionality is also mentioned as a distal risk factor for self-harm in Nock's (2009) integrated theoretical model of the development of NSSI (see Figure 1).

Emotional reactivity significantly predicts self-harm, as a high level of emotional reactivity is associated with an increased risk for self-harm (Carshagen, 2012). Emotional reactivity refers to the "tendency to experience frequent and intense emotional arousal" (Karrass et al., 2006, p. 2). Ballard et al. (2010) and Mikolajczak et al. (2009) conclude that increased levels of emotional reactivity coupled with decreased impulse control in adolescents put them at higher risk for self-harm.

Hopelessness is another risk factor for self-harm (Asarnow, Carlson, & Guthrie, 1987; Hawton et al., 2012; Pompili et al., 2013). Hopelessness may be a more important independent variable in the development of self-harm than depression is (McLaughlin, Miller, & Warwick 1996). In the South African context, Shilubane et al. (2013) found that a high rate of learners felt hopeless, and Reddy et al. (2010) found that 23.6% of learners reported feeling sad or hopeless, with the highest prevalence found among learners in the Free State Province. In South Africa, hopelessness increased with grade attended: 19.5% of Grade 8 learners, 21.4% of Grade 9 learners, 24.2% of Grade 10 learners, and 29.7% of Grade 11 learners felt hopeless. This might be explained by the increasing academic pressure placed on learners as they progress through high school.

Adolescent self-harmers may experience ***social problem-solving difficulties*** (Deliberto & Nock, 2008; Nock & Mendes, 2008). Various researchers confirmed the connection between

self-harm and poor problem solving (Andover, Pepper, & Gibb, 2007; Cleaver, 2007; Rodham, Hawton, & Evans, 2004). McLaughlin et al. (1996) revealed that many young self-harmers could not furnish solutions to their problems; they were unable to find different or novel ways around the struggles that led to their self-harm. Nock and Mendes (2008) assessed respondents on eight problematic social scenarios and found that the self-harming group opted for negative solutions and had a lower ability to find adaptive solutions than the control group had. Poor decision making has also been implicated in self-harm (Asarnow et al., 1987; Bridge et al., 2006).

The witnessing of ***violence*** and exposure to domestic violence increases the risk of self-harm (Ougrin, Tranah, Leigh, Taylor, & Asarnow, 2012; Wagner, 1997). Self-harm has been linked to numerous traumatic and/or abusive experiences (Hawton et al., 2012; Laukkanen et al., 2013). In South Africa, violence is pervasive and a prevailing contributor to the degraded quality of life for many youths (Bach, 2004; Seedat, Van Niekerk, Jewkes, Suffla, & Ratele, 2009). Also, it has been found that South African female adolescents are more prone to witnessing and experiencing violence in the family (Otwombe et al., 2015). Wolf, Gray, and Fazel (2014) suggest that underlying income inequality may be linked to high rates of violence, which ties in with the discussion on socio-economic status discussed later in section 2.6.4.

Significantly more attention has been given in the literature to ***childhood trauma and/or abuse*** as a risk factor for self-harm, including physical and sexual abuse and neglect (Asgeirsdottir, Sigfusdottir, Gudjonsson, & Sigurdsson, 2011; Bolen, Winter, & Hodges, 2013; Bruffaerts et al., 2010; Gratz et al., 2010; Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; Shenk, Noll, & Cassarly, 2010). Abuse and neglect are mentioned as antecedents of self-cutting in Yip's (2005) multidimensional view on adolescents' self-cutting (see Figure 3), and Nock (2009) mentions childhood abuse and maltreatment as distal risk factors in his integrated theoretical model of the development and maintenance of NSSI (see Figure 1). Lewin-Fetter (2010) claims that evidence points to childhood trauma, especially ***sexual abuse,*** as the cause of self-harm. Many individuals who self-harm have been victims of physical, sexual, or emotional abuse (Gladstone et al., 2004). In South Africa, Penning and Collings (2014) found that domestic forms of childhood physical abuse were a significant predictor of self-harm. Favazza (1998) estimates that 40-65% of individuals who self-harm have been abused sexually. Many studies found high rates of self-harm among those who reported sexual abuse during childhood (Curtis, 2006; McDougall et al., 2010). In South Africa, particularly the Western

Cape Province, sexual offences are rife (Dartnall & Jewkes, 2013); of particular concern is raping of women and children (Naidoo, 2013). Carey, Walker, Rossouw, Seedat, and Stein (2008) investigated childhood sexual abuse among South African adolescents, and 53% of their participants reported one or more incidents, with females being more likely to have been abused sexually. Reddy et al. (2010) found that 10% of South African youths had been forced to have sex. Van der Kolk, Perry, and Herman (1991) assert that destructive behaviour (such as self-harm) is related strongly to sexual abuse, and the younger the victim, the more likely self-harm is. Corroborating Van der Kolk et al.'s (1991) assertion, Bakken and Gunter (2012) found that sexual assault increased the risk for self-harm behaviour, and Isohookana et al. (2012) found that sexual abuse was the highest risk factor for girls who self-harmed. In South Africa, it was concluded that females are more vulnerable to sexual abuse and unwanted sexual advances (Otwombe et al., 2015).

Ainscough and Toon (1993) propose a possible theory why sexually abused youths resort to self-harm, suggesting that sexually abused youths feel powerless, perceive that their bodies and feelings have been invaded and violated, and that they are unable to protect themselves or have a say over what is happening to them. McDougall et al. (2010) further suggest that self-harm allows the abused youth to take control, thus serving a protective or self-preserving function. Hospitalisation may avert the abuse temporarily, as the youth is placed in a safe and secure environment that limits the abuser's access to him/her. Youths who have been raped may turn to self-harm because they feel shame, anger, guilt, or confusion, and they may articulate self-disgust or self-punishment via self-harm (Ainscough & Toon, 1993; McDougall et al., 2010). Another possibility may be that self-harm is a behavioural re-enactment of childhood sexual abuse, whereby the survivor becomes the self-victimiser (Asgeirsdottir et al., 2011; Bolen et al., 2013; Shenk et al., 2010). Nock (2009) also mentions the self-punishment hypothesis, which contends that self-harm is self-directed abuse learned from childhood abuse.

Research has yielded inconclusive results, as some authors (Klonsky & Moyer, 2008) are of the opinion that sexual abuse is not linked with an increased risk for self-harm. Klonsky and Moyer (2008) propose that childhood sexual abuse could be functioning as a proxy risk factor (or a non-specific predictor) for self-harm, instead of as a causal link connecting childhood sexual abuse and self-harm; both correlate with the same psychiatric risk factors.

The relationship between trauma and self-harm is not linear, involving a variety of mediating factors (Klonsky &Moyer 2008, Weierich & Nock 2008). Gilman (2013) emphasises

that the manner in which the abuse affects the individual instead of the abuse itself leads to self-harm. “The features of the abuse that may be particularly salient include: the severity of the abuse, its duration, the nature and role of the perpetrator. It may or may not lead to self-harm” (Gilman, 2013, pp. 159-160; see also Favazza, 2011).

2.6.3 The social dimension. The social perspective views self-harm as an otherwise healthy individual’s reasonable response to social factors (McAllister, 2003). Stanford and Jones (2009) attest that people who self-harm have difficulty in various social aspects. The increased rates of self-harm among adolescents have been associated with various social and environmental factors (Stanford & Jones, 2009).

Many researchers have found the root cause of childhood self-harm to be experiences that occur in the ***family*** especially that of the caregiving relationship (Adler & Adler, 2011). The family features prominently in Yip’s (2005) multidimensional view on adolescents’ self-cutting (see Figure 3). In South Africa, the family still remains an important role player in society (Amoateng, Heaton, & Kalule-Sibiti, 2007) and may take on various forms such as cohabitation, gay and lesbian, multigenerational, nuclear, polygamous, single-parent, and stepfamilies (Kendall, 2011). In the study by Reddy et al. (2010), it was found that the majority of South African learners (79%) lived with their immediate family members only, 17.7% lived with immediate and extended family, 2.8% lived with extended family only, and 0.6% lived with others.

A number of factors such as divorced families, not living with both parents, the death of a parent, single-parent households, and being an only child have been implicated in adolescent self-harm (Isohookana et al., 2012; Kokkevvi et al., 2012; Ougrin et al., 2012; Sacarcelik et al., 2011). Familial hostility is mentioned as a distal risk factor in Nock’s (2009) integrated theoretical model of the development and maintenance of NSSI (see Figure 1). Divorce has become increasingly prevalent worldwide, and South Africa is no exception with an increase of 8.6% between 2012 and 2013 (Statistics South Africa, 2013a). In 2013, 54.4% of the divorces included children under the age of 18 years (Statistics South Africa, 2013a). In South Africa, 17.8% of children were orphaned (Statistics South Africa, 2013b), which could be due to the HIV/AIDS epidemic that often leads to grandmothers becoming primary caregivers (Bigombe & Khadiagala, 2003).

Furthermore, various studies have found that adolescents who engage in self-harming behaviour often have absent fathers (Rossow & Wichstrom, 2010; Tormoen et al., 2014). Idemudia, Maepa, and Moamogwe (2016) found that in South Africa, risk-taking and self-harming behaviours are moderated by high involvement of fathers.

Diverse family arrangements like those mentioned above have significant implications for family functioning and thus the well-being of children (Posel & Rudwick, 2013). The disruption in the family environment could lead to a breakdown in support available to the children and thus contribute to self-harm (Grover et al., 2015).

It has been found that paediatric presentations of self-harm are coupled with pathological family dysfunction and communication (Portzky, De Wilde, & Van Heeringen, 2008). Such persistent family dysfunction may lead to depersonalisation and dissociation (Greydanus & Apple, 2011). Self-harm is most frequently practised after experiencing severe problems with parents and family relationships (Asarnow et al., 2008; Grover et al., 2015; Hawton et al., 2012).

School environments are an implicating factor in self-harm. Schools in the United Kingdom have observed seasonal and weekly variations in reported incidents of self-harm, with the most incidents reported on a Monday and substantial decreases noted between July and September, which is in line with school holidays in the Northern Hemisphere (Hawton et al., 2003).

Academic issues, school stress, exam pressure, increased academic pressure, disappointment regarding school performance, and poor school performance are all factors contributing to a risk of self-harm (Adler & Adler, 2011; Grover et al., 2015; Hawton, Bergen, Mahadevan, Casey, & Simkin, 2010; Krishnakumar et al., 2011; Laukkanen et al., 2009; McDougall et al., 2010; Sacarcelik et al., 2011; Tan et al., 2014). Adolescents also experience the transition from primary to secondary school as stressful, as they encounter a new environment accompanied by substantial individual and developmental changes, especially puberty (Hussain, Kumar, & Husain, 2008; Taylor, Spray, & Pearson, 2014; Waters, Lester, Wenden, & Cross, 2012). Adolescents may not know how to cope effectively with academic pressures, which could lead to using self-harm as a coping mechanism, self-harm is viewed as a maladaptive coping strategy (McVey-Noble et al., 2006; Olson, 2006). Such life events may distress adolescents and make them feel overwhelmed (Adler & Adler, 2011). Parental approval

might be tied with academic success, and not being able to attain such expectations and self-expectations, the adolescent may turn to self-harm (Tan et al., 2014).

In South Africa, Ngcobo and Tikly (2010) found that adolescents in rural schools have a pronounced sense of hopelessness and would engage in risky behaviours such as substance use to cope. This hopelessness may be due to inadequate access to academic resources, language barriers, and coming from poorer families and living in townships (Probyn, 2009). These factors may inhibit learners from developing protective factors such as psychological strengths (Barnes, 2015). Another factor that might add to South African school environments being experienced as stressful is that 27% of learners feel unsafe on school property (Reddy et al., 2010).

Recent research has highlighted the link between ***bullying*** and self-harm, as it has been found that bullying increases the risk for self-harm (Bakken & Gunter, 2012; Fisher et al., 2012; Idenfors, Kullgren, & Salander Renberg, 2015). The distress and peer rejection flowing from victimisation are antecedents to self-harm risk (McMahon et al., 2010). Recently, the increase in Internet usage, social networking, and virtual friendships among young people has spawned cyber bullying, which is linked to self-harm (McDougall et al., 2010).

In South Africa, 36% of learners reported having been bullied in the past month leading up to the study, while learners in the Free State Province reported a significantly higher prevalence rate of bullying (44.4%) than the national average (Reddy et al., 2010). In Bloemfontein, the capital city of the Free State Province, Greeff and Grobler (2008) found that 56% of primary school learners reported being bullied. Although the national average has decreased from 41% (Reddy et al., 2003), the results confirm that bullying is a serious problem in South Africa.

Adolescent self-harm is rooted in ***relationships*** with others (Levesque, 2010). Interpersonal difficulties have been cited numerous times as leading to self-harm (Hawton et al., 2012; Ougrin et al., 2012). Interpersonal factors that increase the risk of self-harm are insecure peer attachments, how the adolescent interacts and fits in with his or her peers, communication problems, and not having a confidante to confide in (Deliberto & Nock, 2008; Evans, Hawton, & Rodham, 2005; Stallard, Spears, Montgomery, Phillips, & Sayal, 2013; Webb, 2002). Peers feature prominently in Yip's (2005) multidimensional view on adolescents' self-cutting (see Figure 3).

2.6.4 The sociocultural dimension. A wide variety of sociocultural factors may influence an adolescent's self-harming behaviour (Carshagen, 2012).

One of the most striking research findings is the link between ***female gender*** and self-harm. Various researchers confirm that being female is a risk factor for self-harm (Adler & Adler, 2011; Bakken & Gunter, 2012; Hawton & James, 2005; Laye-Gindhu & Schonert-Reichl, 2005). A South African study into adolescents' self-harm and risk-taking behaviour found females to be more prone to self-harm than males were (Idemudia et al., 2016).

Bakken and Gunter (2012) assert that many risk factors differ in prevalence, nature and motivations, due to gender differences; thus, self-harm should also present with such gender differences. Competing gender roles, social expectations, and socialisation experiences should lead to male and females engaging in self-harm for different reasons (Bakken & Gunter, 2012).

Adler and Adler (2011) offer a possible theory as to why women are prone to self-harm. They state that gender socialisation leads women to turn stress inward (internalise anger), thus harming themselves, and men express their stress through externalising it, by becoming angry. McAllister (2003, p 181) corroborates Adler and Adler's statement and asserts that "[w]omen may be socialized to deal with emotional pain in emotional ways while men may deal with emotional upset in physical ways. Women may act on themselves and men on others. Women may experience more abuse as a child than men, and women remain more vulnerable to abuse as adults."

Although the link between female gender and self-harm has been well established in research, some authors refute this claim. Garisch and Wilson (2015) found no gender difference when they investigated self-harm among adolescents in New Zealand, whereas Hall and Place (2010) found that male adolescents were more likely to report self-harm than females in schools in the north of England.

It could be postulated that the gender myth that women exclusively indulge in self-harm has been debunked (McAllister, 2003) and that self-harm is no longer thought of as the 'female disease' (Adler & Adler, 2010). However, ambiguity still exists with regard to gender disparities of adolescents engaging in self-harm; therefore, more research is needed.

Borrill, Fox, and Roger (2011) revealed in their study that participants with no ***religious affiliation*** reported significantly more cutting episodes. In a recent book, *Bodies Under Siege*,

Favazza (2011) gives an exceptional account of how religious practices and rituals have played a role in self-harm through the ages. Favazza (2011) states that blood features in religious sacrifice, healing, brotherhoods, and blood feuds have great symbolic and physiological powers. Violence, sacrifice, blood, suffering, martyrdom, and self-mutilation features in many religions with the cross of Christianity and the Siva Lingam of Hinduism being prominent (Favazza, 2011). Thus, it seems that religion offers a context from within which self-harm can be comprehended (Favazza, 2011).

Research findings by Sharma, Grover, and Chaturvedi (2008) and Grover et al. (2015) indicate that individuals who belong to the Hindu religion are more likely to indulge in self-harm. Favazza (2011) points out that Hinduism provides abundant inspiration for self-harm and that Sufism (a part of Islam) features asceticism and self-mortification prominently. Many Catholic saints self-harmed, and an extreme example is that of Saint Mary Magdalene de'Pazzi, who whipped herself, threw herself naked into thorn bushes, burnt her skin with hot wax, and wore a crown of thorns (Favazza, 2011). It has been shown that self-harmers (self-cutters particularly) do engage in ritualistic and compulsive behaviours (Favazza, 2011). Rituals, traditions and practices that reflect the beliefs and symbols of a society may function to promote healing and spirituality, and to maintain social order (McDonald, 2006). Such practices are called *culturally sanctioned self-harm* (Favazza, 2011) and are still practised today among the Baka pygmies of Cameroon, Congo, and Gabon (Devin, n.d.)

Socio economic status (SES) has been linked with self-harm, and the assumption exists that self-harm is behaviour characteristically found in middle- as well as upper-class individuals (Conterio & Lader, 1998). Interviews conducted with individuals from various SES groups revealed that self-harm is not behaviour exclusive to only certain SES groups, and that it does occur in low SES groups as well (Adler & Adler, 2011; Kokkevi et al., 2012; McDougall et al., 2010). Marmot (2010) argues that SES can determine the level of family support and connectedness, as well as school engagement; thus, an individual from a low SES environment may have less resources available, experience less support, and therefore have a higher risk to engage in self-harm.

In South Africa, poverty is a pronounced source of stress (Statistics South Africa, 2016), and persistent poverty-related stress may lead to negative psychological health outcomes (Safarino & Smith, 2012; Santiago, Wadswoth, & Stump, 2011; Van Niekerk, 2014). Individuals exposed to such stress may be more inclined to use maladaptive coping strategies

(Drimie & Casale, 2009). More than half (60.5%) of South African youths (15-24 years) live in low-income households, which is coupled with a high unemployment rate (33% of the total population), (Development Policy Research Unit – DPRU, 2013; Statistics South Africa, 2013b).

Violence is more prominent in lower socio-economic settings (Jewkes, 2003), and in Johannesburg, South Africa, it was found that exposure to violence, as well as sexual violence/abuse, is rife among adolescents from low socio-economic environments (Otwombe et al., 2015). Exposure to violence and sexual violence/abuse has been linked to self-harm as a risk factor (Lewin-Fetter, 2010, McDougall et al., 2010; Ougrin et al., 2012); thus, it is plausible that adolescents in South Africa who live in low socio-economic settings are more at risk for engaging in self-harm behaviour.

In the past, it was assumed that self-harm was more rampant among white, upper-class females, but has now increasingly spread to boys, men, and those from lower SES groups as well (Adler & Adler, 2011).

From an extensive literature review, a simplified multipath model of the risk factors for self-harm is summarised in Figure 4 below, which serves as a conceptual model upon which the discussion is based.

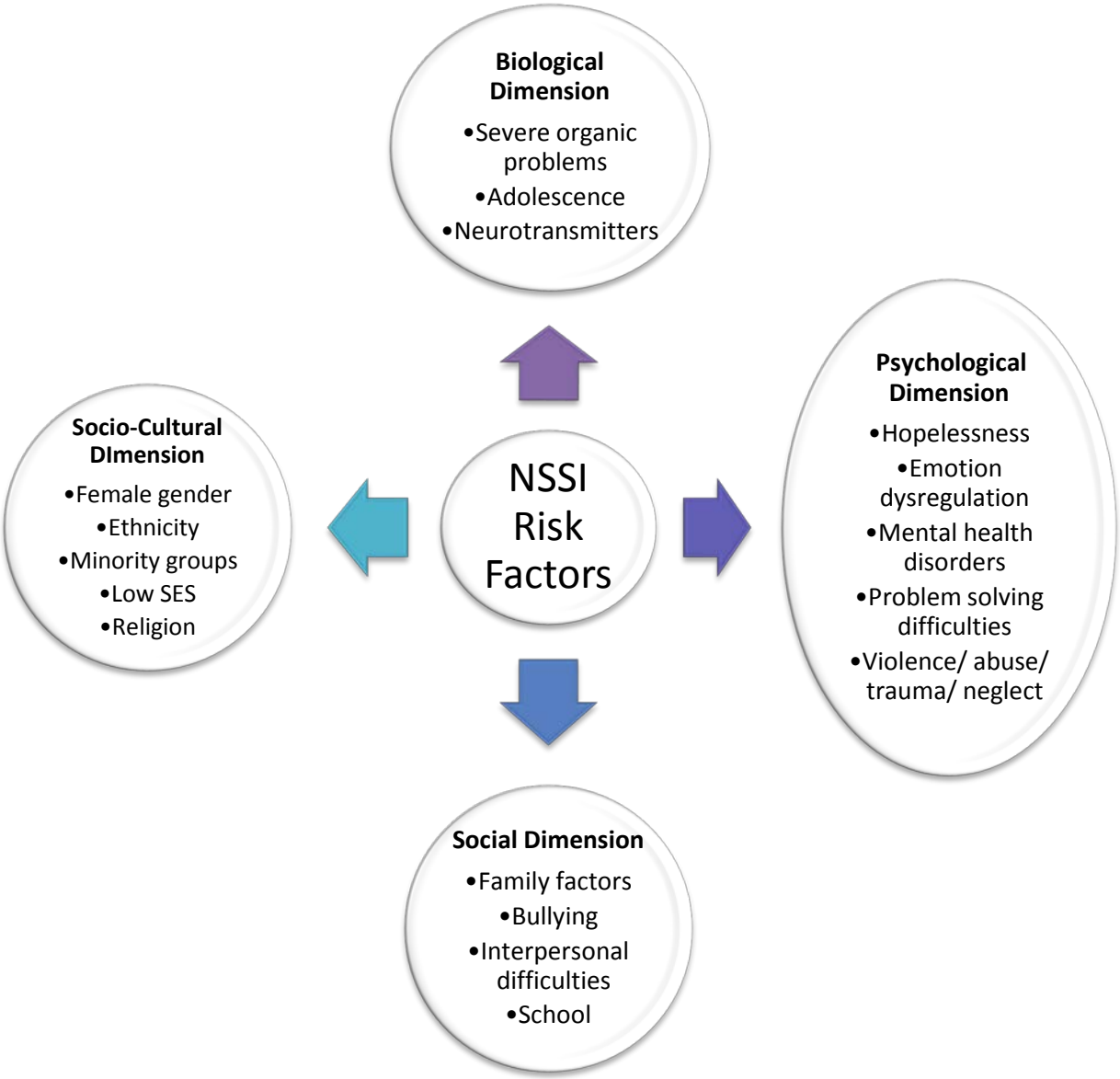

Figure 4. Multipath model of self-harm risk factors

2.7 Functions of Self-Harm

The following is a discussion pertaining to the functions of self-harm; in other words, possible reasons why adolescents engage in self-harming behaviour. There are various reasons why adolescents engage in self-harm (Hawton & James, 2005; Ougrin et al., 2012) and there are instances where individuals are unaware of their reasons for this behaviour (Rissanen, Kylma, & Laukkanen, 2008). Self-harm is not about seeking attention, as the wounds inflicted often present the antithesis of perceived prosocial behaviour (Ross, Kelly, & Jorm, 2014; Sandy, 2013).

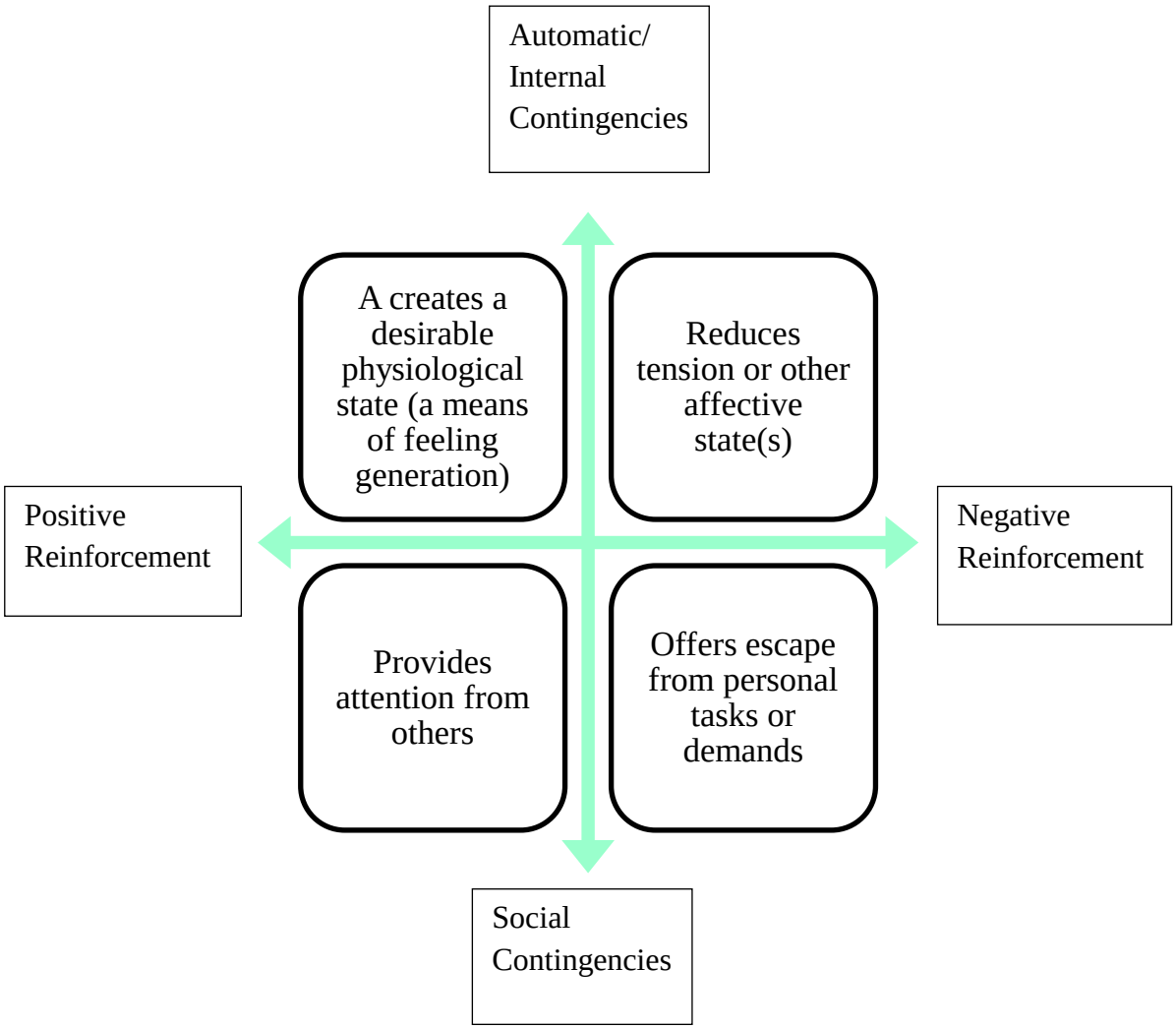

Figure 5. A four-factor function model of self-harm (Nock & Prinstein, 2004, 2005).

The four-factor functional model of Nock and Prinstein (2004, 2005) above, proposes the following:

1. Automatic negative reinforcement (automatic functions regulate internal states) to end or eliminate an undesirable cognition or emotional state (e.g., release tension or distract from a disturbing thought).

2. An automatic positive response to create an internal state that is desirable.

3. Social positive reinforcement to obtain others' attention or some sort of social resource.

4. Social negative reinforcement to distract from particular interpersonal demands or a task.

Klonsky (2007) identifies seven functions of self-harm, namely: 1) regulation of affect; 2) anti-dissociation; 3) anti-suicide (validated by Brown & Kimball, 2013; Sandy, 2013); 4) interpersonal boundaries; 5) interpersonal influence; 6) self-punishment (corroborated by Brown & Kimball, 2013; Kidger et al., 2012; Sandy, 2013); and 7) seeking sensation.

Favazza (2011, pp. 213-214) mentions the following as the most frequent reasons given by individuals for engaging in self-harm:

- Relief from anxiety (by far the most common; 'it's like popping a balloon').

- Terminating depersonalisation episodes (emotional deadness; diminished normal sensations; altered sense of time; estrangement from the environment).

- Sense of security and uniqueness ('If I am emotionless and empty, the pain and blood is always there for me'; 'I cut myself because I need to be special. Take it away from me and I'm like everyone else.').

- Establishing self-control (racing thoughts, swirling emotions).

- Influencing others (attempt to evoke a caring response or guilt in other; to get attention; a communication of despair).

- Pressure from multiple personalities (one alter ego inflicts pain on another alter).

- Relief from depression (self-punishment for forbidden fantasies or perceived or real misdeeds, guilt, feeling emotionally 'dead').

- Revenge (the body as a proxy for powerful or dead persons who were abusive).
- Sexuality (usually to diminish unwanted sexual feelings but also, in a sadomasochistic setting, to enhance sexual feelings).
- Magically forestalling or lessening 'uncontrolled' menstrual bleeding.
- Venting anger (when it is inappropriate or unwise to express anger outwardly).
- Dealing with traumatic events and flashbacks (reclaiming one's body; marking significant events).
- Self-stimulation and euphoria (especially among prisoners in isolation cells).
- Thrill seeking.
- Relief from alienation.
- Expression of autonomy (in controlling and repressive environments).
- Establishing an identity (a unique person; a mark of group membership).
- Dealing with psychosis (appeasing paranoid persecutors; obeying 'voices' to make them go away).

Favazza (2011) proposes that the short answer to the question of why individuals engage in self-harm, is that self-harm 'counter intuitively' leads to temporary relief from stressful situations and painful emotions. Favazza (2011, p. xv) further asserts that "the long answer is that it also touches on the profound human experiences of salvation, healing, and orderliness. Self-injury is a morbid form of self-help."

Self-harm is believed to serve social, emotional, and physiological functions (Ballard et al., 2010).

2.7.1 Social and interpersonal functions. Self-harm may be used as a form of communication, especially communicating distress, as a message to others, or as a cry for help (Favazza, 2011; Klonsky 2007; Martin, Swannell, Harrison, Hazell, & Taylor, 2010; Muehlenkamp, 2007; Nock, 2008; Nock & Prinstein, 2004; Walsh, 2006). This ties in with the social signalling hypothesis mentioned in Nock's (2009) integrated theoretical model of the

development and maintenance of NSSI (see Figure 1), which states that self-harm may be used as a form of communication when other forms (speaking or yelling) have failed them and contends that self-harm is an intense signal that may be a particularly effective form of social communication, as it is harmful and costly behaviour.

Self-harm may be used to influence or coerce others, as a method to evoke reaction from others, manipulate care, or compete with other self-harmers (Favazza, 2011; Klonsky, 2007; Nock, 2008; Sandy, 2013; Walsh, 2006).

At an interpersonal level, self-harm may be used to resolve conflicts and/or create intimacy. By creating interpersonal boundaries, distance in a relationship is regulated, and future abuse may be prevented by driving others away (Klonsky, 2007; Sandy, 2013; Walsh, 2006).

According to Young, Sproeber, Groschwitz, Preiss, and Plener (2014), self-harm serves a social and communicative function in adolescents that is connected to their social identity. A key finding of Young et al. (2014) is the "alternative identity" effect in which half of alternative adolescents (who belong to and/or identify with an alternative youth culture or subculture) engage in self-harm.

2.7.2 Emotional functions. The most frequently cited reason for engaging in self-harm is regulation of emotion (Ballard et al., 2010; Klonsky, 2007; Tan et al., 2014). Self-harm effectively reduces intense anxiety, anger, sadness, depression, guilt, shame, and 'deadness' (Walsh, 2007); in other words, it alleviates negative affect (Klonsky, 2007). Adolescents often state that they use self-harm to regain emotional control, regulate distress, reduce their anxiety and anger, feel something (overcoming dissociation), and manage painful feelings (Klonsky, 2007; Martin et al., 2010; Sandy, 2013). Adolescents use self-harm to escape terrible feelings and a terrible state of mind (Kidger et al., 2012; Rodham et al., 2004; Scoliers et al., 2009); thus, self-harm is used as an escape from thoughts and feelings (Ougrin et al., 2012).

Self-harm may also be a way of gaining relief from distress and escaping upsetting situations (Brown & Kimball, 2013). Rodham et al., (2004) suggests that self-harm is a way of dealing with trauma. Self-harm may be used as a form of distraction (Klonsky, 2007). Favazza (2011) maintains that self-harm will provide temporary relief from stressful situations and painful emotions; however, it cannot provide a solution.

Brown and Kimball (2013) claim that self-harm functions substantially as a way for adolescents to manage emotions and to stay in control.

2.7.3 Physiological functions. Self-harm is effective in relieving tension and decreasing physiological arousal when experiencing emotional distress (Muehlenkamp, 2007; Nock & Mendes, 2008).

Gregory and Mustata (2012) found that magical thinking was related to self-harm (cutting) in seeing blood, undergoing pain, and reducing stress. They suggest that self-harm (cutting) has the function of individuals magically substituting emotions with blood and physical pain (Gregory & Mustata, 2012). Glenn and Klonsky (2010) found that half of the participants in their study needed to see blood to experience reduction of tension or to feel calm while self-harming (cutting).

2.7.4 Other functions. Other functions of self-harm mentioned in the literature include self-soothing, attempting to self-heal by reducing symptoms, a method of self-help, self-cleansing, self-preservation, regaining ownership and/or control of his/her body, and expressing emotional pain in the form of physical pain; in other words, trading emotional pain for physical pain (Favazza, 1989; Klonsky, 2007; McAllister, 2003; Ougrin et al., 2012; Rissanen et al., 2008; Sandy, 2013; Scoliers et al., 2009; Swannell, Martin, Scott, Gibbons, & Gilford, 2008). Self-harm is used as symbolism for or expression of mental pain where words and language are useless (Crowe, 1996).

2.8 Triggers of Self-Harm

A trigger is defined as something that initiates a process or a reaction (Merriam-Webster Dictionary, 2016). In psychology, a trigger is also known as a precipitating factor, which is defined as a catalyst for a disorder as well as an element that causes the occurrence of a disorder or a problem (Medical Dictionary, 2017). For the purposes of this study, a trigger is an event or an occurrence that acts as a catalyst for self-harming behaviour to occur.

As an example of possible triggers for self-harm, as listed in the Suicide Attempt Self-Injury Interview (SASII) of Linehan (2006), are listed below in Figure 6.

Things that happened in the environment	
• I had an argument or conflict with another person • I tried to spend time with someone but couldn't • Someone was disappointed with me • Someone was angry with me, criticized me, or put me down • Someone let me down or broke a promise • Someone rejected me • I lost someone important • Therapist went out of town or took a break from having sessions • I was isolated or alone more than I wanted to be • I had financial problems • I lost a job • I had health problems or physical discomfort • I had a new demand • I tried to get (or continue) something I wanted but couldn't • I heard of someone else attempting suicide or harming themselves • I saw things that I could use to harm myself or attempt suicide with • I talked to someone about sexual abuse or rape • I talked with my therapist about sexual abuse or rape • I had a therapy session before my self-injury/suicide attempt (on the same day) • I had a therapy session scheduled for later in the day (after self-injury/suicide attempt) • Other important negative events happened which could have triggered self-injury/suicide attempt	
Feelings	
• Upset, miserable or distressed • Anxious, afraid or panicked • Angry, frustrated or enraged unspecified • Angry, frustrated or enraged at myself • Like I deserved to be punished or hurt • Like a failure or inferior • Felt bad about myself • Sad or disappointed • Tired or exhausted • Trapped or helpless • Confused	• Out of control • Overwhelmed • Angry, frustrated or enraged at someone else • Self-hatred or shame, or thought I was 'bad' • Like a burden to others • Guilty • Depressed • Lonely, isolated or abandoned • Discouraged or hopeless • Emotionally empty or numb
Thoughts	
• About sexual abuse or rape • About physical abuse or assault • Had flashbacks or nightmares	

Figure 6. The SASII Triggers of Self-Harm (Linehan, 2006)

The following triggers are mentioned in Yip's (2005) multidimensional view on adolescents' self-cutting (see Figure 3): provoking events (external adversity such as interpersonal conflicts or traumatic events), and accumulation of stress and tension to an intolerable level.

2.9 Protective Factors of Self-Harm

A protective factor can be defined as "a characteristic at the biological, psychological, family, or community (including peers and culture) level that is associated with a lower likelihood of problem outcomes or that reduces the negative impact of a risk factor on problem outcomes" (O'Connell, Boat, & Warner, 2009, p. xxvii).

Research concerning protective factors of self-harm is sparse. Stanford and Jones (2009), as well as Klonsky and Glenn (2009), assert that protective factors have received less attention in research than risk factors have.

From a developmental-psychopathology perspective, a risk or protective factor can become the other, depending on the developmental stage in which the person is, and the presence or absence of a life context or experience translates into a potential risk or protective factor (Kerig et al., 2012).

Factors serving protective functions that have been mentioned in research include psychological factors such as reason for living and optimism (Malone et al., 2000); social factors such as family cohesion, parents living together and being supportive, family intactness, and cohesion; a strong relationship with school (such as supportive teachers, peers and environment); and spirituality (Evans, Hawton, & Rodham, 2004; Greydanus & Apple, 2011; Laukkanen et al., 2009; Rubenstein, Halton, Kasten, Rubin, & Stechler, 1998; Sourander et al., 2006; Stallard et al., 2013).

Spirituality and/or religion have been associated with well-being and reported to buffer against negative health-related outcomes such as decreasing symptoms of anxiety and depression (Daaleman & Kaufman, 2006; Good & Willoughby, 2006; Koening, 2004; Randolph-Seng, Nielsen, Bottoms, & Flippas, 2008). Borrill et al. (2011) found that participants

who practised a particular set of religious beliefs (Christian, Muslim, Hindu, Sikh, or other) reported fewer incidents of repeated self-harm than participants with no religious affiliation did.

In South Africa religious practices are still part of many schools (Barnes, 2015). An organisation aiming to promote ministry in South African schools, the Uniting Christian Association of South Africa (UCSA), currently has more than 700 national branches and approximately 100 branches in the Free State Province (UCSA, 2016). Barnes (2015) cited the presence of such organisations in the school environment for the prominent use of religious coping found in their study. According to the Household Survey of 2015 (Statistics South Africa, 2015), 86% of South Africans identify with Christianity, 5.4% with ancestral, tribal, animist or other traditional religions, 5.2 % do not identify with any particular religion, 0.2% with Judaism, and 1.9% with Muslim. In the Free State Province, 97.7% of the population identify with Christianity (Statistics South Africa, 2015). Even though the statistics point to the importance of religion in the South African context, there is still a paucity of research pertaining to South African adolescent religion and spirituality (Moodley, 2008).

Parents are ideally situated to help prevent adolescents from engaging in risky behaviour by providing constructive parental monitoring and effective parent-adolescent communication (Coley Votruba-Drzal, & Schindler, 2009; DiClemente et al., 2001). Supportive parental influence features predominantly in Yip's (2005) multidimensional view on adolescents' self-cutting as a protective factor (see Figure 3). Parent-adolescent communication is a well-studied protective factor against adolescent risk behaviour (Wang et al., 2013) and may function in two ways: Firstly, healthy parent-adolescent communication creates an atmosphere in which adolescents are at ease sharing details about their lives (Kopko & Dunifon, 2010).Secondly, adolescents' urges to engage in problem behaviour may be reined in by parental monitoring (Fletcher, Steinberg, & Williams-Wheeler, 2004).

Carshagen (2012) found that social resiliency support coping protected adolescents from engaging in self-harming behaviour. Social resiliency support coping refers to how an individual utilises his or her support system(s) to cope with difficulties. ***Social support*** has a major protective function against engaging in self-harming behaviour (Deliberto & Nock, 2008; Evans et al., 2005; Hallab & Covic, 2010; Levesque, 2010), and most adolescents reach out for help in their social environment before seeking professional help (Dimmock, Grieves, & Place 2008). Close supportive relationships between parents and children, between siblings, and between extended family members can increase social support (Basson, 2008). However,

adolescents may find social support not only in their families, but also in their ever expanding social networks (Barnes, 2015). Peers are mentioned as a protective factor in Yip's (2005) multidimensional view on adolescents' self-cutting (see Figure 3).

Effective management and expression of negative emotions may be a protective factor (Skegg, 2005), as emotion dysregulation plays a role in self-harm (Klonsky & Glenn, 2009). Participants who experienced negative emotions less often and with less intensity reported lower levels of self-harm behaviours (Klonsky, Oltmanns, & Turkheimer, 2003). However, experiencing more intense positive emotions does not lower the risk for self-harm (Klonsky et al., 2003).

It has also been found that the ***school environment*** can protect a learner's psychological well-being and decrease engagement in risky behaviour, especially when learners are engaged academically and experience a sense of school connectedness and school social cohesion (Bond et al., 2007; Springer, Parcel, Baumler, & Ross, 2006;). In a South African study, Govender, et al. (2013) found that positive perceptions of school connectedness is associated with lower risk-taking behaviour.

Thus, it is important that research continues to investigate possible protective factors that might play a role in adolescent self-harm (Klonsky & Glenn, 2009).

2.10 Chapter Summary

This chapter focused on self-harm and included research literature on the history, definitions, risk factors, functions, triggers, and protective factors of self-harm. In the next chapter, the literature pertaining to coping will be explored more closely.

Chapter 3: Coping

This chapter introduces coping via the integrated stress and coping model of Moos and Schaefer (1993) and includes aspects of coping such as definitions, types, the association between coping and self-harm, and the association between coping and resilience.

3.1 Stress

Stress has been conceptualised as a perceived threat to an individual's homeostasis and as a situation that brings about increases in the reactivity of the autonomic nervous system through hormone secretion (McEwen, 1994). Stressful experiences influence both biological and psychological responses. Biologically, specific neural circuits and neuroendocrine systems are activated. Psychological factors such as the anticipation of stress and perceived lack of control can serve as the initial link in a chain of events that may trigger a biological stress response (Cicchetti & Walker, 2001). As mentioned in Chapter 2, South African adolescents live under chronic stress, and research asserts that not only traumatic events and chronic stress play a role in coping, as even slightly stressful situations encountered in daily life are vital for adolescents to develop coping skills (Barnes, 2015; Seiffge-Krenke et al., 2009). Thus, daily life may be experienced as stressful to adolescents, and adaptive coping becomes essential (Barnes, 2015). Researchers in the South African context have found that exposure to trauma may hinder adolescents from employing coping strategies (Botha, 2014; George, 2009).

Adequate coping skills and learning how to cope with stressors are necessary for adolescents to avoid developing psychological and behavioural problems (Barnes, 2015; Downey, Johnston, Hansen, Birney, & Stough, 2010).

At different life stages, individuals face a variety of challenges; thus, coping with stress also varies (Moodley, 2008). Challenges faced in adolescence mainly revolve around developing peer relationships, distinguishing self from family, and progressing towards adult identity (De Minzi, 2003).

The integrated stress and coping model (Moos & Schaefer, 1993) proposes that personal and environmental stressors and resources, life crises, and developmental transitions experienced by the individual, including cognitive appraisal and coping response systems, interact bidirectionally to determine the health and well-being of the individual. Thus, interactions between the individual (Panel 1) and the environmental stressors and resources

(Panel 2), coupled with life transitions and life crises (Panel 3), influence coping responses (Panel 4), which then influences the health and well-being of individuals (Panel 5).

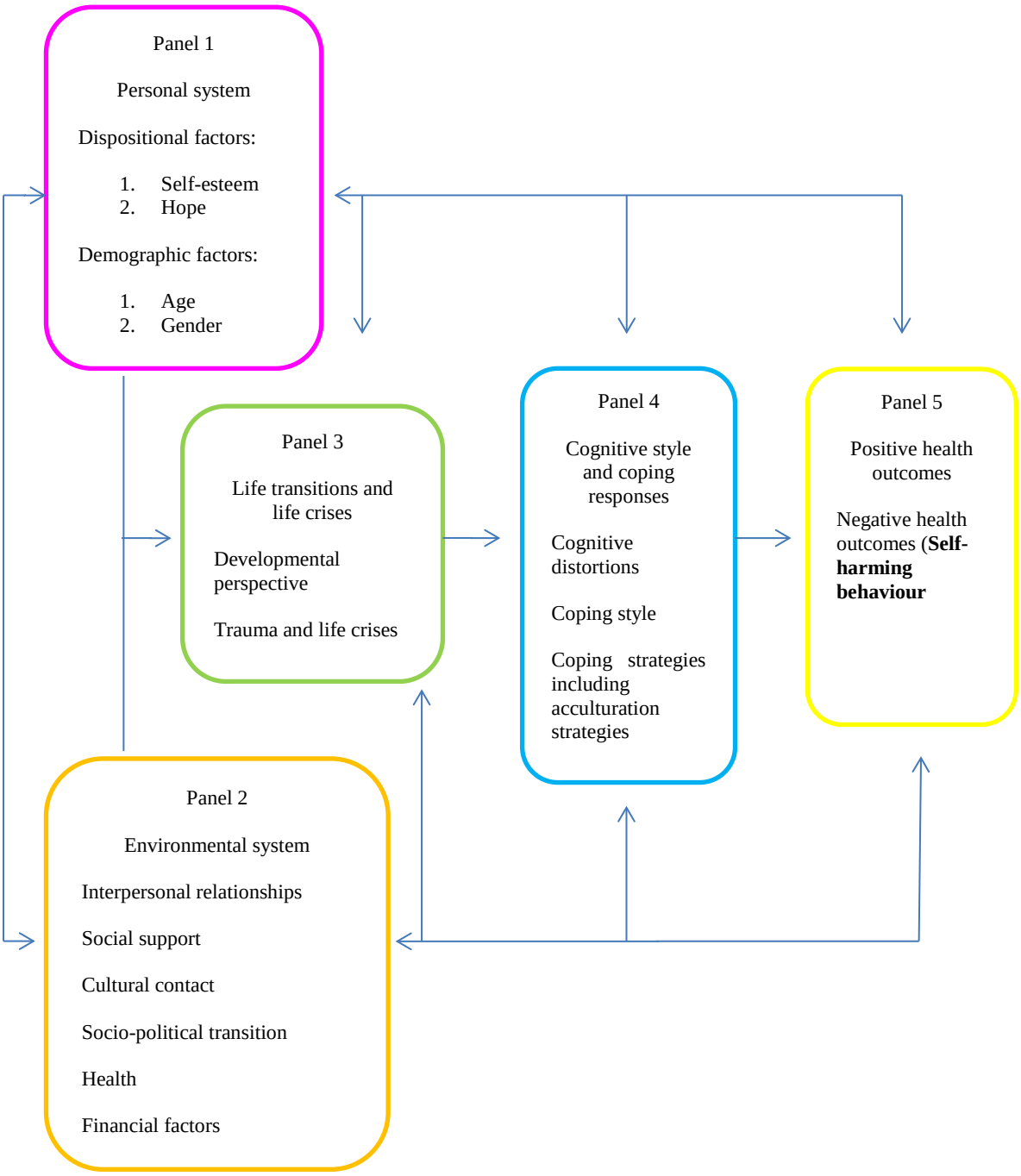

Figure 7. The integrated stress and coping process model (Moos & Schaefer, 1993).

Panel 1, the personal system, includes socio-demographic factors such as age and gender, as well as, dispositional factors such as self-esteem and hope. In Chapter 2, it was mentioned that age is a risk factor for self-harm, especially the developmental phase of adolescence

(Muehlenkamp & Gutierrez, 2007; Sacarcelik et al., 2011). With regard to gender, a vast majority of studies have found that female gender is a risk factor for self-harm (Adler & Adler, 2011; Bakken & Gunter, 2012; Idemudia et al., 2016). However, other studies have found no gender difference (Garisch & Wilson, 2015), and some have found that males are more prone to self-harm (Hall & Place, 2010). Overall, females have been found to be specifically vulnerable to adverse outcomes (Mould, 2014; UNPF, 2016; UNICEF, 2016). It has been shown that self-harm is a form of maladaptive coping (Guerreiro et al., 2013; McVey-Noble et al., 2006; Olson, 2006).

Hopelessness has also been implicated as a risk factor for self-harm (Hawton et al., 2012; Pompili et al., 2013), and in the South African context, it has been found that a high rate of learners feel hopeless (Shilubane et al., 2013).

Panel 2, the environmental system, includes relatively stable environmental life stressors and social resources that affect the stress and coping process. In Chapter 2, the family and school environments were discussed. Research found that self-harm is most often engaged in after experiencing severe problems with parents and family relationships (Asarnow et al., 2008; Grover et al., 2015; Hawton et al., 2012). Other factors that contribute to the family being a risk factor for self-harm are divorce, not living with both parents, the death of a parent, single-parent households, being the only child, familial hostility, and absent fathers (Isohookana et al., 2012; Kokkevvi et al., 2012; Sacarcelik et al., 2011; Nock, 2009; Ougrin et al., 2012; Rossow & Wichstrom, 2010; Tormoen et al., 2014). On the other hand, parents are ideally situated to help prevent adolescent risk behaviour via constructive parental monitoring and effective parent-adolescent communication (Coley et al., 2009; DiClemente et al., 2001). In South Africa, the family is still an important role player in society (Amoateng et al., 2007).

Factors in the school environment have been linked to self-harm as a risk factor, especially the following aspects: academic issues, school stress, exam pressure, increased academic pressure, disappointment regarding school performance, poor school performance, the transition from primary to secondary school, and puberty which occurs at this time (Adler & Adler, 2011; Grover et al., 2015; Hawton et al., 2010; Hussain et al., 2008; Krishnakumar et al., 2011; Laukkanen et al., 2009; McDougall et al., 2010; Sacarcelik et al. 2011; Tan et al., 2014; Taylor et al., 2014; Waters et al., 2012). Adolescents may not know how to cope effectively with academic pressures, which could lead to using self-harm as a maladaptive coping mechanism. However, it has been found that school is a protective factor and decreases

risky behaviour, especially when learners are academically engaged and experience school connectedness and school social cohesion (Bond et al., 2007; Springer et al., 2006). In South Africa, Govender et al. (2013) found that positive perceptions of school connectedness are associated with lower risk-taking behaviour. A further contributing factor is that 27% of South African learners do not feel safe on school property (Reddy et al., 2010), which would in effect diminish their feelings of connectedness and social cohesion at school.

Panel 3, life transitions and life crises, refers to transitory environmental conditions. In Chapter 2, adolescent development was mentioned and some life crises were discussed briefly. As mentioned with reference to Panel 1 above, adolescence is a risky phase for self-harm (Muehlenkamp & Gutierrez, 2007; Sacarcelik et al., 2011), and Carshagen (2012) found that 18.66% of South African adolescents engage in self-harming behaviour. Adolescents are faced with several life crises such as childhood trauma and/or abuse, particularly sexual abuse as well as school related stressors (Asgeirsdottir et al., 2011; Bolen et al., 2013, Grover et al., 2015; Tan et al., 2014), which depending on their coping abilities can lead to negative or positive health outcomes.

Thus, panel 1, 2 and 3 factors interact with one another to influence coping responses.

Panel 4, cognitive style and coping responses, includes coping styles preferred by individuals and coping styles employed by individuals in certain circumstances. Coping strategies are a response to the environmental, individual, and transitional factors mentioned above. These cognitive styles and coping responses lead to certain health outcomes.

Panel 5 refers to positive and negative health outcomes, as they pertain to the stress and coping process. In this study, the health outcome under consideration is self-harming behaviour, which is regarded as a negative outcome of the stress and coping process. It should be borne in mind that not all stress and coping processes lead to negative health outcomes, but may lead to personal growth and promote resilience (Moos & Schaefer, 1993). Resilience is discussed in Chapter 4.

3.2 Definition of Coping

Coping is defined as a "process that unfolds in the context of a situation or condition that is appraised as personally significant and as taxing or exceeding the individual's resources for coping" (Lazarus & Folkman, 1984, p. 78). Over the years, there have been additions to this definition; yet, the different definitions of coping complement one another. Weiten, Llyod, Dunn, and Hammer (2008) conceptualise coping as a collection of responses that enables the individual to deal with psychological distress. Frydenberg (2008) emphasises that coping includes behavioural and cognitive components when managing person-environment relationship demands. Frydenberg (2008) further asserts that an individual's access to resources and styles, as well as strategies used, affects the coping process. In the South African context, it is important to elaborate on the point made by Frydenberg (2008) that access to resources affects the coping process. Du Plessis (2012) also not only emphasises this point, but additionally states that the lack of resources in South Africa will have a great effect on how adolescents cope and which strategies they choose, because a lack of resources may lead to maladaptive coping strategies.

3.3 Wong's Resource-Congruence Model of Coping

As the current study utilises the *Coping Schemes Inventory-Revised* (CSI-R) developed by Wong, Reker, and Peacock (2006), a discussion of Wong's resource-congruence model of coping, which facilitated the development of the CSI-R, follows.

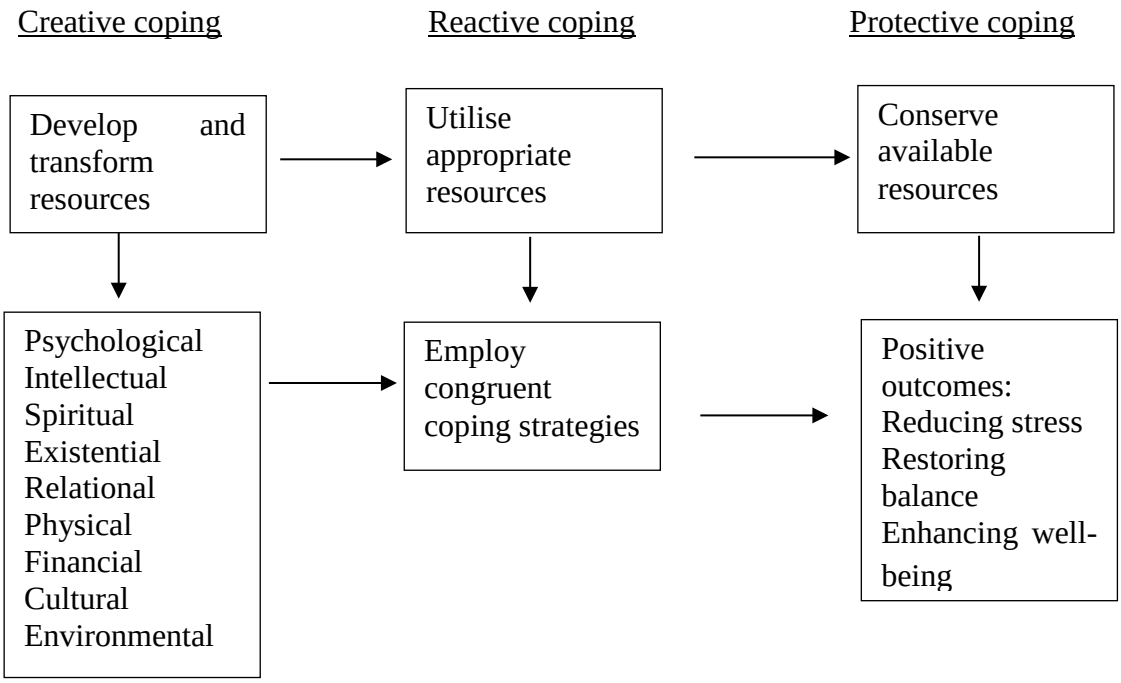

Figure 8. A schematic presentation of the resource-congruence model of effective coping (Wong et al., 2006).

The model proposes that effective coping comprises sufficient resources and the suitable use of such resources on the one hand, and that on the other hand, scarce resources and/or severe digressions from congruence could lead to ineffective coping and possibly stress-related disorders (Wong et al., 2006).

Creative coping is a novel and important concept whereby an individual who regularly develops different resources may lower the probability of stressful encounters, therefore, through creative coping, an individual is able to lessen or eliminate a stressful situation (Wong et al., 2006).

Reactive coping is initiated once a problematic situation is identified via primary appraisal, and two types of congruence are relevant for effective coping. (Wong et al., 2006). "First, appraisal should accurately reflect reality and be based on an objective, rational assessment of the demands and available resources. Secondly, the strategies selected need to be congruent with the nature of the stressor and the cultural context" (Wong et al., 2006, p. 235).

Wong et al. (2006) posit that ample resources coupled with congruent coping will result in stress reduction and improved well-being, but they emphasise that protective coping should

be utilised to sustain personal resources so that energy is available when additional creative coping is necessary.

Wong et al. (2006, p, 239) state that the resource-congruence model has made the following contributions to stress and coping research:

1. A broader spectrum of stressors.
2. A broader spectrum of general life problems.
3. Based on the coping schemas acquired by various peoples.
4. Recognising the importance of cultivating and conserving resources.
5. Taking the importance of the cultural context into account.
6. Providing a comprehensive theoretical framework for predicting what works in what situation.
7. Clarifying the general mechanisms for effective coping and resilience.

The resource-congruence model of coping asserts that effective coping is flexible, creative, and resourceful in improving resources and in the astute use of suitable coping strategies (Wong et al., 2006).

3.4 Types of Coping

Literature abounds with information on coping, and advances in stress and coping research have enabled the shift from understanding human adjustment to investigating how individuals are successful in navigating life (Frydenberg, 2008).

Various coping strategies have been identified (Eggum, Sallquist, & Eisenberg, 2011), and most of the research regarding child and adolescent coping is based on the transactional model of coping conceptualised by Lazarus and Folkman (1984). Lazarus and Folkman (1984) emphasise the context in which coping occurs, how an individual attempts to cope, and coping as a continually changing process.

Coping strategies used by youths vary in response to diverse stressors (Boxer & Sloan-Power, 2013). Boxer and Sloan-Power (2013) claim that the difference between healthy and

negative adjustment depends on the choice of coping response, which supports the contention of Moos and Schaefer (1993) that cognitive styles and coping responses may lead to either positive or negative health outcomes. Therefore, coping is best viewed along a continuum that ranges from dealing with stress and adaptation on the one end to success and achieving goals on the other end (Frydenberg, 2008).

Positive outcomes such as academic achievement, feeling competent, and good health are associated with effective coping behaviour, whereas high-risk behaviour such as substance abuse, risky sexual behaviour, crime, and suicide are linked with deficient coping (Zimmer-Gembeck & Skinner, 2008). Characteristics of adolescents who frequently employ coping strategies that are more effective include temperament, optimism, perceived personal control, family factors (family cohesion, shared values, relationship with at least one caregiver, and loving parents), flexibility, and social support (Frydenberg, 2008).

Effectively coping with a variety of stressors requires a large repertoire of coping strategies. The following major types of coping have been well established by research:

3.4.1 Problem-focused versus emotion-focused coping. The transactional model of coping (Folkman, 1982; Lazarus & Folkman, 1984) identifies problem-focused (or behavioural) coping and emotion-focused (or cognitive) coping. Individuals who address the cause of their problems employ problem-focused coping (Folkman, Lazarus, Dunkel-Schetter, Delongis, & Gruen, 1986). Alternatively, those who avoid the issue attribute it to supernatural powers, engage in distracting activities, or search for meaning in life events are more likely to employ emotion-focused coping (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984). Emotion-focused coping is used more often by adolescent females than by adolescent males in coping with daily life (Eschenbeck, Kohlmann, & Lohaus, 2007; Piko, 2011; Moodley, Esterhuyse, & Beukes, 2012).

Research conducted by Wong et al. (2006) identifies nine coping schemas, namely situational coping, self-restructuring coping, active emotional coping, passive emotional coping, meaning coping, acceptance coping, religious coping, social support coping, and tension-reduction coping. Coping schemas that may be classified as problem-focused coping are situational coping, self-restructuring coping, and active emotional coping, whereas coping schemas that are emotion-focused are acceptance coping, active and passive emotional coping, tension-reduction coping, religious coping, and meaning coping.

3.4.2 Approach versus avoidance. Approach (engagement) coping and avoidance (disengagement) coping styles have been identified (Roth & Cohen, 1986; Suls & Fletcher, 1985).

Approach or engagement coping is linked with positive outcomes, especially improved behavioural and mental health outcomes in children and adolescents, thus considered as positive coping (Boxer & Sloan-Power, 2013; Folkman & Moskowitz, 2004). Approach coping includes logical analysis and positive reappraisal in order to address distressing issues (Ng, Ang, & Ho, 2012). Approach coping is correlated negatively with depression, which is a risk factor for self-harm (Li, DiGiuseppe, & Froh, 2006).

Avoidance coping is linked with negative outcomes, especially emotional symptoms or problem behaviours such as high anxiety or maladaptive behaviour, thus considered negative coping (Boxer & Sloan-Power, 2013; Dempsey, 2002; Folkman & Moskowitz, 2004). Individuals who employ negative coping may distance themselves psychologically or physically from a stressful situation, act out anxious or angry arousal (externalised coping), or retreat emotionally inward via worry, sadness, or self-pity (internalised coping) (Boxer & Sloan-Power, 2013). Adolescents who engage in avoidance coping may use distracting activities such as alcohol and drugs, which do not solve the problem (Ng et al., 2012). The use of avoidance coping strategies has been correlated positively with anxiety and depression, which both constitute risk factors for self-harm (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Hunt et al., 2007). In a South African study, Moodley (2008) found an interesting link between religion and avoiding problems: The group who rated religion of lesser importance scored significantly higher on avoiding problems, as compared to the group who rated religion as important.

Ebata and Moos (1991) found that problem-solving coping (combined with positive thinking) results in fewer emotional and behavioural issues, while non-productive coping (avoidance) leads to poorer adjustment and mental health problems among adolescents (Frydenberg & Lewis, 1999; Sandler, Wolchik, MacKinnon, Ayers, & Roosa, 1997). Individuals who employ avoidant coping have reduced skills in reflecting their problems and will often shift responsibility of their situation to others (Aebi, Giger, Plattner, Winkler Metzke, & Steinhausen, 2014). In the long term, avoidant coping will lead to higher stress levels (Aebi et al., 2014).

3.4.3 Primary control versus secondary control. Control is a two-way process that involves primary control and secondary control (Rothbaum, Weisz, & Snyder, 1982).

Primary control involves attempts to change the world so that it fits the individual's needs. Here individuals try to gain control by influencing realities possibly through acts involving personal agency, dominance, or aggression intending to express, enhance, or sustain individualism and personal autonomy (Rothbaum et al., 1982; Weisz, Rothbaum, & Blackburn, 1984). Weisz et al. (1984) emphasise that endeavours to change things that present resistance will lead to successes and failures.

Secondary control involves attempts to fit in with the world and 'go with the flow'. Here, individuals try to align themselves with existing realities by not changing realities but controlling the psychological effect it may have on them, which could limit individualism and personal autonomy but improve alignment or goodness of fit with people, objects, or circumstances in their reality (Rothbaum et al., 1982; Weisz et al., 1984). Weisz et al. (1984) emphasise that endeavours to adjust to resistance may be experienced as a more viable option leading to less intense highs and lows.

In some circumstances, individuals do surrender control while in others they actively chase control; however it is not exclusively an 'either or' situation but rather a combination as individuals strive for both primary and secondary control (Weisz et al., 1984). Neither primary nor secondary control is thought of to exist in pure form, as they are often combined, especially when individuals negotiate and compromise (Lazarus et al., 1981; Rothbaum et al., 1982).

3.4.4 Meaning versus mastery coping. Meaning denotes accommodative coping, whereas mastery denotes problem-focused or assimilative coping (Schwarzer & Knoll, 2004).

Meaning is the attempt to make sense of and understand the reasons and effects of an event (Taylor, 1983). In the pursuit of finding meaning individuals may ask themselves "what is the significance of the event?" and "what does my life mean now?" (Taylor, 1983, p. 1161). Meaning is connected to an attributional search that focuses on the question, "What caused the event to happen?" (Taylor, 1983, p. 1161).

According to Schwarzer and Knoll (2004), researchers have ascribed different roles to meaning in the coping process, namely conceptualised meaning as dissimilar from coping, interwoven with coping, or as a factor influencing coping in the process, such as appraisals

(Affleck & Tennen, 1996; Folkman & Moskowitz, 2000; Lazarus, 1991). Being able to find meaning in difficult situations is a powerful human strength that may reduce physical and psychological harm to an individual (Afflek, Tennen, Croog, & Levine, 1987; Davis, Nolen-Hoeksema, & Larson, 1998).

Mastery is the attempt to achieve control over the event and one's life and questions such as, "How can I keep this or a similar event from happening again" and "What can I do to manage it now? (Taylor, 1983, p. 1161). Mastery is connected to beliefs about personal control (Taylor, 1983).

Meaning and mastery coping may occur concurrently or consecutively: First, individuals may attempt to change the demands that are in jeopardy, and then, if unsuccessful, may attempt to reinterpret and find objective meaning in their predicament (Schwarzer & Knoll, 2004).

3.4.5 Emotional versus tangible social support. Social support is a multidimensional concept referring to the psychological and material resources of an individual via his or her interpersonal relationships (Rodriquez & Cohen, 1998). It is a process in which individuals manage their social network resources to enrich their coping with adverse situations, meet social needs, and attain goals (Rodriquez & Cohen, 1998).

Emotional support consists of intimacy, attachment, reassurance, confiding in and relying upon another individual, all influencing the feeling of being loved, cared about, and included (Schaefer, Coyne, & Lazarus, 1981). On the other hand, tangible support consists of direct aid or services such as loans, monetary gifts, and gifts of goods, as well as provision of services or assisting with duties and/or chores (Schaefer et al., 1981).

Social support has a positive effect on mental and physical health. Individuals cope better in stressful situations when they have social support: however, physical illness and pathology may result from deficient social support (Rodriquez & Cohen, 1998; Schaefer et al., 1981).

Moodley (2008) found that in South Africa, male adolescents scored significantly lower on the social support coping subscale than female adolescents did, which suggests gender socialisation differences.

3.4.6 Functional versus dysfunctional coping. Coping strategies can be categorised into functional and dysfunctional coping (Frydenberg & Lewis, 2014; Frydenberg, 2014). Functional coping strategies (productive coping) are efforts to deal directly with an issue with

or without reference to others, while dysfunctional coping strategies involve the use of non-productive strategies (worry, blame) (Ebata & Moos, 1991; Frydenberg, 2008).

Carver et al. (1989) developed the *COPE* scale, which is a multidimensional coping inventory used to assess the different ways in which people respond to stress. The COPE instrument went one step further than Folkman (1982) and included dysfunctional coping strategies in their instrument, such as mental disengagement, denial, behavioural disengagement, and substance use (Carver et al., 1989; Carver et al., 1993).

Indeed, during adolescence, coping strategies develop based on prior experiences and will have an effect on how an adolescent copes with future stressors (Seiffge-Krenke et al., 2006); therefore, it is of paramount importance to develop adaptive coping strategies early in life.

3.5 Coping and Self-Harm

Self-harm is viewed as a maladaptive coping strategy (McVey-Noble et al., 2006; Olson, 2006) and has been linked inversely with the use of effective coping strategies (Gratz & Roemer, 2008). Self-harm as a maladaptive coping strategy is often employed when adolescents fail to regulate their emotions when exposed to high stress (Drimie & Casale, 2009; Zeman et al., 2006). Gregory and Mustata (2012) proposed that, instead of employing adaptive coping strategies by symbolising and expressing negative emotions with language, self-harmers cut as a means to regulate emotional states. Also, Brown and Kimball (2013) claim that self-harm functions substantially as a way for adolescents to manage emotions and stay in control. Self-harm may be a behaviour chosen by individuals due to a lack of adequate coping skills (Israelashvilli et al., 2006), and in the self-harm explanatory model (Sandy, 2013) (see Figure 2 in Chapter 2), it is postulated how a depletion of coping skills may lead to self-harm. Indeed, habitual self-harm may diminish coping resources in the long run (Garisch & Wilson, 2015). Consequently, it is theorised that a depletion of coping skills may lead to self-harm, and self-harm may lead to a depletion of coping skills; thus, a cyclical relationship may be inferred.

In a South African study, it was found that passive emotional coping and emotional reactivity significantly predict the risk of engaging in self-harming behaviour (Carshagen, 2012). The study further noticed marked differences in how adolescents who employ self-harm cope, more often by using passive emotional coping (Carshagen, 2012). In addition, various studies have found that self-harm is an attempt to reduce negative affect, which may be

worsened by passive emotional coping such as rumination, self-blame, and helplessness (Borrill, Fox, Flynn, & Roger, 2009; Evans et al., 2005; Mikolajczak et al., 2009). In addition, tension-reduction coping has been linked with self-harm as in the four-factor model of self-harm (Nock & Prinstein, 2004, 2005) (see Figure 5 in Chapter 2), and it is posited that self-harming behaviour may enable the reduction of tension and other affective states. However, it has been found that social coping buffers adolescents against the risk of engaging in self-harming behaviour (Carshagen, 2012).

Lynn (2013) contends that many of the young individuals with whom they have worked have used self-harm as a coping strategy without an intent to die. In agreement with Lynn (2013), Milnes, Owens, and Blenkiron (2002) claim that self-harm is a coping option when an individual feels overwhelmed by unsolvable problems. McDougall et al. (2010) further suggest that self-harm allows the abused youth to take control, thus serving a protective or self-preserving function.

The study of adolescent coping responses and strategies has led to the development of interventions that aim to foster optimal functioning (Zimmer-Gembeck & Skinner, 2008). For example, mindfulness-related techniques have been found to be an effective intervention for self-harmers (Roe-Sefowitz, 2007).

3.6 Coping and Resilience

Resilience and coping are continuing dynamic processes, adapting in response to shifting demands of stressful situations (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Coping and resilience are related concepts, both focusing on stress responses, but they are theoretically different (Ng et al., 2012; Stratta, 2013). Differentiating however, coping appears instant, as a short-term resource whereas resilience is a long-term resource (Ng et al., 2012). The forerunner of resilience is coping strategies, thus resilience is the outcome of employing coping strategies (Rutter, 2007; Stratta, 2013). Coping involves the efforts made by an individual to mobilise personal resources, and resilience will occur only if such efforts lead to successful outcomes (Compas et al., 2001). Not all individuals who employ coping strategies are resilient (Stratta, 2013) and coping does not necessarily lead to a positive outcome (Beasley, Thompson, & Davidson, 2003; Moos & Schaefer, 1993). Compas et al. (2001) found that resilient individuals use coping mechanisms that are more effective. Psychosocial factors such as mastery and optimism, which can be found in resilient individuals, cultivate adaptive coping

strategies (Alim et al., 2008). Additionally, coping assists in developing a sense of mastery and control, which forms part of resilience (Seery, Holman, & Silver, 2010). Parker, Jimmieson, Walsh, and Loakes (2015) found that individuals with high levels of resilience engage in coping that is more problem-focused, positive reappraisal and greater task mastery, as well as task performance that is more proficient and adaptive. The researchers argue that their findings are in line with previous research that demonstrates that resilient individuals engage in adaptive coping behaviour (Moorhouse & Caltabiano, 2007). Therefore, to foster resilience, it is important to develop a variety of coping skills (Frydenberg, 2008).

3.7 Chapter Summary

This chapter introduced coping by means of the integrated stress and coping model of Moos and Schaefer (1993) and included aspects of coping such as definitions, types, and the association between coping and self-harm, as well as the association between coping and resilience. In the next chapter, resilience is discussed in more detail.

Chapter 4: Resilience

This chapter focuses on resilience and includes the following aspects: firstly, a brief history of resilience; secondly, definitions of resilience; thirdly, characteristics of resilient individuals; fourthly, a brief description of Kumpfer's (1999) resilience model; fifthly, types of resilience; and lastly, the relationship between resilience and self-harm.

Adolescence is a challenging phase in the human development pathway, and resilience is an important factor influencing successful adolescent adjustment. If adolescence is not navigated carefully and adjustment is compromised, psychopathology may develop (De Longis & Holtzman, 2005; Mash & Barkley, 1996; Noor & Alwi, 2013). Resilience plays a vital part in positive mental health by acting as a lifelong buffer protecting individuals' well-being from potential threats (Khanlou & Wray, 2014).

4.1 Background

The devastation of World War II sparked an interest in resilience science given the need for people to recover and literally rebound from their calamities (Werner, 2000), which provided the foundation for resilience research. Kolar, Erickson, and Stewart (2012) believed that Norman Garmezy developed resilience research during the early 1970s when Garmezy was studying children at risk for psychopathology; thus, in the 1970s, research on resilience in the behavioural sciences became apparent (Cicchetti, 2006; Masten, 2007, 2011).

Werner and Smith were pioneers in the study of resilience as they pointed out the importance of resilience as well as that of social support and a lifespan approach in 1982 (Rutter, 2013). In 1987, Michael Rutter's landmark article (the most cited journal article on psychosocial resilience) set the stage for further waves of research on resilience (Masten & Narayan, 2012; Masten, 2014).

Wright and Masten (2006) gave a thorough description of the three waves of resilience research, and Masten (2007) added a fourth emergent wave. Firstly, resilience studies were descriptive and exploratory, describing resilience phenomena, concepts and methodologies, focusing on the individual. These studies aimed to identify characteristics of the child, family, relationships, and the wider environment that serve as risk and protective factors, thus contributing meaningfully to knowledge on risk and protective factors. Secondly, studies began to offer dynamic accounts of resilience, utilising a developmental-systemic approach in making

sense of the interplay between individuals and systems. There was sophistication of method and concept, focusing on processes and longitudinality. Factors identified in the first wave were used to explain the "how" (underlying processes) of resilience. The second wave saw the materialisation of developmental psychopathology. Thirdly, the need for action arose; therefore, the third wave of resilience research focused on interventions and enhancing resilience. The use of randomised control studies in the 1990s facilitated the numerous evidence-based interventions currently available.

Finally, Masten (2007) proposed an emergent fourth wave of resilience research, which entails increasing interest and knowledge of neural and psychobiological systems that might play a role in resilient behaviour. Botha (2014) is of the opinion that the variety of resilience definitions may have emerged from the various findings generated by the three waves of resilience research.

4.2 Definition

There is a lack of consensus concerning the origins, meaning, and definition of resilience (Khanlou & Wray, 2014, Zunic-Pavlovic, Pavlovic, Kovacevic-Lepojevic, Glumbic, & Kovacevic, 2013). Resilience has been called the 'ordinary magic' that children and adolescents display in overcoming challenging social circumstances or traumatic life events (Masten, 2001). Luthar and Cicchetti (2000, p. 858) define resilience as a "dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma". Resilience only develops when a challenge is present, leading to a stronger individual (Khanlou & Wray, 2014). According to a systemic perspective, Prince-Embury (2011) defines resilience as the complex interaction of individual characteristics and external support that buffers the effects of negative situations that place individuals at risk for negative outcomes. Therefore, resilience could be seen as the ability to bounce back from substantial difficulties, successful adaptation in the face of stressful life events, or a positive outcome despite developmental risks (Gilmore et al., 2013). Additionally, resilience reinforces and enhances protective factors (Richardson, 2002).

Resilience has been theorised as an outcome and transactional process, dispositional and trait-like as well as state-like and receptive to development (Fletcher & Sarkar, 2013; Luthans, Vogelgesang, & Lester, 2006; Sameroff, 2009; Theron & Theron, 2010). The idea that resilience is a process is in contrast to previous definitions that view resilience as a personality

trait, but this is currently the most accepted and recent view (Daigneault, Dion, Hebert, McDuff, & Collin-Vezina, 2013; Fergus & Zimmerman, 2005; Khanlou & Wray, 2014; Luthar, Cicchetti, & Becker, 2000). Research asserts that resilience is a strength-based concept focusing on an individual's strengths and not his or her deficits (Fergus & Zimmerman, 2005; Khanlou & Wray, 2014). It should be noted that a distinction is be made between 'resilience' and 'resiliency': Luthar and Zelazo (2003) state that 'resilience' is interactive and contextual while 'resiliency' refers to personal attributes. To corroborate this distinction, Masten (1994) states that 'resilience' is the process and 'resiliency' is a personality trait. A number of authors suggest that the following are attributes of resilience: family and/or social support, the availability of resources, and individual characteristics such as genetic, biological, personality, and temperament factors (Ahern, Kiehl, Lou Sole, & Byers, 2006; Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003) some of which will be discussed in the following section.

4.3 Characteristics of Resilient Individuals

Youths at risk may gain life-preserving benefits from resilience, as resilience bestows a sense of empowerment and may reduce the need for negative and self-destructive behaviour (Thompkins & Schwartz, 2009). Research has shown that resilience enhances social problem-solving skills, decreases the effects of stress and boosts self-esteem and self-confidence (Capuzzi & Gross, 2008). Individuals that are more resilient seek support from others, are attached to significant others more closely and more securely, display greater self-efficacy, are proactive when dealing with life matters, and have a sense of humour (Rutter, 1985). Resilient individuals have optimism, faith, intrinsic strength, and resources that allow them to overcome hopelessness, despair, and depression (Connor & Davidson, 2003; Thompkins & Schwartz, 2009). According to a South African study, personal, relational, and community resources were highlighted as paramount for the development of resilience (Theron & Dunn, 2010). Anxiety and depression symptoms may be lessened by strengthening resilience characteristics (Skrove, Romundstad, & Indredavik, 2013). Research has found that high levels of mastery and sense of relatedness act as buffers and that individuals with low resilience may present with enhanced reactivity to stressful events and have more difficulty regulating negative emotions (De Longis & Holtzman, 2005; Ong, Bergeman, Bisconti, & Wallace, 2006).

Moreover, researchers have revealed that developing competencies related to an individual's resiliency can equip individuals with skills to overcome socioeconomic and

environmental adversities; additionally, such competencies may be made the most of to promote adaptation, growth, and future development (Wright, Masten, & Narayan, 2013).

Various researchers insist that a multi-disciplinary commitment (teachers, psychologists, coaches, and social workers) is needed to foster resilience in the South African context (Mampane & Bouwer, 2011; Theron, 2012; Theron & Donald, 2012; Theron, Theron, & Malindi, 2013).

4.4 Kumpfer's Resilience Model

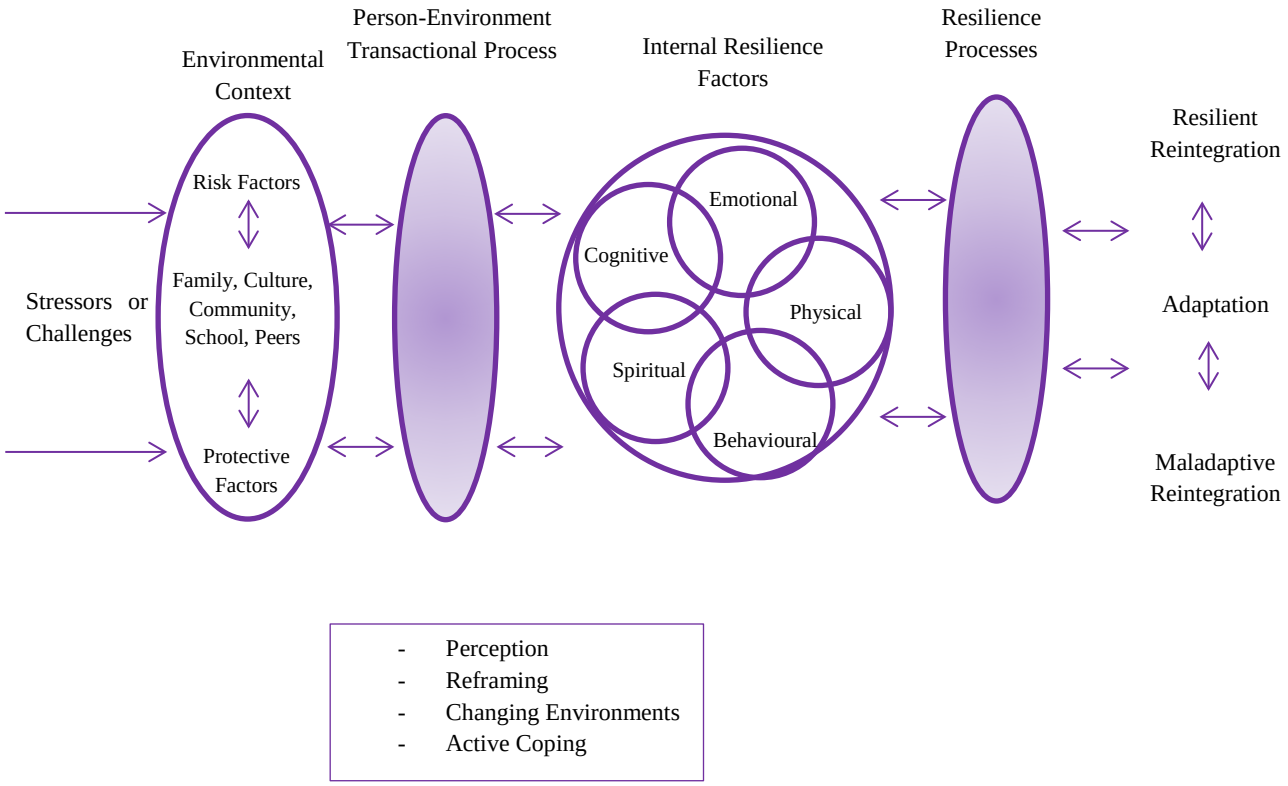

Figure 9. Kumpfer's resilience model (1999, p. 183).

Bronfenbrenner and Crouter (1983) propose an ecological model to study the resilience process and the link between risk and protective factors because resilience is conceptualised as a transactional process. Kumpfer (1999) adds to Bronfenbrenner and Crouter's (1983) ecological model by proposing a resilience model that includes processes and outcomes predictive of resilience. Kumpfer's (1999) resilience model identifies four areas of influence: the stressor or challenge, individual characteristics, the environmental context, and the outcome. This model also includes two transactional points between these areas, namely the

person-environment transactional process and the resilience process (Kumpfer, 1999). According to Kumpfer (1999), the resilience process is dynamic, and resilience is a process as well as an outcome reliant on past positive adaptation.

4.5 Types of Resilience as Conceptualised by Prince-Embury (2011)

4.5.1 Sense of mastery. Sense of mastery or self-efficacy is an essential mechanism in youth resilience (Prince-Embury, 2011). Youths' awareness of mastery or efficacy affords them the opportunity for meaningful interpersonal relationships in the environment (White, 1959). According to White (1959), innate curiosity, which is inherently rewarding and is the foundation for problem-solving skills, fuels a sense of mastery. The Sense of Mastery Scale in the RSCA (Prince-Embury, 2007) is made up of three connected constructs: optimism, self-efficacy, and adaptability. Prince-Embury (2011) theorises that youths with a greater sense of mastery may be less inclined to pathology and more successful at school.

On the other hand, although research has connected optimism and adaptability to a range of adjustment problems, research has not yet investigated the role of optimism and adaptability in externalising and internalising problems (Zunic-Pavlovic et al., 2013). Furthermore, research into self-efficacy and externalising problems has reported mixed findings (Zunic-Pavlovic et al., 2013).

4.5.2 Sense of relatedness. Sense of relatedness is the experience of being firmly bonded or attached to others in social environments (Prince-Embury, 2007). According to Prince-Embury (2011), youths' relational experience and skills act as a buffer against adversity in two ways: Firstly, relationships may be seen as affording support in certain situations, and secondly, youths' collective experience of support during past difficulties may protect them from suffering undesirable psychological impact. Developmental psychopathologists such as Werner and Smith (1982) agree that relationships and relational ability are important mediators of resilience (Prince-Embury, 2011). Trust, one facet of relational ability, is in line with the first stage of Erikson's (1963) social-emotional development, on which all subsequent social development rests (Prince-Embury, 2011). Developmental and personality theorists believe differences in temperament influence interpersonal relationships and thus also the development of the ability to trust (Prince-Embury, 2011). Research has found that adolescents with a low sense of relatedness are more prone to externalising and internalising problems, that low-quality attachments and both types of problem behaviours have been linked repeatedly, and that

negative relationships between perceived social support and both types of problem behaviour exist (Allen, Moore, Kuperminc, & Bell, 1998; Demaray & Malecki, 2002; Laible, Carlo, & Raffaelli, 2000; Scholte, Van Lieshout, & Van Aken, 2001; Zunic-Pavlovic et al., 2013).

Prince-Embury (2011) hypothesises that youths who are more resilient will have a greater sense of relatedness and thus will be less susceptible to undesirable outcomes when faced with difficulties.

4.5.3 Emotional reactivity. Emotional reactivity is the arousability or threshold of tolerance preceding an unfavourable event or circumstance (Prince-Embury, 2011). Emotional reactivity influences the level of emotional arousal sparked by difficulties and thus determines how hard the individual would need to work at regulating, modifying, and redirecting his or her arousal (Prince-Embury, 2011). To navigate successfully through emotional circumstances, youths must be able to regulate and redirect their emotional arousal (Cicchetti, Ganiban, & Barnett, 1991; Thompson, 1990). Emotional regulation influences the development of resilience (Cicchetti & Tucker, 1994; Eisenberg, Champion, & Ma, 2004).

Developmental psychopathology has shown that the development of psychopathology in youths exposed to difficulties is linked with their emotional reactivity and their inability to regulate this. Research by Silk, Steinberg, and Morris (2003) shows that intense and labile negative emotions coupled with low regulation of emotion were linked to increased externalising and internalising problems.

The study by Zunic-Pavlovic et al. (2013) investigated the importance of various facets of personal resilience in the development of internalising and externalising behavioural problems in 805 Serbian adolescents, and the following are the most salient findings pertaining to the current study: Low levels of sense of mastery and sense of relatedness, as well as high levels of emotional reactivity, were linked with adjustment problems. Low optimism and high levels of comfort, recovery, and impairment predicted emotional distress. Low optimism, trust, support and comfort as well as high sensitivity predicted negative self-problems. Sense of mastery (as a whole) was linked with adolescents' adjustment problems. Less optimistic adolescents experienced greater anger, control problems, emotional distress, and negative self-problems. Optimism was found to be the strongest emotional distress factor. Trust and support were related inversely to negative self-problems. Social support was influential to some degree in predicting negative self-problems. Low comfort predicted negative self-problems, and poor

interpersonal comfort was linked to negative self-problems. The study sheds light on the importance of emotional reactivity for externalising and internalising problems in adolescence. High levels of sensitivity predicted high levels of anger control problems, emotional distress, and negative self-problems. Deficient emotional regulation plays a role in adolescents' externalising and internalising problems.

4.6 Self-Harm and Resilience

There is a dearth of literature regarding the role that resilience may play in self-harm, and vice versa. However, research has linked self-harm with lower resilience, and it has also been found that self-harm depletes resources for continuing self-management because self-harm may become habitual (Everall et al., 2006; Garisch & Wilson, 2015; Nixon et al., 2002). Additionally, South African research has found that an increase in emotional reactivity leads to an increase in the risk of engaging in self-harm (Carshagen, 2012).

Resilience plays a role in internalising disorders (Zunic-Pavlovic et al., 2013), and research has shown that internalising disorders such as depression and anxiety put adolescents at an increased risk for self-harming behaviour (Chartrand, Sareen, Toews, & Bolton, 2012; Klonsky & Olino, 2008). Thus, it could be hypothesised that resilience may play a role in the development of self-harm.

4.7 Chapter Summary

This chapter focused on resilience and included discussions of the following aspects: firstly, a brief history of resilience; secondly, definitions of resilience; thirdly, characteristics of resilient individuals; fourthly, a brief description of Kumpfer's resilience model; fifthly, types of resilience; and lastly, the relationship between resilience and self-harm. In the next chapter, the methodology of the study is covered in detail.

Chapter 5: Research Methodology

In this chapter, the methodology employed in this research study is discussed. Firstly, the discussion includes an explanation of the research context, research objectives, and research questions. Secondly, the research design is presented. Thirdly, the selection and characteristics of the participants are described. Fourthly, the measuring instruments used are described. Fifthly, the procedure followed in conducting the study is discussed. Sixthly, ethical considerations are mentioned. Lastly, the statistical procedures followed to analyse the data are presented.

5.1 Research Context

The broader research project titled *Risk and Resilience of Adolescents in the Free State Province* (George et al., 2012) was carried out by researchers from the Department of Psychology, University of the Free State, Bloemfontein, South Africa. The study was conducted against the background of two national surveys done in South Africa by Reddy et al. (2003, 2010). The national surveys indicated concern for the well-being of our adolescent learners. Furthermore, reporting data associated with the Free State Province specified the presence of high levels of risk behaviour; hence, a need to further investigate risk and protective factors that were at play among adolescents in the Free State Province (Reddy et al., 2003, 2010).

The current study was launched to gain a greater in-depth view into the dynamics that influence adolescent risk and protective behaviour, and to this end, a dataset that was gathered from the 2012 wave of data collection for the project *Risk and Resilience of Adolescents in the Free State Province* was utilised. Consequently, a number of secondary schools were targeted in the Free State Province of South Africa.

5.1.1 Research objectives. The overarching aim of the study was to determine if coping and resilience are predictors of adolescent self-harm in the Free State Province.

5.1.2 Research question. The overarching research question for this study was:

Does coping and resilience predict adolescent self-harm in the Free State Province?

To answer this research question, the following sub questions would be answered in this study:

1. What is the prevalence rate of self-harming behaviour for adolescents in the Free State Province?

2. Does gender and age predict group membership (self-harming versus non-self-harming groups) among adolescents in the Free State Province?

3. To what extent are coping and resilience able to predict group membership (self-harming versus non self-harming groups) among adolescents in the Free State Province?

5.2 Research Design

A non-experimental, quantitative, cross-sectional and correlational research design was employed (Durrheim & Painter, 2010). Quantitative research designs have two main strengths: The findings are generalisable and the data are objective, which in essence are ideals to strive towards (Durrheim & Painter, 2010). Quantitative designs enable researchers to quantify data, thus enabling statistical analysis (descriptive and inferential) (Madrigal & McClain, 2012). It is, however, difficult to determine the "why" behind the findings of a quantitative study (Madrigal & McClain, 2012). Flick (2011) states that an advantage of quantitative research is that it enables the study of a large population in a somewhat short period, and the results have a high degree of generalisability. On the other hand, a disadvantage of quantitative research is that the aspects studied might not be relevant to the population, and the context and meaning of what is studied cannot be considered fully (Flick, 2011).

When conducting correlational research, the aim is to examine links or relationships between variables (Walker, 2005) and to 'see' relationships between variables that may be displayed in graphical format (McLeod, 2008). Correlational research allows the researcher to investigate variables that may be impractical to test experimentally or that possibly could be unethical (McLeod, 2008). Correlation does not imply causation and does not allow the researcher to go beyond the given data (McLeod, 2008).

5.3 Participants

Schools present an ideal location to gather information about youths and their behaviour (Shilubane et al., 2013). A probability sampling method, namely simple random sampling, was used to select the high schools. Probability sampling methods adhere to the principles of

randomness and probability theory, and results obtained can be generalised accurately to the population (Maree & Pieterson, 2010). A list of all the secondary schools in the Free State Province was obtained, and the schools were divided into their respective districts (five in total). Ten schools were identified (randomly selecting two schools from each district); however, one of the identified schools withdrew during the process of data gathering due to logistical problems, leading to nine schools participating. Only Grade 10 learners were selected for this study, which is a non-probability method of sampling, namely purposive sampling, as the sampling was done with a specific purpose in mind (Maree & Pieterson, 2010). The study was a long term project which was initiated in 2010 with Grade 8 learners and the same group of learners were sampled again in 2012 when they were in Grade 10. It was envisaged to sample them again in 2014 when they were in Grade 12, but due to their final school examinations the principals of the schools did not want the learners' school work to be disrupted.

From the identified schools, the Grade 10 learners were the identified group, and subsequently tested. Participants included 962 Grade 10 learners consisting of 401 males (41.7%) and 561 females (57.9%). Seven participants returned invalid or uncompleted test batteries; thus, 955 participants were included in the study. The sample included respondents from both urban and rural areas, as well as from different socio-economic backgrounds. Table 3 shows a demographic layout of the sample characteristics:

Table 3

Characteristics of Research Sample

Mean Age	Race*		Home Language**	
16.34 years (min/max: 14-18 years)	Black	70.7%	Sotho	43.8%
	White	17.2%	Afrikaans	23.5%
	Coloured	8.8%	Tswana	13.1%
	Asian	2.5%	Xhosa	9.9%
			English	4.7%
			Zulu	3.2%
			Pedi	0.3%

** Missing data n = 8*

***Missing data n = 14*

From the Table 3 , it should be noted that eight participants chose not to complete the question regarding race, and 14 participants chose not to complete the question about home language.

5.4 Measuring Instruments

The following measuring instruments were used and are attached as appendices on page 137:

5.4.1 Biographical questionnaire. A biographical questionnaire with 36 questions was administered to the respondents. From this questionnaire, various demographic data, such as age, gender, and social grouping, were obtained. Question 13 of the questionnaire reading, "Have you ever self-harmed?" was included additionally to distinguish between participants who self-harmed and those who did not self-harm, looking specifically at life-time prevalence of self-harm.

5.4.2 The Coping Schema Inventory – Revised (CSI-R: Wong et al., 2006). The CSI-R was also administered to the learners. The CSI-R assesses how participants cope along the following nine different coping strategies: situational, self-restructuring, active emotional, passive emotional, meaning, acceptance, religious, social support, and tension reduction. The scale consists of 72 items, which are answered using a 5-point Likert scale. Scale scores are calculated as the average item score, between one and five. A high score indicates that the respondent makes frequent use of a particular coping strategy, while a low score indicates infrequent use. Previous research has reported Cronbach's alpha coefficients for the different subscales range from 0.85 to 0.98 (Wong et al., 2006). Wolmarans (2010) reported Cronbach's alpha-coefficients between 0.59 and 0.87 for an adolescent population in the Free State, South Africa.

Table 4

Delineation of the Coping Subscales (CSI-R, Wong et al., 2006)

Subscale name	Explanation	N of items	Score range	Sample item
Situational	Similar to problem-focused coping	8	8-40	Do something about the situation
Self-restructuring	Changing attitude or behaviour to suit the situation	8	8-40	Do what is necessary to fulfil the requirements of the situation
Active emotional	Similar to seeking emotional support	8	8-40	Express my feelings and thoughts
Passive emotional	Similar to emotion-focused coping	12	12-60	Wish that I could undo the past
Meaning	Similar to meaning-focused coping	4	4-20	Believe that there must be a purpose in the suffering I experience
Acceptance	Accepting what cannot be changed	9	9-45	Accept what has happened because eventually things will work out as well as can be expected
Religious	Seeking help from God or a higher power	9	9-45	Do what is necessary to maintain a personal relationship with God
Social support	Seeking tangible help from friends and/or experts	6	6-30	Rely on others to do what I cannot do myself
Tension reduction	Practising relaxation and meditation	8	8-40	Practise controlled breathing techniques

5.4.3 The Resiliency Scale for Children and Adolescents (RSCA: Prince-Embury, 2007). The RSCA assesses areas of perceived strength and/or vulnerability related to the resilience of respondents. The scale is subdivided into three subscales, namely Sense of Mastery, Sense of Relatedness, and Emotional Reactivity. Consisting of 64 items, it is a 5-point Likert scale (from 0, never, to 4, almost always).

The Resource Index score consists of the standardised average score of the Sense of Mastery T-score and the Sense of Relatedness T-score, which is a measure of the adolescent's overall resources (Prince-Embury & Saklofske, 2013).

The Vulnerability Index score consists of the standardised difference between the Resource Index and the Emotional Reactivity T-scores, which is a measure of the adolescent's overall susceptibility to stress (Prince-Embury & Saklofske, 2013).

High scores on the Resource Index and low scores on the Vulnerability Index indicate high resilience, and vice versa, it indicates low resilience (Prince-Embury, 2011). A sample from the United States of America obtained Cronbach's alpha-coefficients ranging from 0.74 to 0.83 (Prince-Embury, 2011). A South African study (De Villiers, 2009) reported Cronbach's alpha-coefficients between 0.90 and 0.93 for a primary school population in Bloemfontein.

Table 5

Delineation of the Resilience Subscales (RSCA, Prince-Embury, 2007)

Subscale name	Explanation	N of items	Score range	Sample item
Sense of mastery	Measures optimism, self-efficacy, and adaptability	20	0-80	If I try hard, it makes a difference. I can let others help me when I need to. No matter what happens, things will be all right.
Sense of relatedness	Measures the capacity of the adolescent to form and maintain social relationships	24	0-96	I can make up with friends after a fight. If something bad happens, I can ask my parent(s) for help. There are people who love and care about me.
Emotional reactivity	Measures vulnerability, arousal or threshold of tolerance to stimulation during the occurrence of adverse situations	20	0-80	When I get upset, I stay upset for several days. When I am upset, I do things that I later feel bad about. I can get so upset that I can't stand how I feel.

5.5 Procedure

Questionnaires were bound in booklet form and administered during a school day with the permission of the school principal. Administration of measuring instruments lasted between two and three hours with a half-hour break halfway through the process. Initially, the questionnaires were developed in English. The method of back translation (Brislin, 1986) was used to translate all the tests from English into Afrikaans and Sesotho. For testing purposes, the participants were divided into groups of 20 to 30. Administration and completion of measuring instruments took place in the presence of a registered psychologist and psychometrists in order to manage participants who might have emotional reactions to questions. Such students would be assessed, and if necessary, be referred to the nearest local hospital for further psychological intervention.

Some of the challenges experienced were logistical challenges such as securing venues at the schools and synchronising times for tests so as to complete the testing within one term. Communication difficulties also arose with the appointed school liaison officers and students were absent and not returning to the test venue(s) after the break session. It was noted that although Sesotho questionnaires were made available, Sotho speaking learners preferred to complete the English version instead.

5.6 Ethical Considerations

Permission to conduct the research project was obtained from the Free State Department of Education (DOE), school principals, and parents of the participants, and the voluntary participation of participants was ensured. Informed consent was obtained from the participants' parents, who gave written permission for their children's participation. The participants themselves gave written assent after having been informed about the aim and objectives of the study. Participants were informed that participation was voluntary, and withdrawal was possible at any time, and confidentiality would be protected by anonymity. Data gathered would be used to stimulate further research and publication in accredited journals.

Clearance was obtained from the Committee of Title Registration, Faculty of Humanities, University of the Free State. As the study was carried out in the educational setting, ethical approval for the current study was obtained from the Ethics Committee of the Education

Department at the University of the Free State (ethical clearance number: UFS-EDU-2014-060).

Throughout the study the researcher was constantly aware of and respected the following ethical considerations namely; respect, justice, autonomy, non-maleficence, beneficence, veracity, as well as, fidelity (Allen, 2011).

5.7 Data Analysis

The reliability of the measures for this particular sample and study was determined by using Cronbach's alpha coefficient, which is a measure that is often used to assess the internal consistency and reliability of a test (Aron, Aron, & Coups, 2009).

The biographical characteristics of the sample, as well as the statistical properties of the different variables in this sample, were investigated by means of descriptive statistics. Descriptive statistics were calculated for all scales and subscales using *Statistical Programs for the Social Sciences* (SPSS v. 22) (IBM Corporation, 2013). SPSS enables univariate and multivariate modelling techniques, which assist users in reaching the most accurate conclusions regarding data that describe complex relationships and are frequently used to gain deeper insights (IBM Corporation, 2013). Selected items were analysed individually to provide statistical information regarding certain behaviour of interest. The question that was analysed individually was Question 13 of the biological questionnaire: "Have you ever self-harmed?"

To calculate the prevalence of self-harming behaviour, frequency tabulations were done. The individual gender differences in relation to the self-harming group were determined by using a chi-squared test.

A logistic regression analysis was used to establish whether coping and resilience predict adolescent self-harm. Logistic regression is a multiple regression, but the difference is that the outcome variable is a categorical variable and the predictor variables are continuous or categorical (Field, 2009). Straightforward logistic regression enables researchers to predict into which of two categories a variable is likely to fall, dependent on other information (Field, 2009). Multiple regression analyses are used to investigate the relationship between one dependent variable and many independent variables or predictors (Aron et al., 2009). In this study, a logistic regression analysis was performed to determine the extent to which the dependent

variable, self-harm, explained the variance in self-harming behaviour for a group of high school learners in the Free State Province

The following statistical consideration was included in the interpretation of the sample results: In all the statistical procedures, both the 1% and 5% levels of significance were considered. The practical significance of the results was investigated by determining the effect sizes. A value of 0.2 indicates a small effect, a value of 0.25 indicates a medium effect, and a value of 0.4 indicates a large effect (Steyn, 1999).

5.8 Chapter Summary

In this chapter, the research methodology was discussed. The research context was indicated. The aim of the study and the corresponding research questions were formulated. The non-experimental research approach, with its descriptive, quantitative and correlational design, was explicated. The particular sampling procedure that was followed, namely stratified random sampling used to select participants, was explained, and followed by a presentation of the final sample. Data collection was described by discussing the measures used. Moreover, the methods of data analysis used to answer each research question were described and examined. The chapter also explained the ethical considerations that were taken into account to ensure that the research was conducted professionally. The next chapter reports the results obtained in the study.

Chapter 6: Results

In this chapter, the findings of the current study are reported. The discussion of the results includes the descriptive and inferential statistics of relevant variables. The results of a chi-squared test to determine whether there is a difference in self-harming behaviour between the different genders, as well as the results of a logistic regression analysis to determine whether coping, gender, and resilience could predict self-harming behaviour significantly are reported on, as follows:

6.1 Descriptive statistics

Descriptive statistics provide a depiction of the characteristics of a large assortment of data (Salkind, 2013). In this section, the descriptive statistics relating to self-harm, coping, and resilience are presented.

The range of scores (min-max), means, standard deviation, and alpha co-efficient, as well as skewness and kurtosis obtained for each of the coping and resilience subscales, are presented in Table 6.

Table 6

Descriptive Statistics for the Revised Coping Schema Inventory and the Resiliency Scale for Children and Adolescents

Coping subscales	Min-Max	Mean	SD	Alpha	Skewness	Kurtosis
Situational coping	0.00-32.00	18.528	6.019	0.779	-0.131	-0.174
Acceptance coping	0.00-36.00	20.832	6.552	0.766	-0.070	0.017
Active emotional coping	0.00-32.00	17.622	6.171	0.773	-0.113	-0.339
Passive emotional coping	0.00-48.00	24.693	8.315	0.771	0.114	0.017
Meaning Coping	0.00-16.00	10.053	3.401	0.651	-0.319	-0.353
Tension-reduction coping	0.00-32.00	16.835	6.042	0.747	0.088	-0.111
Religious coping	0.00-38.00	28.751	8.149	0.903	-1.236	1.058
Self-restructuring	0.00-32.00	18.584	6.226	0.821	-0.125	-0.10
Social support	0.00-24.00	12.693	4.596	0.688	-0.108	-0.264
Resilience subscales	**Min-Max**	**Mean**	**SD**	**Alpha**	**Skewness**	**Kurtosis**
Sense of mastery	0.00-80.00	51.674	10.869	0.845	-0.572	1.412
Sense of relatedness	0.00-96.00	64.392	14.415	0.889	-0.558	0.782
Emotional reactivity	0.00-80.00	30.392	14.857	0.902	0.503	0.121

From Table 6, it can be seen that Religious Coping (28.751), Passive-Emotional Coping (24.693) and Acceptance Coping (20.832) exhibited higher mean scores as did Sense of Relatedness (64.392). Moreover, Religious Coping was negatively skewed (-1.236).

Although negatively skewed (beyond -1), it still falls within an acceptable range. With regard to kurtosis, although the distribution of the coping scales appear more platykurtic, with religious coping being the lowest, it still falls within the acceptable range. The resilience scale distribution alternatively appears more leptokurtic with sense of mastery being the highest, but still falls within acceptable ranges. Although some skewness is noted, it falls well within the acceptable range.

It appears that all the subscales, with the exception of Meaning Coping (0.651), exhibited acceptable levels of internal consistency (≥ 0.70), as described by Nunnally and Bernstein (1994) with regard to non-cognitive instruments.

Table 7

The Prevalence of Self-Harm by Gender

Gender self-harm cross-tabulation					
			Self-harm		**Total**
			Yes	**No**	
Gender	**Male**	**Count**	58	343	401
		Expected count	69.6	331.4	401.0
		% within gender	14.5%	85.5%	100.0%
		% within self-harm	34.7%	43.1%	41.7%
		% of total	6.0%	35.7%	41.7%
	Female	**Count**	109	452	561
		Expected count	97.4	463.6	561.0
		% within gender	19.4%	80.6%	100.0%
		% within self-harm	65.3%	56.9%	58.3%
		% of total	11.3%	47.0%	58.3%
Total		**Count**	167	795	962
		Expected Count	167.0	795.0	962.0
		% within gender	17.4%	82.6%	100.0%
		% within self-harm	100.0%	100.0%	100.0%
		% of total	17.4%	82.6%	100.0%

According to Table 7, a chi-squared test for association was conducted between gender and participants engaging in self-harming behaviour. All expected cell frequencies were greater than five. There was a statistically significant association between gender and engaging in self-harming behaviours, $\chi 2(1) = 4.019$, $p = 0.045$. A higher percentage of females (19.4%)

compared to males (14.5%) engaged in self-harming behaviours. The total incidence of self-harming behaviour across gender is found at 17.35% for this sample.

6.2 Inferential statistics

Inferential statistics are used to make interpretations from a smaller group of data (sample) to a possible larger group (population) (Salkind, 2013).

6.2.1 Logistic regression analysis. The assumptions of multi-colinearity, outliers, leverage points, influential points and linearity were all met. Thus, it was deemed appropriate to make a logistic regression analysis of the data.

Table 8

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	**Step**	62.738	13	.000
	Block	62.738	13	.000
	Model	62.738	13	.000

From the last row in Table 8, it can be seen that the overall model (including all the independent variables) statistically significantly predicted categories of self-harming behaviour, $\chi 2(13) = 62.738$, $p < 0.05$.

Table 9

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	761.929	0.067	0.112

Field (2009, p, 790) defines Nagelkerke's R-Square as follows: "a version of the coefficient of determination for logistic regression. It is a variation on Cox and Snell's R^2_{CS} which overcomes the problem that this statistic has of not being able to reach its maximum value". Nagelkerke's R-square value in Table 9 indicates that the independent variables (age, coping, and resilience) explained 11.2% of the variance in self-harming behaviour.

Table 10

Classification Table

Observed			Predicted		
			Self-harm		
			No	Yes	Percentage correct
Step 1	Self-Harm	No	754	4	99.5
		Yes	147	6	3.9
	Overall Percentage				83.4

(a) The cut-off value is .005

From the last row in Table 10, it can be seen that, with all independent variables added, the model correctly classified 83.4% of cases as either engaging or not engaging in self-harm. This overall measure of classification is referred to as the percentage accuracy in classification (PAC).

The sensitivity of the model refers to the percentage of cases that had the observed characteristic (engaged in self-harm), which was predicted correctly by the model. In this case, the sensitivity was only 3.9%. In other words, the model predicted only 3.9% of individuals who engaged in self-harm correctly as doing so.

The specificity of the model refers to the percentage of cases that did not have the observed characteristic (did not engage in self-harm) that was predicted correctly by the model. In this case, the specificity was 99.5%. In other words, the model predicted 99.5% of individuals who did not engage in self-harm as not doing so.

The positive predictive value is the ratio of correctly predicted cases that have the characteristic to the total number of cases predicted as having the characteristic, expressed as a percentage. In this case, the positive predictive value is 60% [100 x (6/{6+4})]. In other words, of all cases predicted as engaging in self-harm, 60% were predicted correctly.

The negative predictive value is the ratio of correctly predicted cases that do not have the characteristic to the total number of cases predicted as not having the characteristic. In this case, the negative predictive value is 83.7% [100 x (754/{754 + 147})]. In other words, of all cases predicted as not engaging in self-harm, 83.7% were predicted correctly.

Table 11

Logistic Regression Predicting Self-Harming Behaviour

								95% C.I. for EXP(B)	
		B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**	**Lower**	**Upper**
Step 1[a]	Gender	0.446	0.199	5.031	1	**0.025***	1.562	1.058	2.307
	Coping subscales:								
	Situational coping	-0.046	0.027	2.870	1	0.090	0.955	0.905	1.007
	Acceptance coping	0.003	0.023	0.013	1	0.909	1.003	0.959	1.049
	Active Emotional coping	0.021	0.025	0.703	1	0.402	1.022	0.972	1.074
	Passive emotional coping	0.020	0.015	1.772	1	0.183	1.020	0.991	1.051
	Meaning coping	-0.001	0.040	0.000	1	0.987	0.999	0.923	1.082
	Tension-reduction coping	0.054	0.025	4.748	1	0.029*	1.055	1.005	1.108
	Religious coping	-0.020	0.015	1.776	1	0.183	0.980	0.952	1.009
	Self-restructuring	0.030	0.027	1.217	1	0.270	1.031	0.977	1.088
	Social support	-0.074	0.031	5.648	1	0.017**	0.928	0.873	0.987
	Resilience subscales:								
	Sense of mastery	-0.012	0.012	1.075	1	0.300	0.988	0.965	1.011
	Sense of relatedness	-0.004	0.009	0.209	1	0.648	0.996	0.978	1.014
	Emotional reactivity	0.033	0.007	25.171	1	0.000**	1.033	1.020	1.047
	Constant	-2.172	0.546	15.803	1	0.000	0.114		

** Significant on the 1% level
* Significant on the 5% level

From Table 11, it can be seen that only gender (p = 0.025 on the 5% level), Tension-reduction Coping (p = 0.029 on the 5% level), Social Support Coping (p = 0.017 on the 1% level), and Emotional Reactivity (p = 0.000) added significantly to the prediction of self-harming behaviour. From the values in the Exp (B) column can be seen that an increase in one unit for gender (males were coded as 1 and females as 2) resulted in the odds of self-harm increasing by 1.562. Thus, the odds of engaging in self-harm were 1.562 times greater for females compared to males. An increase in tension-reduction coping also led to an increase in

the odds of engaging in self-harm. An increase of one unit in tension-reduction coping resulted in a 1.055 greater chance of engaging in self-harm. In contrast, an increase in social support coping resulted in a reduction in the odds of engaging in self-harm. For each unit reduction in social support coping, the odds of engaging in self-harm increased by a factor of 1.077 (1/0.928). However, an increase of one unit in emotional reactivity led to increasing the odds of engaging in self-harm by 1.033.

Age had no influence on self-harm: $X^2(3) = 4.227$; $p = 0.238$.

Taken overall, females had higher odds of engaging in self-harm than males had. A greater degree of tension-reduction coping and emotional reactivity increased the odds of engaging in self-harm, while a greater degree of social support coping reduced the odds of engaging in self-harm. Lastly, age had no influence on self-harming behaviour.

A logistic regression was performed to ascertain the effects of gender, coping, and resilience on the likelihood that participants would engage in self-harming behaviour. The logistic regression model was statistically significant at the 5% level: $\chi2(13) = 62.738$, $p < .0005$. The model explained 11.2% (Nagelkerke's R-Square) of the variance in self-harming behaviour and classified 83.4% of cases correctly. Sensitivity was 3.9%, specificity was 99.5%, the positive predictive value was 60%, and the negative predictive value was 83.7%. Of the thirteen predictor variables, only four were statistically significant: gender, tension-reduction coping, social support coping, and emotional reactivity. The odds that females would engage in self-harm were 1.562 times higher than those for males. Increasing use of tension-reduction coping was associated with an increased likelihood of engaging in self-harm. Similarly, increased emotional reactivity was associated with an increased likelihood of engaging in self-harm. In contrast, increased use of social support coping was associated with a reduction in the likelihood of engaging in self-harm.

6.3 Chapter Summary

This chapter provided all the results obtained in the study. In the following chapter these results as they pertain to relevant research literature are discussed.

Chapter 7: Discussion

The current study aimed to investigate whether coping and resilience have a predicting influence on adolescent self-harming behaviour in the Free State Province, South Africa. In this chapter, the results of the study are discussed in relation to previous research in this field. Firstly, the incidence of self-harm is discussed, secondly gender as pertaining to self-harm, thirdly the relationship between coping and self-harm, and lastly the relationship between resilience and self-harm.

Before discussing the variable relationships a few aspects related to the descriptive statistics need mentioning.

Firstly, in view of the ***prevalence rate of self-harm*** for this sample, a reported incidence rate of 17.35% was found. Internationally, some countries were found to have a lower incidence rate (Netherlands with 4.1%, Belgium with 10.4%, and England with 13.2%), (Hawton et al., 2002; Portzky et al., 2008). However, Sweden reported an incidence rate of 17.1% among 17-year-olds (Landstedt & Gadin, 2011), which is comparable with that of the current study. Alternatively, in the United States self-harm incidence rates of between 26% and 37% among 13-18-year-olds were found (Yates, Tracy, & Luthar, 2008), which is substantially higher than the incidence rate for this sample. The lower incidence rates found in some countries could possibly be linked to their being first-world countries where there is greater access to health resources, including having well-structured public awareness initiatives.

Differences in how the concept *self-harm* was measured may have contributed to varying rates. The higher incidence rate found in the United States was derived from using a measuring instrument that lists 11 different forms of self-harm (Yates et al., 2008). Respondents using this questionnaire might have been more likely to answer affirmatively than to one close-ended question, as in this study. A further factor that may have contributed to a higher incidence of self-harm in that particular study, might be linked to the unintended increase in media attention that has been generated around self-harm and adolescents' possible openness to reporting such behaviour, thus leading participants to more readily report engagement in self-harming behaviour. As the sample in Yates et al. (2008) was mainly from the upper middle class, in other words, privileged youth, possible increased pressure to control emotions, and high achievement standards could also have contributed to differences in incidence reporting.

It is postulated that the high incidence of self-harm found in the current study could be attributed to South African adolescents' increased stress and exposure to risk factors. Stressors such as the following, are salient to South African adolescents: poverty, inequality, HIV and AIDS, high rates of violence and crime, educational challenges, unequal distribution of resources, and escalating unemployment of graduates (Cluver et al., 2012; Department of Basic Education, 2011; Flannery et al., 2007; Maodzwa-Taruvinga & Cross, 2012; Ndimande, 2012; Statistics South Africa, 2012; Ramdass, 2009; Wijnberg, 2013). Researchers contend that the build-up of such adverse conditions creates a context of higher risk for the development of emotional, social, and behavioural problems among the youth, which could lead to long-term problems and psychological disorders (Barbarin, 2003; Dawes & Donald, 1994; Lockhat & Van Niekerk, 2000; Reddy et al., 2010). In South Africa there are numerous problems with the primary and the mental health care system, and the high rates of HIV and Aids (Cluver et al., 2012), could contribute to the high incidence rate of self-harm.

The factors and challenges mentioned above contribute to stressful living conditions that may overwhelm South African adolescents in their daily lives, thus inhibiting development of their psychological strength (Barnes, 2015). Therefore, it may be postulated that a combination of such factors and challenges accompanied by reduced strengths increases the risk of adolescents engaging in self-harming behaviour in South Africa.

The relationship of variables with self-harm were investigated and are discussed next. The discussion continues with the relationship between gender and self-harm, followed by the relationship between coping and self-harm, and lastly the relationship between resilience and self-harm.

Secondly, a statistical significant relationship were found between ***gender and self-harm.*** This implies that participants who were female were more likely to self-harm than participants who were male, which concurs with and strengthens previous research (Adler & Adler, 2011; Bakken & Gunter, 2012; Hawton & James, 2005; Laye-Gindhu & Schonert-Reichl, 2005; Idemudia et al., 2016). It is postulated that women are more susceptible to self-harming behaviour, as they are taught to internalise anger and stress and handle emotional pain in emotional ways; therefore, they are more likely to act on themselves (Adler & Adler, 2011; McAllister, 2003).

A particularly salient factor that may contribute to the higher level of female self-harm found in this study may be linked to the high degree of sexual abuse among South African females (Carey et al., 2008). Particularly, it has been shown that females in South Africa are more vulnerable to sexual abuse and unwanted sexual advances (Otwombe et al., 2015). Furthermore, sexual abuse is one of the strongest contributing factors of self-harming behaviour in females (Isohookana et al., 2012), and may operate in a variety of ways to predispose an individual to self-harm such as self-punishment, self-disgust, and behavioural re-enactment (Asgeirsdottir et al., 2011; Ainscough & Toon, 1993; Bolen et al., 2013; McDougall et al., 2010; Nock, 2009; Shenk et al., 2010). Taken together, research indicating that females are more prone to self-harm if they have been exposed to sexual abuse coupled with the fact that females are more prone to sexual abuse in South Africa, it follows that the rates of self-harm will be higher amongst females than males. It should be noted that some studies have not found a link between sexual abuse and self-harm (Klonsky & Moyer, 2008), thus further research investigating the relationship between sexual abuse and self-harm, especially in the South African context, would be beneficial.

The study investigated to what extent coping and resilience predict group membership (self-harming versus non-self-harming groups) among adolescents in the Free State Province. Findings related to coping strategies will be discussed and then followed by a discussion of the effects of resilience.

Thirdly, concerning coping strategies, the coping subscales of Tension-reduction Coping and Social Support Coping showed significant interaction with self-harm.

A significantly positive relationship was found between ***Tension-reduction Coping*** and self-harming behaviour. Thus, individuals in this study who engage in tension-reduction coping were more prone to engage in self-harming behaviours. Tension-reduction coping may lead to self-harm as it is an emotion-focused coping strategy which predisposes individuals to avoid challenging issues, attribute problems to supernatural powers or causes, engage in distracting activities (such as self-harm), and/or search for meaning in life events (Carver et al., 1989; Folkman et al., 1986; Lazarus & Folkman, 1984, Wong et al., 2006). Furthermore, participants in this study who employ tension-reduction coping may have reduced skills in reflecting on their problems and shift responsibility of their situation to others (Aebi et al., 2014). In the long

term, the individuals in this study may have higher levels of stress levels due to their use of an avoidant coping strategy and it has been shown that self-harmers experience stress frequently (Aebi et al., 2014; Guan et al., 2012). Additionally, emotion-focused coping is used more often by adolescent females than by adolescent males in coping with daily life (Eschenbeck, Kohlmann, & Lohaus, 2007; Piko, 2011; Moodley, Esterhuyse, & Beukes, 2012) and thus the females in this study may be more severely impacted by the factors mentioned above. This may be particularly true in this study as female adolescents were found to engage more in self-harming behaviours than male adolescents.

Tension reduction is one of the many functions of self-harm identified in the literature and may be one of the reasons why individuals engage in self-harming behaviour. (Muehlenkamp, 2007; Nock & Mendes, 2008; Nock & Prinstein, 2004, 2005). However, some authors maintain that self-harm will only provide temporary relief from stressful situations, as well as, painful emotions and that tension still remains in the aftermath of self-harming behaviour (Favazza, 2011; Yip, 2005). Thus, adolescents in this study may engage in self-harm with the aim of relieving tension, but in effect fail to do so as tension-reduction coping is not a suitable coping strategy.

Social Support Coping reported a significant negative relationship with regard to self-harming behaviour. Thus, in this study adolescents who experience social support are less likely to engage in self-harming behaviour. This finding confirms earlier research within a South African context which found that Social Support Coping buffers adolescents against the risk of self-harm (Carshagen, 2012). Furthermore, this finding supports previous international literature claiming that social support plays a major protective function against self-harm (Deliberto & Nock, 2008; Evans et al., 2005; Hallab & Covic, 2010; Levesque, 2010). Social support enables an individual to enrich their coping with adverse situations, to meet social needs and to attain goals (Rodriquez & Cohen, 1998). Furthermore, social support has been found to have a positive effect on mental and physical well-being of individuals, in effect assisting them to cope better (Rodriquez & Cohen, 1998).

Lastly, the current investigation analysed the predictive ability of resilience with regard to self-harming behaviour. In analysing the effects of resilience, as represented by these

subscales: Sense of mastery, Sense of Relatedness, and Emotional Reactivity, only one subscale reported significantly. The subscale ***Emotional Reactivity*** was found to have a significant positive relationship with self-harm. Thus, adolescents in this study who engage in self-harm may be more emotional reactive which means that they undergo frequent and intense emotional arousal (Karrass et al., 2006). The current finding lends support to earlier South African research which found that high emotional reactivity is associated with an increased risk for self-harm (Carshagen, 2012). Furthermore, this study corroborates international research which found that emotional reactivity significantly predicts self-harm (Anderson et al., 2004; Ballard et al., 2010). In addition, it has also been found that increased levels of emotional reactivity coupled with decreased impulse control in adolescents put them at higher risk for self-harm (Ballard et al., 2010; Mikolajczak et al., 2009).

During adolescence emotion-regulating abilities increase and is of the utmost importance is the development of resilience (Cicchetti & Tucker, 1994; Eisenberg et al., 2004). However, if adolescents do not regulate their emotions well while exposed to high stress, it could lead to maladaptive coping efforts such as self-harm (Klonsky & Glenn, 2009; Zeman et al., 2006). Indeed, Linehan (1993) regards self-harm as a maladaptive emotion-regulation strategy. Thus, adolescents in this study who scored high on emotional reactivity may not know how to adequately deal with their heightened emotions and may use self-harm as a means to regulate such emotions. This contention is supported by Nock and Prinstein (2004) who hypothesised that self-harm is a tool used by individuals to regulate emotions in the absence of appropriate emotion-regulation strategies. Adolescents in this study may have adjustment, internalising and externalising problems may not handle distress well and undergo elevated physiological reactivity in stressful situations, have insufficient skills in expressing and managing their emotions, are less mindful of their emotions, and may fall short on emotional intelligence (Deliberto & Nock, 2008; Gratz & Roemer, 2008; Klonsky & Glenn, 2009; Lundh et al., 2007; Mikolajczak et al., 2009; Nock & Mendes, 2008; Zunic-Pavlovic et al., 2013).

In this chapter, the results were discussed in relation to previous literature in the field. In the next chapter, the key findings and limitations of the current study, as well as recommendations for future studies, are presented.

Chapter 8: Conclusion

In this chapter, the research process is concluded with a summary of the empirical findings, a discussion of the limitations and contributions of the study, and recommendations for future studies.

8.1 Summary of Empirical Findings

Overall, the study found that the prevalence rate of adolescent self-harm behaviour in the Free State Province is 17.35%. Particularly, more adolescent females than adolescent males in the Free State Province engage in self-harming behaviour (19.4% and 14.5% respectively); thus, gender significantly predicted adolescent self-harm ($p = 0.025$) at the 5% level of significance. Furthermore, the independent variables collectively explained 11.2% of the variance in self-harming behaviour. Tension-reduction coping, and emotional reactivity significantly predicted self-harming behaviour, whereas an increase in social support coping resulted in a reduction in the odds of engaging in self-harm. From our research findings it can be concluded that adolescents in the Free State Province who employ tension-reduction coping and are emotionally reactive are more likely to engage in self-harm, whereas adolescents who rely on social support coping are protected from engaging in self-harm (significantly less likely). Religious Coping, Passive-Emotional Coping and Acceptance Coping exhibited higher mean scores as did Sense of Relatedness (resilience).

8.2 Limitations of the Study

The findings of the study and the generalisability thereof may be limited by the methodology followed; therefore, the results should be interpreted in the light of the following limitations: Since the study was a correlational study, causality cannot be determined. The cross-sectional design only indicates results at a particular point in time; therefore, no change over time in the variables under consideration is considered. Additionally, a quantitative study does not lend itself to discover the meaning of the phenomenon being studied (Durrheim & Painter, 2010). It is suggested that future longitudinal and qualitative studies be done to investigate self-harm among a representative sample of South African adolescents. Such qualitative investigations could lead to more in-depth knowledge and understanding of self-harm and how coping and resilience predict the use of self-harming behaviour in the diverse

South African context. Making use of qualitative strategies to explore the research question may provide even more insight into the dynamics involved in self-harm.

Only Grade 10 learners were selected for this study by using purposive sampling, which affects the generalisability of the findings. With regard to the prevalence of self-harm, the age range of the sample may be too narrow to facilitate accurate conclusions and generalisation to adolescents, as adolescence ranges over a more extensive age period than was included in the sampling of only Grade 10 learners. It is suggested that the age range be broader for future studies to ascertain and compare changes in early and late development

The current study used self-report measuring instruments, which may be subject to intentional distortion. Thus, the participants could have provided information that is not a true reflection of their self-harm behaviour, as well as coping and resilience abilities, giving normative responses in an effort to create an altered impression of themselves. Particularly, this could be relevant to the question relating to the engagement in self-harming behaviour where social desirability bias may play a role, as self-harm is regarded as a sensitive and taboo subject. Social desirability limits accuracy and generalisability of findings. A single closed-ended question was used to identify adolescents who had previously engaged in self-harming behaviour. The use of one question limits the quality of the data and may lack to capture aspects of self-harm such as its true nature, different types, and motivating factors. Using a single question might also induce suggestibility on the part of the respondents, which could lead to biased results and false reporting, even though they may have been urged to answer truthfully. It is suggested that a full self-harm measuring instrument such as the *Self-Injurious Thoughts and Behaviour Interview* (Nock, Holmberg, Photos, & Michel, 2007) be administered in future studies to ascertain various factors that affect group membership and to gather richer information.

It was also required of the respondents to retrospectively complete the self-report measures, which could affect the accuracy of the findings.

Both the *Coping Schemas Inventory – Revised* (Wong et al., 2006), as well as the *Resiliency Scale for Children and Adolescents* (Prince-Embury, 2007) are instruments developed in the United States of America which have not been standardised for the South African population, and their validity must still be determined for the South African population. The meaning scale of the *Coping Schemas Inventory – Revised* (Wong et al., 2006), had an

unsatisfactory internal consistency below the advised internal consistency for non-cognitive measures (Nunnally & Bernstein, 1994). Factor analyses of the *Coping Schemas Inventory – Revised* (Wong et al., 2006) and the *Resiliency Scale for Children and Adolescents* (Prince-Embury, 2007) questionnaires with South African data would be greatly beneficial in improving reliability and validity of the findings. It is suggested that increasing the item number on the meaning scale of the *Coping Schemas Inventory – Revised* (Wong et al., 2006) would enhance the internal consistency of this subscale (Anastasi & Urbina, 1997); alternatively, omitting the subscale in its entirety may increase the reliability and validity of the findings. Future research may also look into the possibility of including variables with greater counts in this measuring instrument.

The use of instruments from the USA highlights a need for developing South African measuring instruments and further research in this regard. The development and use of standardised measures for the racially and culturally diverse South African context would ensure more valid and reliable results (Kanjee & Foxcroft, 2009).

Because literature is still ambiguous about which gender engages in self-harm more often, it is suggested that the self-harm gender issue be investigated further.

The three subscales in this study that showed a significant interaction with self-harm are Tension-reduction Coping, Social Support Coping, and Emotional Reactivity (resilience). Future research should investigate why these variables protects an individual from engaging in self-harm behaviour.

Various risk factors for self-harm are mentioned in the literature, but less emphasis has been placed on research into factors protecting against self-harm in the South African context. It may be recommended that future research with adolescents focus on the combination of risk and protective factors as determinants of self-harm.

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 in the South African context as they apply to self-harming behaviour of adolescents. Thorough research in this field should remain a priority to gain knowledge and insight into the world of South African adolescents. This will also enable researchers to develop programmes to increase adolescents' coping abilities and their psychological strengths.

Once health-risk behaviour has been formed in adolescence, related problems often persist into adulthood (Reddy et al., 2010), which is why intervention and prevention of self-harm behaviour is so important and necessitates a proactive stance. Therefore, and on the basis of the study findings, it is highly recommended that

- psychologists be employed in high schools, which will enable such professionals to assess learners in advance, give appropriate training, and provide interventions regarding coping, resilience, and self-harm; and
- the subject Life Orientation be evaluated thoroughly for its contents on coping, resilience, and self-harm, and if found lacking, to include pertinent information that can benefit the learner in the long term.

In the South African context, adolescents may not be educated adequately about adaptive coping strategies (e.g., problem-focused coping) that could be utilised when facing stressful situations. They may rather choose to distract themselves from their problems than deal with it head on (e.g., tension-reduction coping). Owing to the breakdown of the familial structure in South Africa, families may not be equipped adequately to teach children about coping skills, and with the recent changes in the academic curriculum of schools, schools may also fail to educate learners psychologically. Moreover, in the stressful South African environment, adolescents' resilience may not be developed adequately. In the ever-changing socio-political circumstances in South Africa, combined with extra pressures being placed on adolescents today, adequate coping skills and resilience are becoming vitally important for the healthy functioning of adolescents.

8.3 Contributions of this Study

Despite the abovementioned limitations, this study contributes to the knowledge of coping and resilience as predictors of self-harm among adolescents in the South African context, especially because this study was the first to investigate these variables in the South African context and thus began to addresses the lack of research in this field.

The information gathered in this study can be used to create interventions and/or psycho-education programmes in which vested parties such as teachers, parents and the adolescent may be educated about factors and variables that either increase or mitigate the risk of adolescents engaging in self-harm. Especially in the light of the current findings, vested parties can be

educated about what tension-reduction coping, social support coping, and emotional reactivity are and how these variable interact with self-harm. Adolescents may be educated about proactive ways of coping and how to become more resilient, while also fostering social support coping in a context characterised by rich diversity.

This study contributes significantly to the field of psychopathology with regard to self-harm, as well as, the field of positive psychology with regard to coping and resilience.

8.4 Competing Interests

The author has no financial disclosures or conflicts of interest to report.

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Appendices

UNIVERSITY OF THE
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UFS·UV
HUMANITIES
GEESTESWETENSKAPPE

RISK AND RESILIENCE OF ADOLESCENTS IN THE FREE STATE PROVINCE

Research Project: Department Psychology and Post Graduate School, University of the Free State, 2012

ENGLISH VERSION

Project Team:

Dr H.S. van den Berg (Project Co-leader)

Dr A. A. George (Project Co-leader)

Dr P Naidoo

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Coping Schemas Inventory

		Not at all (Never)	A little bit (Rarely)	A moderate amount (Occasionally)	A considerable amount (Often)	A great deal (Always)	For Office use only	
40	Avoid thinking about the problem or things that are upsetting	☐	☐	☐	☐	☐	☐	40
41	Wish that the situation were different	☐	☐	☐	☐	☐	☐	41
42	Believe that God watches over me	☐	☐	☐	☐	☐	☐	42
43	Mentally transform the situation into something less threatening	☐	☐	☐	☐	☐	☐	43
44	Rely on available connections to solve the problem	☐	☐	☐	☐	☐	☐	44
45	Follow religious principles	☐	☐	☐	☐	☐	☐	45
46	Try not to focus on likely negative outcomes	☐	☐	☐	☐	☐	☐	46
47	Practice muscle relaxation techniques	☐	☐	☐	☐	☐	☐	47
48	Change my attitude in view of this problem	☐	☐	☐	☐	☐	☐	48
49	Feel sorry for what I have done	☐	☐	☐	☐	☐	☐	49
50	Be determined and persistent in attacking the problem	☐	☐	☐	☐	☐	☐	50
51	Seek emotional support from others	☐	☐	☐	☐	☐	☐	51
52	Receive practical help from friends	☐	☐	☐	☐	☐	☐	52
53	Restructure my actions in light of the problem	☐	☐	☐	☐	☐	☐	53
54	Pray to God	☐	☐	☐	☐	☐	☐	54
55	Depend on the experts and follow their advice	☐	☐	☐	☐	☐	☐	55
56	Look at the humorous side of this problem	☐	☐	☐	☐	☐	☐	56
57	Try to look at the problem from a new perspective	☐	☐	☐	☐	☐	☐	57
58	Rearrange my activities to accommodate the situation	☐	☐	☐	☐	☐	☐	58
59	Believe that there is meaning and purpose to the things that happen to me	☐	☐	☐	☐	☐	☐	59
60	Release my pent-up emotions	☐	☐	☐	☐	☐	☐	60
61	Double my effort to change the situation	☐	☐	☐	☐	☐	☐	61
62	Don't worry about the past or the future, accept each day as it comes	☐	☐	☐	☐	☐	☐	62
63	Develop better time management skills so that I will be more efficient in the future	☐	☐	☐	☐	☐	☐	63
64	Blame myself for what has happened	☐	☐	☐	☐	☐	☐	64
65	Believe in an almighty God	☐	☐	☐	☐	☐	☐	65
66	Believe that valuable lessons can be learned from undesirable experiences	☐	☐	☐	☐	☐	☐	66
67	Depend on friends for emotional/ moral support	☐	☐	☐	☐	☐	☐	67
68	Believe that God will execute final justice	☐	☐	☐	☐	☐	☐	68
69	Derive meaning from my past	☐	☐	☐	☐	☐	☐	69
70	Remind myself that worrying will not accomplish anything	☐	☐	☐	☐	☐	☐	70
71	Practice meditation techniques to reduce tension	☐	☐	☐	☐	☐	☐	71
72	Depend on opinions of people who have experienced similar problems	☐	☐	☐	☐	☐	☐	72

Coping Schemas Inventory

To what extent do you usually use each of the following strategies to cope with situations.

		Not at all (Never)	A little bit (Rarely)	A moderate amount (Occasionally)	A considerable amount (Often)	A great deal (Always)	For Office use only	
1	Rely on others to do what I cannot do myself	☐	☐	☐	☐	☐	☐	1
2	Do something about the situation	☐	☐	☐	☐	☐	☐	2
3	Wish that I could undo the past	☐	☐	☐	☐	☐	☐	3
4	Express my feelings and thoughts	☐	☐	☐	☐	☐	☐	4
5	Confront the problem by taking appropriate actions	☐	☐	☐	☐	☐	☐	5
6	Do what is necessary to maintain a personal relationship with God	☐	☐	☐	☐	☐	☐	6
7	Believe that I can communicate with God	☐	☐	☐	☐	☐	☐	7
8	Run away from the problem or situation	☐	☐	☐	☐	☐	☐	8
9	Do what is necessary to fulfil the requirements of the situation	☐	☐	☐	☐	☐	☐	9
10	Accept what has happened because eventually things will work out as well as can be expected	☐	☐	☐	☐	☐	☐	10
11	Break down the problem into smaller steps and work on one at a time	☐	☐	☐	☐	☐	☐	11
12	Learn to live with the problem, because nothing much can be done about it	☐	☐	☐	☐	☐	☐	12
13	Confront and understand my own feelings	☐	☐	☐	☐	☐	☐	13
14	Accept/tolerate life as it is and make the best of it	☐	☐	☐	☐	☐	☐	14
15	Learn to accept the negative realities of life	☐	☐	☐	☐	☐	☐	15
16	Suppress or avoid facing my own emotions	☐	☐	☐	☐	☐	☐	16
17	Air my complaints and frustrations	☐	☐	☐	☐	☐	☐	17
18	Feel guilty for what has happened	☐	☐	☐	☐	☐	☐	18
19	Practice controlled breathing techniques	☐	☐	☐	☐	☐	☐	19
20	Change my negative attitude towards a problem into a positive one	☐	☐	☐	☐	☐	☐	20
21	Change my pace to suit the situation	☐	☐	☐	☐	☐	☐	21
22	Rely on people who have successfully coped with the problem	☐	☐	☐	☐	☐	☐	22
23	Take the problem into my own hands by fighting back	☐	☐	☐	☐	☐	☐	23
24	Look at unavoidable life events as part of my lot in life	☐	☐	☐	☐	☐	☐	24
25	Engage in mental exercise (such as imagery) to reduce tension	☐	☐	☐	☐	☐	☐	25
26	Share my feelings with a confidant	☐	☐	☐	☐	☐	☐	26
27	Try to reduce my anxious thoughts	☐	☐	☐	☐	☐	☐	27
28	Seek help and direction from God	☐	☐	☐	☐	☐	☐	28
29	Actively seek out information on my own	☐	☐	☐	☐	☐	☐	29
30	Wish that I were a different person	☐	☐	☐	☐	☐	☐	30
31	Feel ashamed for my inadequacies	☐	☐	☐	☐	☐	☐	31
32	Put off doing something about the problem	☐	☐	☐	☐	☐	☐	32
33	Accept the present situation because no matter how bad things are they could always be worse	☐	☐	☐	☐	☐	☐	33
34	Wish that a miracle or something fantastic would happen	☐	☐	☐	☐	☐	☐	34
35	Believe that God will answer prayers	☐	☐	☐	☐	☐	☐	35
36	Believe that there must be a purpose in the suffering I experience	☐	☐	☐	☐	☐	☐	36
37	Make a plan of action and follow it	☐	☐	☐	☐	☐	☐	37
38	Look to others for moral support	☐	☐	☐	☐	☐	☐	38
39	Ignore the problem and pretend that it doesn't exist	☐	☐	☐	☐	☐	☐	39

SIQ High School

Listed below are a number of sentences about thoughts that people sometimes have. Please *indicate which of these thoughts you have had in the past month.* Mark the frequency column that best describes your own thought. Be sure to indicate this for each sentence. Remember, *there are no right or wrong answers.*

	This thought was in my mind:	Almost every day	A Couple of times a week	About once a week	A Couple of times a month	About once a month	I have had this thought before, but not in the past month	I have never had this thought	*For Office use only*	
1	I thought it would be better if I was not alive.	☐	☐	☐	☐	☐	☐	☐	☐	1
2	I thought about killing myself.	☐	☐	☐	☐	☐	☐	☐	☐	2
3	I thought about how I would like to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	3
4	I thought about when I would like to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	4
5	I thought about people dying.	☐	☐	☐	☐	☐	☐	☐	☐	5
6	I thought about death.	☐	☐	☐	☐	☐	☐	☐	☐	6
7	I thought about what to write in a suicide note.	☐	☐	☐	☐	☐	☐	☐	☐	7
8	I thought about writing a will.	☐	☐	☐	☐	☐	☐	☐	☐	8
9	I thought about telling people I plan to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	9
10	I thought that people would be happier if I were not around.	☐	☐	☐	☐	☐	☐	☐	☐	10
11	I thought about how people would feel if I killed myself.	☐	☐	☐	☐	☐	☐	☐	☐	11
12	I wish I were dead.	☐	☐	☐	☐	☐	☐	☐	☐	12
13	I thought about how easy it would be to end it all.	☐	☐	☐	☐	☐	☐	☐	☐	13
14	I thought that killing myself would solve my problems.	☐	☐	☐	☐	☐	☐	☐	☐	14
15	I thought others would be better off if I were dead.	☐	☐	☐	☐	☐	☐	☐	☐	15
16	I wished that I had the nerve to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	16
17	I wished that I had never been born.	☐	☐	☐	☐	☐	☐	☐	☐	17
18	I thought if I had the chance I would kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	18
19	I thought about ways people kill themselves.	☐	☐	☐	☐	☐	☐	☐	☐	19
20	I thought about killing myself, but would not do it.	☐	☐	☐	☐	☐	☐	☐	☐	20
21	I thought about having a bad accident.	☐	☐	☐	☐	☐	☐	☐	☐	21
22	I thought that life was not worth living.	☐	☐	☐	☐	☐	☐	☐	☐	22
23	I thought that life was too rotten to continue.	☐	☐	☐	☐	☐	☐	☐	☐	23
24	I thought that the only way to be noticed is to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	24
25	I thought if I killed myself, people would realize I was worth caring about.	☐	☐	☐	☐	☐	☐	☐	☐	25
26	I thought that no one cared if I lived or died.	☐	☐	☐	☐	☐	☐	☐	☐	26
27	I thought about hurting myself but not killing myself.	☐	☐	☐	☐	☐	☐	☐	☐	27
28	I wondered if I have the nerve to kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	28
29	I thought that if things did not get better I would kill myself.	☐	☐	☐	☐	☐	☐	☐	☐	29
30	I wished that I had the right to kill myself	☐	☐	☐	☐	☐	☐	☐	☐	30

Strengths

		Very much like you	Like you	Not like you	Not at all like you	For Office use only	
31	I complete my homework	☐	☐	☐	☐	☐	31
32	I am liked by others my age	☐	☐	☐	☐	☐	32
33	I am a good listener	☐	☐	☐	☐	☐	33
34	I let people know when I like them	☐	☐	☐	☐	☐	34
35	When I make a mistake, I admit it	☐	☐	☐	☐	☐	35
36	I do things with my family	☐	☐	☐	☐	☐	36
37	I can deal with being told "no"	☐	☐	☐	☐	☐	37
38	I smile a lot	☐	☐	☐	☐	☐	38
39	I pay attention in class	☐	☐	☐	☐	☐	39
40	I am good at maths	☐	☐	☐	☐	☐	40
41	I am good at reading	☐	☐	☐	☐	☐	41
42	I enjoy many of the things I do	☐	☐	☐	☐	☐	42
43	I respect the rights of others	☐	☐	☐	☐	☐	43
44	I share things with others	☐	☐	☐	☐	☐	44
45	I follow the rules at home	☐	☐	☐	☐	☐	45
46	When I do something wrong, I say I am sorry	☐	☐	☐	☐	☐	46
47	I study for tests	☐	☐	☐	☐	☐	47
48	When good things happen to me, I tell others	☐	☐	☐	☐	☐	48
49	I am nice to others	☐	☐	☐	☐	☐	49
50	I use appropriate language	☐	☐	☐	☐	☐	50
51	I attend school daily	☐	☐	☐	☐	☐	51
52	I listen during class and write down to help me remember later	☐	☐	☐	☐	☐	52

Strengths

Below is a list of items that describe you in a positive way. Some of the items will describe you very well. Other items will not describe you at all. Read each item and mark the option that best describes you now or in the past 3 months. You must answer all the items. If you do not know the meaning of some of the words, ask the person who is giving you this form.

		Very much like you	Like you	Not like you	Not at all like you	For Office use only	
1	My family makes me feel wanted.	☐	☐	☐	☐	☐	1
2	I trust at least one person very much.	☐	☐	☐	☐	☐	2
3	It's okay when people hug me.	☐	☐	☐	☐	☐	3
4	I join in community activities.	☐	☐	☐	☐	☐	4
5	I believe in myself.	☐	☐	☐	☐	☐	5
6	I let someone know when my feelings are hurt.	☐	☐	☐	☐	☐	6
7	I get along well with my family.	☐	☐	☐	☐	☐	7
8	I have a sense of humour.	☐	☐	☐	☐	☐	8
9	I ask for help when I need it.	☐	☐	☐	☐	☐	9
10	I can express my anger in the right way.	☐	☐	☐	☐	☐	10
11	My parents and I talk about how I act at home	☐	☐	☐	☐	☐	11
12	If I hurt or upset others, I tell them I am sorry	☐	☐	☐	☐	☐	12
13	I care about how others feel	☐	☐	☐	☐	☐	13
14	I complete tasks when asked	☐	☐	☐	☐	☐	14
15	I get along well with my parents	☐	☐	☐	☐	☐	15
16	When my feelings are hurt, I stay calm	☐	☐	☐	☐	☐	16
17	I think about what could happen before I decide to do something	☐	☐	☐	☐	☐	17
18	I accept criticism	☐	☐	☐	☐	☐	18
19	I go to religious activities	☐	☐	☐	☐	☐	19
20	I keep myself clean	☐	☐	☐	☐	☐	20
21	I ask my friends for help	☐	☐	☐	☐	☐	21
22	I have a hobby I enjoy	☐	☐	☐	☐	☐	22
23	When I have a problem, I talk with others about it	☐	☐	☐	☐	☐	23
24	I do my schoolwork on time	☐	☐	☐	☐	☐	24
25	I feel close to others	☐	☐	☐	☐	☐	25
26	I know when I am happy and when I am sad	☐	☐	☐	☐	☐	26
27	I know what I do well	☐	☐	☐	☐	☐	27
28	I accept responsibility for my actions	☐	☐	☐	☐	☐	28
29	I get along with my brothers and sisters	☐	☐	☐	☐	☐	29
30	When I lose a game, I accept it	☐	☐	☐	☐	☐	30

Resilience

		Never	Rarely	Sometimes	Often	Almost always	For Office use only	
34	If people let me down, I can forgive them.	☐	☐	☐	☐	☐	☐	34
35	I can depend on people to treat me fairly.	☐	☐	☐	☐	☐	☐	35
36	I can depend on those closest to me to do the right thing.	☐	☐	☐	☐	☐	☐	36
37	I can calmly tell a friend if he or she does something that hurts me.	☐	☐	☐	☐	☐	☐	37
38	If something bad happens, I can ask my friends for help.	☐	☐	☐	☐	☐	☐	38
39	If something bad happens, I can ask my parent(s) for help.	☐	☐	☐	☐	☐	☐	39
40	There are people who will help me if something bad happens.	☐	☐	☐	☐	☐	☐	40
41	If I get upset or angry, there is someone I can talk to.	☐	☐	☐	☐	☐	☐	41
42	There are people who love and care about me.	☐	☐	☐	☐	☐	☐	42
43	People know who I really am.	☐	☐	☐	☐	☐	☐	43
44	People accept me for who I really am.	☐	☐	☐	☐	☐	☐	44
45	It is easy for me to get upset.	☐	☐	☐	☐	☐	☐	45
46	People say that I am easy to upset.	☐	☐	☐	☐	☐	☐	46
47	I strike back when someone upsets me.	☐	☐	☐	☐	☐	☐	47
48	I get very upset when things don't go my way.	☐	☐	☐	☐	☐	☐	48
49	I get very upset when people don't like me.	☐	☐	☐	☐	☐	☐	49
50	I can get so upset that I can't stand how I feel.	☐	☐	☐	☐	☐	☐	50
51	I get so upset that I lose control.	☐	☐	☐	☐	☐	☐	51
52	When I get upset, I don't think clearly.	☐	☐	☐	☐	☐	☐	52
53	When I get upset, I react without thinking.	☐	☐	☐	☐	☐	☐	53
54	When I get upset, I stay upset for about one hour.	☐	☐	☐	☐	☐	☐	54
55	When I get upset, I stay upset for several hours.	☐	☐	☐	☐	☐	☐	55
56	When I get upset, I stay upset for the whole day.	☐	☐	☐	☐	☐	☐	56
57	When I get upset, I stay upset for several days.	☐	☐	☐	☐	☐	☐	57
58	When I am upset, I make mistakes.	☐	☐	☐	☐	☐	☐	58
59	When I am upset, I do the wrong thing.	☐	☐	☐	☐	☐	☐	59
60	When I am upset, I get into trouble.	☐	☐	☐	☐	☐	☐	60
61	When I am upset, I do things that I later feel bad about.	☐	☐	☐	☐	☐	☐	61
62	When I am upset, I hurt myself.	☐	☐	☐	☐	☐	☐	62
63	When I am upset, I hurt someone.	☐	☐	☐	☐	☐	☐	63
64	When I am upset, I get mixed-up.	☐	☐	☐	☐	☐	☐	64

Resilience

Here is a list of things that happen to people and that people think, feel or do. Read each sentence carefully and mark the answer that best describes you.

		Never	Rarely	Sometimes	Often	Almost always	For Office use only	
1	Life is fair.	☐	☐	☐	☐	☐	☐	1
2	I can make good things happen.	☐	☐	☐	☐	☐	☐	2
3	I can get the things I need.	☐	☐	☐	☐	☐	☐	3
4	I can control what happens to me.	☐	☐	☐	☐	☐	☐	4
5	I do things well.	☐	☐	☐	☐	☐	☐	5
6	I am good at fixing things.	☐	☐	☐	☐	☐	☐	6
7	I am good at figuring things out.	☐	☐	☐	☐	☐	☐	7
8	I make decisions.	☐	☐	☐	☐	☐	☐	8
9	I can adjust when plans change.	☐	☐	☐	☐	☐	☐	9
10	I can get past problems in my way.	☐	☐	☐	☐	☐	☐	10
11	If I have a problem, I can solve it.	☐	☐	☐	☐	☐	☐	11
12	If I try hard, it makes a difference.	☐	☐	☐	☐	☐	☐	12
13	If at first I don't succeed, I will keep on trying.	☐	☐	☐	☐	☐	☐	13
14	I can think of more than one way to solve a problem.	☐	☐	☐	☐	☐	☐	14
15	I can learn from my mistakes.	☐	☐	☐	☐	☐	☐	15
16	I can ask for help when I need to.	☐	☐	☐	☐	☐	☐	16
17	I can let others help me when I need to.	☐	☐	☐	☐	☐	☐	17
18	Good thing will happen to me.	☐	☐	☐	☐	☐	☐	18
19	My life will be happy.	☐	☐	☐	☐	☐	☐	19
20	No matter what happens, things will be all right.	☐	☐	☐	☐	☐	☐	20
21	I can meet new people easily.	☐	☐	☐	☐	☐	☐	21
22	I can make friends easily.	☐	☐	☐	☐	☐	☐	22
23	People like me.	☐	☐	☐	☐	☐	☐	23
24	I feel calm with people.	☐	☐	☐	☐	☐	☐	24
25	I have a good friend.	☐	☐	☐	☐	☐	☐	25
26	I like people.	☐	☐	☐	☐	☐	☐	26
27	I spend time with my friends.	☐	☐	☐	☐	☐	☐	27
28	Other people treat me well.	☐	☐	☐	☐	☐	☐	28
29	I can trust others.	☐	☐	☐	☐	☐	☐	29
30	I can let others see my real feelings.	☐	☐	☐	☐	☐	☐	30
31	I can calmly tell others that I don't agree with them.	☐	☐	☐	☐	☐	☐	31
32	I can make up with friends after a fight.	☐	☐	☐	☐	☐	☐	32
33	I can forgive my parent(s) if they upset me.	☐	☐	☐	☐	☐	☐	33

SASSI (2)

For Office use only

1 Describe your current alcohol or drug use:

More than twice a week	☐	☐☐ 1
About twice a week	☐	
About once a week	☐	
Between 1 and 3 times a month	☐	
Less than once a month	☐	
None	☐	

2 How old were you when you *first tried* alcohol or drugs? ☐☐ ☐☐ 2 - 3
(write **NA** if you have never tried alcohol or drugs)

3 How old were you when you started using alcohol or drugs regularly? ☐☐ ☐☐ 4 - 5
(write **NA** if you do not use alcohol or drugs regularly)

4 Have your grades ever gone down due to your alcohol or drug use? ☐ 6

Yes	☐
No	☐
n/a	☐

5 Have you ever been in trouble with the law? ☐ 7

Yes	☐
No	☐

Exposure to potentially traumatic events

Please indicate whether any of these events have happened to you. If you have experienced any of these events, please also indicate the frequency and how long ago these events occurred.

		Yes	No	If Yes, How many times did this happen? (e.g., 1, 6, 10, etc.)	How long ago did this happen? (e.g., 6 months, 2 years 2 months, etc.) y y m m	For Office use only	
1	Has anyone ever tried to take property away from you by force or a threat of force?						1 - 7
2	Have you ever been the victim of physical assault?						8 - 14
3	Have you ever been the victim of sexual assault?						15 - 21
4	Have you ever been the victim of domestic violence?						22 - 28
5	Have you ever lost a loved one through an accident, homicide, or suicide?						29 - 35
6	Have you ever been seriously injured?						36 - 42
7	Have you ever been in a situation where you feared being killed or seriously injured?						43 - 49
8	Have you ever witnessed someone being mutilated, seriously injured, or violently killed?						50 - 56
9	Have you ever been confronted with a natural disaster that threatened your life and property, or the lives and property of your loved ones?						57 - 63
10	Have you or any of your loved ones ever been diagnosed with a life-threatening illness?						64 - 70
11	Have you ever seen or handled dead bodies?						71 - 77
12	Were you ever separated from your loved ones against your will?						78 - 84

Satisfaction with Life

Below are 5 statements with which you may agree or disagree. Please indicate your agreement or disagreement with each item in the appropriate column. Please be honest in your response.

		Very strongly disagree	Strongly disagree	Mode-rarely disagree	Neither agree nor disagree	Moderately agree	Strongly agree	Very strongly agree	*For Office use only*	
1	In most ways my life is close to ideal	☐	☐	☐	☐	☐	☐	☐	☐	1
2	The conditions of my life are excellent	☐	☐	☐	☐	☐	☐	☐	☐	2
3	I am satisfied with my life	☐	☐	☐	☐	☐	☐	☐	☐	3
4	So far I have gotten the important things I want in life	☐	☐	☐	☐	☐	☐	☐	☐	4
5	If I could live my life over, I would change almost nothing	☐	☐	☐	☐	☐	☐	☐	☐	5

Please write down anything else that describes your feelings, behaviours, or interests

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS

0 = Not True 1 = Somewhat or Sometimes true 2 = Very True or Often True

0	1	2	e) Rashes / other skin problems
0	1	2	f) Stomachaches or cramps
0	1	2	g) Vomiting, throwing up
0	1	2	h) Other (describe): _____ _____
0	1	2	57. I physically attack people
0	1	2	58. I pick my skin or other parts of my body (describe): _____ _____
0	1	2	59. I can be pretty friendly
0	1	2	60. I like to try new things
0	1	2	61. My school work is poor
0	1	2	62. I am poorly coordinated or clumsy
0	1	2	63. I would rather be with older kids than with kids my own age
0	1	2	64. I would rather be with younger kids than with kids my own age
0	1	2	65. I refuse to talk
0	1	2	66. I repeat certain actions over and over (describe): _____ _____
0	1	2	67. I run away from home
0	1	2	68. I scream a lot
0	1	2	69. I am secretive or keep things to myself
0	1	2	70. I see things that other people think aren't there (describe): _____ _____
0	1	2	71. I am self-conscious or easily embarrassed
0	1	2	72. I set fires
0	1	2	73. I can work well with my hands
0	1	2	74. I show off or clown
0	1	2	75. I am shy
0	1	2	76. I sleep less than most kids
0	1	2	77. I sleep more than most kids during day and/or night (describe): _____ _____
0	1	2	78. I have a good imagination
0	1	2	79. I have a speech problem (describe): _____
0	1	2	80. I stand up for my rights
0	1	2	81. I steal at home
0	1	2	82. I steal from places other than home
0	1	2	83. I store up things I don't need (describe): _____ _____
0	1	2	84. I do things other people think are strange (describe): _____ _____
0	1	2	85. I have thoughts that other people would think are strange (describe): _____ _____
0	1	2	86. I am stubborn
0	1	2	87. My moods / feelings change suddenly
0	1	2	88. I enjoy being with other people
0	1	2	89. I am suspicious
0	1	2	90. I swear or use dirty language
0	1	2	91. I think about killing myself
0	1	2	92. I like to make others laugh
0	1	2	93. I talk too much
0	1	2	94. I tease others a lot
0	1	2	95. I have a hot temper
0	1	2	96. I think about sex too much
0	1	2	97. I threaten to hurt people
0	1	2	98. I like to help others
0	1	2	99. I am too concerned about being neat or clean
0	1	2	100. I have trouble sleeping (describe): _____ _____
0	1	2	101. I cut classes or skip school
0	1	2	102. I don't have much energy
0	1	2	103. I am unhappy, sad, or depressed
0	1	2	104. I am louder than other kids
0	1	2	105. I use alcohol or drugs for nonmedical purposes (describe): _____ _____
0	1	2	106. I try to be fair to others
0	1	2	107. I enjoy a good joke
0	1	2	108. I like to take life easy
0	1	2	109. I try to help other people when I can
0	1	2	110. I wish I were of the opposite sex
0	1	2	111. I keep from getting involved with others
0	1	2	112. I worry a lot

YOUTH SELF-REPORT

Below is a list of items that describe kids. For each item that describes you **now** or **within the past 6 months**, please circle the **2** if the item is **very true** or **often true** of you. Circle the **1** if the item is **somewhat** or **sometimes true** of you. If the item is **not true** of you, circle the **0**.

0 = Not True **1 = Somewhat or Sometimes true** **2 = Very True or Often True**

0	1	2	1.	I act too young for my age
0	1	2	2.	I have an allergy (describe): _____ _____
0	1	2	3.	I argue a lot
0	1	2	4.	I have asthma
0	1	2	5.	I act like the opposite sex
0	1	2	6.	I like animals
0	1	2	7.	I brag
0	1	2	8.	I have trouble concentrating or paying attention
0	1	2	9.	I can't get my mind off certain thoughts (describe): _____ _____
0	1	2	10.	I have trouble sitting still
0	1	2	11.	I'm too dependent on adults
0	1	2	12.	I feel lonely
0	1	2	13.	I feel confused or in a fog
0	1	2	14.	I cry a lot
0	1	2	15.	I am pretty honest
0	1	2	16.	I am mean to others
0	1	2	17.	I daydream a lot
0	1	2	18.	I deliberately try to hurt or kill myself
0	1	2	19.	I try to get a lot of attention
0	1	2	20.	I destroy my own things
0	1	2	21.	I destroy things belonging to others
0	1	2	22.	I disobey my parents
0	1	2	23.	I disobey my school
0	1	2	24.	I don't eat as well as I should
0	1	2	25.	I don't get along with other kids
0	1	2	26.	I don't feel guilty after doing something I shouldn't
0	1	2	27.	I am jealous of others
0	1	2	28.	I am willing to help others when they need help
0	1	2	29.	I am afraid of certain animals, situations, or places, other than school (describe): _____ _____
0	1	2	30.	I am afraid of going to school
0	1	2	31.	I am afraid I might think or do something bad
0	1	2	32.	I feel that I have to be perfect
0	1	2	33.	I feel that no one loves me
0	1	2	34.	I feel that others are out to get me
0	1	2	35.	I feel worthless or inferior
0	1	2	36.	I accidentally get hurt a lot
0	1	2	37.	I get in many fights
0	1	2	38.	I get teased a lot
0	1	2	39.	I hang around with kids who get in trouble
0	1	2	40.	I hear sounds/voices that other people think aren't there (describe): _____ _____
0	1	2	41.	I act without stopping to think
0	1	2	42.	I'd rather be alone than with others
0	1	2	43.	I lie or cheat
0	1	2	44.	I bite my fingernails
0	1	2	45.	I am nervous or tense
0	1	2	46.	Parts of my body twitch or make nervous movements (describe): _____ _____ _____
0	1	2	47.	I have nightmares
0	1	2	48.	I am not liked by other kids
0	1	2	49.	I can do certain things better than most kids
0	1	2	50.	I am too fearful or anxious
0	1	2	51.	I feel dizzy
0	1	2	52.	I feel too guilty
0	1	2	53.	I eat too much
0	1	2	54.	I feel overtired
0	1	2	55.	I am overweight
			56.	Physical problems without known medical cause:
0	1	2		a) Aches or pains (not headaches)
0	1	2		b) Headaches
0	1	2		c) Nausea, feel sick
0	1	2		d) Problems with eyes (describe): _____

Please see other side

Biographical questionnaire

For Office use only

30 Which computer games do you play most often

_____ 224 - 225

_____ 226 - 227

_____ 228 - 229

_____

_____

_____

31 Which websites do you visit most often?

_____ 230 - 231

_____ 232 - 233

_____ 234 - 235

_____

_____

32 How much time do you spend daily with your parents/guardians
(include time spent together watching TV, playing sport/games, sharing meals, etc.)
Please write the approximate no of hours per day (e.g., 1.25=1¼ hours)

[ ][ ].[ ][ ] 236 - 239

33 Have you been exposed to pornography in any ways?
(more than one option can be marked)

Yes [ ]
No [ ] 241

If **YES,** in which way(s) were you explosed?

On the internet [ ] 242
In print media (magazines, etc.) [ ] 243
In theatre movies [ ] 244
In rental movies [ ] 245
On TV [ ] 246
On Cell phones [ ] 247
Other [ ] Specify:_____ 248 - 249

34 If any of the options in question 33 were marked,
a) please indicate your age the first time you were exposed to pornography

[ ][ ] 250 - 251

b) please indicate whether you currently try to view pornography

Daily [ ] 252
Weekly [ ]
Monthly [ ]
Occasionally [ ]
Not at all [ ]

B: Please wait for instructions before continuing with the next questionnaire.

Biographical questionnaire

For Office use only

25 How many hours do you spend communicating with other people on all of the abovementioned electronic social communication systems combined? (write the approximate no of hours per day) Not more than 24 hours per day

a) During weekdays ☐☐ 206 - 207

b) During weekends ☐☐ (average per day) 208 - 209

26 Describe shortly what you think are the potential positive effects of communication via the abovementioned electronic social communication systems

_____ ☐☐ 210 - 211

_____ ☐☐ 212 - 213

_____ ☐☐ 214 - 215

_____

_____

_____

27 Describe shortly what you think are the potential negative effects of communication via the abovementioned electronic social communication systems

_____ ☐☐ 216 - 217

_____ ☐☐ 218 - 219

_____ ☐☐ 220 - 221

_____

_____

_____

28 Have you ever been the victim of any form of cyber bullying?

Yes ☐
No ☐ 222

29 How often do you play computer games?

Never ☐
Seldom ☐
A few times a month ☐
A few times a week ☐
Daily ☐ 223

Biographical questionnaire

For Office use only

19 If applicable, how often do you attend religious ceremonies

Weekly or more ☐
Monthly ☐
Occasionally ☐
Not at all ☐

☐ 183

20 In a few sentences: Describe the factors that make you feel positive/good about yourself, your life and your future.

_____ ☐☐ 182 - 183

_____ ☐☐ 184 - 185

_____ ☐☐ 186 - 187

_____

_____

_____

21 In a few sentences: Describe those factors that cause you frustration and may contribute towards you being personally dissatisfied.

_____ ☐☐ 188 - 189

_____ ☐☐ 190 - 191

_____ ☐☐ 192 - 193

_____

_____

_____

22 What do you do to make yourself feel better when you are upset?

_____ ☐☐ 194 - 195

_____ ☐☐ 196 - 197

_____ ☐☐ 198 - 199

_____

_____

_____

23 Do you own a cell phone?

Yes ☐
No ☐

☐ 200

24 Which of the following electronic social communication systems do you use?
(more than one option can be marked)

MXit ☐
Facebook ☐
MySpace ☐
Other ☐ Specify: _____

☐☐☐ 201 - 203

☐☐ 204 - 205

Biographical questionnaire

For Office use only

15 Do you know anybody who has committed suicide (who has died from suicide) — 48

Yes ☐
No ☐

If **YES**, what was your relationship with the person?
(more than one option can be marked)

		If marked, please specify the year	
Brother	☐	☐☐☐☐	49 - 54
Sister	☐	☐☐☐☐	55 - 60
Father	☐	☐☐☐☐	61 - 66
Mother	☐	☐☐☐☐	67 - 72
Uncle/Aunt	☐	☐☐☐☐	73 - 78
Cousin	☐	☐☐☐☐	79 - 84
Grandparent	☐	☐☐☐☐	85 - 90
Boyfriend/Girlfriend	☐	☐☐☐☐	91 - 96
Friend	☐	☐☐☐☐	97 - 102
Other	☐	☐☐☐☐	103 - 108
Specify: _____			109 - 110

16 Do you know anybody who has attempted suicide (but is still alive)? — 111

Yes ☐
No ☐

If **YES**, what was your relationship with the person?
(more than one option can be marked)

		If marked, please specify the year	
Brother	☐	☐☐☐☐	112 - 117
Sister	☐	☐☐☐☐	118 - 123
Father	☐	☐☐☐☐	124 - 129
Mother	☐	☐☐☐☐	130 - 135
Uncle/Aunt	☐	☐☐☐☐	136 - 141
Cousin	☐	☐☐☐☐	142 - 147
Grandparent	☐	☐☐☐☐	148 - 153
Boyfriend/Girlfriend	☐	☐☐☐☐	154 - 159
Friend	☐	☐☐☐☐	160 - 165
Other	☐	☐☐☐☐	166 - 171
Specify: _____			172 - 173

17 Have you ever attempted suicide? — 174

Yes ☐
No ☐

If **YES**, please specify the year ☐☐☐☐ — 175 - 178

18 State your religious affiliation — 179 - 180

Christian ☐
Muslim ☐
Hindu ☐
Buddhist ☐
African Traditional ☐
None ☐
Other ☐ Specify: _____

If **CHRISTIAN**, please specify the denomination

_____ — 181 - 182

Biographical questionnaire

For Office use only

11 How often do you:

	Never	Once or twice a week	Three to four times a week	Five to seven times a week		
Eat regular meals	☐	☐	☐	☐	☐	16
Eat fast foods (hamburgers, KFC etc)	☐	☐	☐	☐	☐	17
Go to bed hungry due to lack of money to buy food	☐	☐	☐	☐	☐	18

12 Does your family receive any social grant (e.g., child/disability/old-age grant etc.)

Yes ☐
No ☐ ☐ 19

13 Have you ever cut or mutilated yourself?

Yes ☐
No ☐ ☐ 20

If **YES**, a) At what age did you start? ☐☐ ☐☐ 21 - 22

b) How frequently did you do it:

☐☐ times per Day ☐
Week ☐
Month ☐ ☐☐ 23 - 24
☐ 25

c) Are you: Still doing it ☐
Stopped ☐ ☐ 26

d) If you have stopped:

At what age did you stop? ☐☐ ☐☐ 27 - 28

What made you stop?

_____ ☐☐ 29 - 30
_____ ☐☐ 31 - 32
_____ ☐☐ 33 - 34

e) Describe in a few sentences why you injured/or continue to hurt yourself

_____ ☐☐ 35 - 36
_____
_____ ☐☐ 37 - 38
_____
_____ ☐☐ 39 - 40
_____
_____

14 Have you ever been actively involved with any of these subcultures?

(more than one option can be marked)

Goths ☐ ☐ 41
Satanism ☐ ☐ 42
Paganism ☐ ☐ 43
Gangsterism ☐ ☐ 44
Emo ☐ ☐ 45
Other ☐ Specify: _____ ☐☐ 46 - 47

2

Biographical questionnaire

For Office use only

1 Name of school _____

2 Grade ☐☐ — ☐☐ — 1 - 2

3 Age ☐☐ — ☐☐ — 3 - 4

4 Gender — ☐ — 5
- Male ☐
- Female ☐

5 Race — ☐☐ — 6 - 7
- Asian ☐
- Black ☐
- Coloured ☐
- White ☐
- Other ☐ Specify: _____

6 Home language (mark the one your family uses most at home): — ☐☐ — 8 - 9
- English ☐
- Afrikaans ☐
- IsiXhosa ☐
- IsiZulu ☐
- Sesotho ☐
- Setswana ☐
- Sepedi ☐
- Other ☐ Specify: _____

7 Are your parents still alive?

a) Mother: — ☐ — 10
- Alive ☐
- Deceased ☐

b) Father: — ☐ — 11
- Alive ☐
- Deceased ☐

8 Marital status of parents: — ☐ — 12
- Married ☐
- Separated ☐
- Divorced ☐
- Divorced and remarried ☐
- Common law marriage ☐
- Single parent ☐

9 Current living arrangements (where you spent at least 70% of your time): — ☐☐ — 13 - 14
- Living with both parents ☐
- Living with one parent ☐
- Living with grandparent(s) ☐
- Living with extended family(uncles, aunts) ☐
- Living with brother/sister only ☐
- Living alone ☐
- Living with one parent and stepparent ☐
- Living in school residence ☐
- Living in youth centre/children's home ☐
- Other ☐ Specify: _____

10 Employment status of primary breadwinner of family: — ☐ — 15
- Work for company/organisation ☐
- Self employed ☐
- Unemployed ☐