

**Impulsive Risk Behaviours, Self-Harm, and Demographic Factors as Predictors of
Coping amongst University Students**

by

Prianca Harichand

2018501227

Submitted in accordance with the requirements for the degree of

MASTER OF SOCIAL SCIENCE

(Counselling Psychology)

in the Department of Psychology, Faculty of the Humanities,

at the University of the Free State

Bloemfontein

Supervisor: Dr J. Jordaan

2021

Student Declaration

I, Prianca Harichand, hereby assert that the dissertation I submit for the degree, Master of Social Science (Counselling Psychology) at the University of the Free State is my personal, autonomous work, and has not been previously submitted at another university or faculty. Furthermore, I cede copyright of this dissertation in favour of the University of the Free State.

A handwritten signature in black ink, appearing to read 'Prianca Harichand', is written on a light blue background. The signature is cursive and somewhat stylized.

Prianca Harichand

November 2021

Permission to Submit Dissertation



Reference: Dr. J. Jordaan
Psychology Building, 4
University of the Free State
BLOEMFONTEIN
9301

Telephone: 051 – 401 2890
E-mail: jordaanj1@ufs.ac.za

5 November 2021

PERMISSION TO SUBMIT

Student: Prianca Harichand
Student number: 2018501227
Degree: Masters of Social Science (Counselling Psychology)
Department: Psychology

Title: Impulsive risk behaviours, self-harm, and demographic factors as predictors of coping amongst university students

I hereby provide permission that this mini-dissertation be submitted for examination – in fulfilment of the requirements for a Masters of Social Science (Counselling Psychology), in the Department of Psychology, Faculty of the Humanities, at the University of the Free State.

I approve the submission for assessment and that the submitted work has not previously, either in part or in its entirety, been submitted to the examiners or moderators.

Kind regards.

Jacques
Jordaan

Digitally signed by Jacques Jordaan
DN: cn=Jacques Jordaan,
o=University of the Free State,
ou=Department of Psychology,
email=jordaanj1@ufs.ac.za, c=ZA
Date: 2021.11.05 13:02:35 +02'00'

Dr. J. Jordaan
Supervisor



Declaration by Language Editor



02 November 2021

To whom it may concern

Re: Proofreading and academic editing: Ms P. Harichand

I, J.L. van Aswegen of Grammar Guardians, hereby confirm proofreading and academic editing of the master's thesis entitled "Impulsive risk behaviours, self-harm, and demographic factors as predictors of coping amongst university students" by Ms Prianca Harichand (student number 2018501227) in October 2021.

Please contact me on 082 811 6857 or at jeanne@grammarguardians.co.za regarding any queries that may arise.

Kind regards,

A handwritten signature in black ink, appearing to read "J.L. van Aswegen", with a long horizontal flourish extending to the right.

J.L. van Aswegen

Grammar Guardians

Acknowledgements

In order to fulfil the requirements of this master's dissertation, I had the continued support and guidance from the following individuals who I would like to acknowledge and sincerely thank.

- The participants who were willing to complete my questionnaires.
- Dr Jacques Jordaan, for your consistent effort, dedication, and expertise throughout my research journey. Thank you for always going the extra mile to ensure that my research is of the highest standard!
- My language editors, for your professionalism, dedication, and assistance in ensuring that my dissertation is of the highest quality.
- My parents and grandparents, who have provided me with the support, words of wisdom, and a safe space when I needed it; I am eternally grateful.
- My partner, Deshailin, for your unwavering emotional support, words of encouragement, humour, and believing in me throughout my master's journey. I am stronger with you by my side.
- Lastly, God, for guiding me along this path and giving me hope when I needed it the most.

Table of Contents

Student Declaration.....	ii
Permission to Submit Dissertation.....	iii
Declaration by Language Editor	iv
Acknowledgements.....	iv
List of Tables	xii
List of Abbreviations	xiv
Abstract.....	xv

Chapter 1: Background and Rationale

1.1 Introduction.....	1
1.2 Orientation to the Study	1
1.3 Research Methodology	7
1.3.1 Research Aim.....	7
1.3.2 Research Approach and Design	7
1.3.3 Participants and Sampling	7
1.3.4 Data Collection	8
1.3.5 Data Analysis	10
1.4 Ethical Considerations	10
1.5 Value of the Study	11
1.6 Definitions of Keywords.....	11
1.7 Summary.....	12

Chapter 2: Literature Review

2.1	Introduction.....	13
2.2	Stress and University Students' Mental Health	13
2.3	Coping.....	18
2.3.1	Active Coping	22
2.3.1.1	Planning	22
2.3.1.2	Suppression of Competing Activities	23
2.3.1.3	Restraint Coping	23
2.3.2	Seeking Social Support for Instrumental and Emotional Reasons	24
2.3.3	Focusing on and Venting of Emotions	25
2.3.4	Behavioural Disengagement	25
2.3.5	Mental Disengagement	26
2.3.6	Positive Reinterpretation and Growth.....	27
2.3.7	Denial.....	27
2.3.8	Acceptance.....	28
2.3.9	Religious Coping	28
2.3.10	Substance Use	29
2.3.11	Humour	30
2.4	The South African Context and Coping.....	30
2.5	Impulsive Risk Behaviour.....	33
2.5.1	Impulsivity	33
2.5.1.1	Personality and Impulsivity	33

2.5.1.2	Behaviour-Specific Impulsivity	34
2.5.2	Substance Use and Coping	36
2.5.3	Promiscuous Sexual Behaviour and Coping.....	38
2.5.4	High-Risk Behaviour (Impulsive Spending, and Stealing and Risk-Taking in Dangerous Activities) and Coping.....	40
2.5.4.1	Impulsive Spending	40
2.5.4.2	Stealing and Risk-Taking in Dangerous Activities	41
2.6	Self-Harm.....	43
2.6.1	Self-Harm Among University Students	43
2.6.2	Self-Harm and Coping	44
2.7	Demographic Factors as Predictors of Coping	47
2.7.1	Age and Coping	47
2.7.2	Gender and Coping	49
2.7.3	Academic Level (Undergraduate and Postgraduate Students) and Coping	51
2.8	Conclusion	53
2.9	Summary	54

Chapter 3: Methodology

3.1	Introduction.....	55
3.2	Research Aim.....	55
3.3	Research Questions	55
3.4	Research Approach and Design	55
3.5	Participants and Sampling.....	57

3.6	Data-Collection Procedure.....	58
3.7	Measuring Instruments.....	59
3.7.1	Biographical Questionnaire	59
3.7.2	The Coping Orientation to Problem Experience (COPE) Inventory	59
3.7.3	The Impulsive Behaviour Scale (IBS)	60
3.7.4	The Self-Harm Information Form (SHIF)	61
3.8	Data Analysis	62
3.9	Ethical Considerations	63
3.10	Value of the Study	64
3.11	Summary	65

Chapter 4: Results

4.1	Introduction.....	66
4.2	Descriptive Statistics of the Sample	66
4.3	Descriptive Statistics of the Measuring Instruments	70
4.4	Correlations Between Variables	72
4.5	Hierarchical Regression Analyses	73
4.5.1	Hierarchical Regression Analysis with Positive Reinterpretation and Growth as the Criterion Variable	74
4.5.2	Hierarchical Regression Analysis with Focus on and Venting of Emotions as the Criterion Variable	75
4.5.3	Hierarchical Regression Analysis with Use of Instrumental Social Support as the Criterion Variable	76

4.5.4	Hierarchical Regression Analysis with Active Coping as the Criterion Variable	76
4.5.5	Hierarchical Regression Analysis with Denial as the Criterion Variable.....	77
4.5.6	Hierarchical Regression Analysis with Religious Coping as the Criterion Variable.....	78
4.5.7	Hierarchical Regression Analysis with Humour as the criterion Variable.....	79
4.5.8	Hierarchical Regression Analysis with Behavioural Disengagement as the Criterion Variable.....	80
4.5.9	Hierarchical Regression Analysis with Use of Emotional Social Support as the Criterion Variable	81
4.5.10	Hierarchical Regression Analysis with Substance Use as the Criterion Variable	82
4.5.11	Hierarchical Regression Analysis with Acceptance as the Criterion Variable.....	83
4.5.12	Hierarchical Regression Analysis with Planning as the Criterion Variable	84
4.6	Summary	85

Chapter 5: Discussion of Results, Limitations, Recommendations, and Conclusion

5.1	Introduction.....	86
5.2	Discussion of Results	86
5.2.1	Discussion of Measuring Instruments.....	86
5.3	Discussion of the Significant Correlations Between Variables in the Study	87
5.3.1	Correlation Between Impulsive Risk Behaviour and Coping.....	88
5.3.2	Correlation Between Self-Harm and Coping.....	90
5.4	Discussion of the Predictors of Coping	91
5.5	Limitations of the Study.....	94

5.6	Recommendations for Future Studies	95
5.7	Conclusion	97

APPENDICES

Appendix A: Faculty of Humanities Research Ethics Approval Letter.....	126
Appendix B: Biographical Questionnaire	127
Appendix C: Coping Orientation to Problem Experience (COPE) Inventory	135
Appendix D: Self-Harm Information Form (SHIF).....	139
Appendix E: Impulsive Behaviour Scale (IBS)	140
Appendix F: Informed Consent	144
Appendix G: Plagiarism Report.....	151

List of Tables

Table 1:	<i>Frequency Distribution of Participants According to Demographic Variables</i>	67
Table 2:	<i>Descriptive Statistics and Reliability Coefficients for the COPE Inventory, IBS, and SHIF</i>	71
Table 3:	<i>Correlations Between the COPE Subscales and Age, Gender, Academic Level, IBS Scale, and SHIF Scale</i>	72
Table 4:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Positive Reinterpretation and Growth as the Criterion Variable</i>	74
Table 5:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Focus on and Venting of Emotions as the Criterion Variable</i>	75
Table 6:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Use of Instrumental Social Support as the Criterion Variable</i>	76
Table 7:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Active Coping as the Criterion Variable</i>	77
Table 8:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Denial as the Criterion Variable</i>	78
Table 9:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Religious Coping as the Criterion Variable</i>	79
Table 10:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Humour as the Criterion Variable</i>	80

Table 11:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Behavioural Disengagement as the Criterion Variable</i>	81
Table 12:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Use of Emotional Social Support as the Criterion Variable.....</i>	82
Table 13:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Substance Use as the Criterion Variable.....</i>	83
Table 14:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Acceptance as the Criterion Variable.....</i>	84
Table 15:	<i>Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R^2 with Planning as the Criterion Variable</i>	85

List of Abbreviations

BIS	Barratt Impulsivity Scale
CI	Confidence interval
CMD	Common mental disorder
COPE	Coping Orientation to Problem Experience Inventory
FET	Further Education and Training
GHREC	General Human Research Ethics Committee
IBS	Impulsive Behaviour Scale
NSSI	Non-suicidal self-injury
SHIF	Self-Harm Information Form
SPSS	Statistical Package for the Social Sciences
STB	Suicidal thoughts and behaviours
TVET	Technical Vocational Education and Training
UFS	University of the Free State
USA	United States of America
WHO	World Health Organization

Abstract

University students face significant levels of psychological distress due to the transitional period that they find themselves in, known as emerging adulthood, which, for young adults, is between the ages of 18 to 29 years. During this period, university students find it increasingly difficult as they encounter numerous stressors, have the tendency to lack the necessary coping mechanisms, have poor social support, experience rapid changes in social and psychological development, and have high academic expectations, while having to develop social roles and preparing for adult roles. Furthermore, university students tend to struggle with psychological challenges such as depression, anxiety, suicidality, a history of psychiatric hospitalisation, self-injury incidents, sexual assault concerns on campus, and alcohol-related issues. Consequently, due to the increase in the stressors and the psychological severity of problems during this transitional period, university students find it challenging to cope.

This study aimed to investigate which variables or combination of variables (Impulsive Risk Behaviours, Self-Harm, Age, Gender, and Academic Level) explained a significant percentage of variance in Coping among university students. To determine the correlations between variables, a correlational design was necessary for this non-experimental, quantitative study. A non-probability sampling technique known as convenience sampling was used in this study. The sample comprised 471 university students from the University of the Free State from all ethnic groups and genders, aged between 18 and 29 years, enrolled for any major and on either undergraduate or postgraduate educational level from various departments within the Faculty of the Humanities. The students were from disciplines that included, but were not limited to, Psychology, Criminology, Anthropology, Communication Science, Sociology, and Political Science.

The measuring instruments included a self-developed biographical questionnaire, the *Impulsive Behaviour Scale* (IBS), the *Self-Harm Information Form* (SHIF), and the *Coping Orientation to Problem Experience* (COPE) *Inventory*. Correlation analyses were conducted, followed by hierarchical regression analyses, which were used to analyse the data. The research findings highlighted that Impulsive Risk Behaviour demonstrated statistically significant positive correlations with (1) Behavioural Disengagement and (2) Substance Use Coping. Furthermore, a statistically significant positive correlation was found between Self-Harm and Substance Use Coping. Lastly, Impulsive Risk Behaviour statistically and practically significantly predicted Substance Use Coping among university students, which corresponded with previous research that stipulated a positive relationship between impulsive risk behaviours and substance use coping. However, the current study was not able to demonstrate a combination of predictor variables that predicted Coping among university students. Consequently, numerous variables yielded statistically significant results, although practical significance was not obtained and hence was not discussed in the study.

The study's findings demonstrate a relationship between Impulsive Risk Behaviour, Self-Harm, Disengagement Coping, and Substance Use Coping, which all are of concern among university students. These results indicate that students tend to utilise maladaptive behaviours and coping strategies to deal with their stressors. However, further research should be conducted on the predictors of coping among university students in South Africa to build on the knowledge created by this study.

Keywords: Coping, Impulsive Risk Behaviours, Self-Harm, Age, Gender, Academic Level, University students, Free State

Chapter 1

Background and Rationale

1.1 Introduction

This chapter serves as the background and rationale of the study; focusing on the orientation to the study, an overview of the research methodology, the ethical considerations, the value of the study, a list of key definitions, and a summary at the end of the chapter.

1.2 Orientation to the Study

University students' mental health and wellbeing are a global concern (Carter et al., 2017) as they tend to experience significant levels of psychological distress. *Psychological distress* within this context is defined as an emotional state in response to stressors such as anxiety and depression (Deasy et al., 2014). The psychological distress experienced by students tends to be due to the transitional period that they find themselves in (Gautam & Madnawat, 2017), known as emerging adulthood, which, for young adults, is between the ages of 18 and 29 years (Arnett, 2000, 2014). The developmental period of emerging adulthood is distinguished by passing the stage of dependency on others in childhood and adolescence but not yet having entered the enduring responsibilities that are normative of adulthood (Arnett, 2000; Schwartz & Petrova, 2019). Emerging adulthood is distinguished from other life stages by five characteristics, namely being self-focused, an age of instability and indecisiveness, exploration of one's identity, feeling as if they are in between life phases, and the time of possibilities (Arnett, 2014; Schwartz & Petrova, 2019).

University students are exposed to multiple socio-cultural, economic, and contextual factors during this transitional period, including gender-based violence, which influence their levels of psychological distress (Schreiber, 2018). Furthermore, university students face common stressors

such as academic factors that increase their stress levels (Ahorsu et al., 2020; Mason, 2017; Mudhovozi, 2011). The academic stressors experienced by university students have been categorised into five main groups, namely conflict, self-imposed behaviour, pressure, life changes, and frustrations (Ahorsu et al., 2020; Eskin et al., 2016; Mudhovozi, 2011). The tertiary education period is increasingly difficult for university students due to their tendency to lack necessary coping mechanisms, poor social support, rapid changes in social and psychological development, being exposed to risk factors, having to make difficult choices, and high academic expectations, while having to develop social roles and preparing for adult roles (Arnett, 2000; Engelbrecht, 2020; Gautam & Madnawat, 2017; Odacı & Çıkrıkçı, 2012; Renk & Creasey, 2003). Consequently, university students find it challenging to cope with the exorbitant amount of stressors experienced during the tertiary education period.

University counselling centres have identified a shift in students' needs from developmental and informational needs to more psychological-orientated needs (Ahorsu et al., 2020; Eskin et al., 2016; Kitzrow, 2009). For instance, university students tend to struggle with psychological challenges such as depression, anxiety, suicidality, a history of psychiatric hospitalisation, eating disorders, self-injury incidents, sexual assault concerns on campus, and alcohol-related issues (Kitzrow, 2009; Saleem et al., 2013).

Studies report that adolescence and emerging adulthood are the most common periods for developing major psychiatric disorders (Eskin et al., 2016; Ormel et al., 2015; Scardera et al., 2020; Twenge et al., 2019). Deasy et al. (2014) found that 41.9% of Irish university students experienced psychological distress based on their General Health Questionnaire scores.

According to the National Survey of Counselling Directors at 274 Counselling Center institutions, 85% of the directors reported an increase in the severity of students' mental health

concerns over a period of five years (Saleem et al., 2013). Furthermore, the “Caring University Project” gathered data on the mental health of students from 18 universities in eight countries across the African continent (Schreiber, 2018). The data were used to examine the African student population. The findings indicate that students suffered from at least one lifetime occurrence of major depressive disorder (24.98%) and generalised anxiety disorder (20.8%) (Schreiber, 2018). The onset of mental illness was at the age of 14 and the most vulnerable population was female (Schreiber, 2018). Due to the increase in the psychological severity of problems during this transitional period, university students therefore find it challenging to cope (Deasy et al., 2014; Forbes-Mewett & Sawyer, 2016; Pedrelli et al., 2015).

An important skill for improving adjustment to university life is the ability to cope with stressors associated with tertiary education (Vizoso et al., 2018). Coping is known as the response to stressful events or episodes (Compas, 1987; Melato et al., 2017; Vizoso et al., 2018). According to Lazarus and Folkman’s (1984) stress and coping theory, coping is defined as “constantly changing cognitive and behavioural efforts to manage specific internal and external demands that are appraised as taxing or exceeding the resources of a person” (p. 141). Within this theoretical framework, Lazarus and Folkman (1984) explain the transactional model of coping as an interaction between the person and the environment, which is fluid and dynamic (Engelbrecht, 2020). Lazarus and Folkman (1984) argue that stress can be understood using three processes, namely *primary appraisal*, *secondary appraisal*, and *coping* (Carver et al., 1989; Engelbrecht, 2020; Li et al., 2012; McMordie, 2021). Primary appraisal is a process that refers to the way individuals perceive a threat to themselves. Secondary appraisal refers to the response to a threat, while coping refers to the process of executing that response (Carver et al., 1989; Li et al., 2012; McMordie, 2021). Coping efforts either act on the intended stressor (problem-

focused) or regulate emotional states associated with the stressor (emotion-focused) (DiLima, 2018; Folkman, 2013; Martinez-Zaragoza et al., 2020). Individuals often engage in both coping strategies to address the same stressor, which may enhance or inhibit each other (DiLima, 2018; Folkman, 2013). The nature of the stressor and the appraisal in evaluating the type of coping strategies employed and the resources available play a role in this framework (Engelbrecht, 2020).

Previous research has found that impulsive risk behaviours, self-harm, gender, age, and academic level serve as possible predictors of coping among university students. Firstly, university students are more inclined to adopt avoidant coping strategies, such as impulsive risk behaviours, which enable them to block their awareness of painful emotions (Burns et al., 2000; Jensen et al., 2016; Peñas-Lledó & Waller, 2003). According to Rossotto et al. (1994), impulsivity is a level of behavioural manifestation, while other researchers interpret it as an attitudinal dimension (Peñas-Lledó & Waller, 2003). From a behavioural stance, in correspondence with this study, impulsive risk behaviours include suicidal gestures, self-harm, promiscuous sexual behaviour, alcohol and drug use, overeating, compulsive spending, and smoking (Haw et al., 2005; Pengpid & Peltzer, 2015; Peñas-Lledó & Waller, 2003). University students use these risky behaviours as a form of behavioural and/or mental disengagement to cope with stressful situations (Dijkstra & Homan, 2016; DiLima, 2018). These behaviours are considered maladaptive due to the likelihood that the implementation thereof may influence a student's ability to effectively cope with the stressor and hence maintaining the distress (Dijkstra & Homan, 2016; DiLima, 2018). However, from a South African perspective, there is limited research on impulsive risk behaviours as a predictor of coping among university students.

Secondly, although the reasons remain unclear, self-harming behaviour has increased among young adults (Sansone & Sansone, 2010). Self-harm is seen as a socially unacceptable alteration or destruction of body tissue such as burning and cutting without suicidal intent (Croyle & Waltz, 2007; Kostić et al., 2019). Muehlenkamp et al. (2013) indicate that maladaptive coping could manifest as self-harming behaviour. This is demonstrated by those who report feelings of relief and a reduction of adverse emotional and cognitive states after self-harming (Muehlenkamp et al., 2013; Van der Walt, 2016). Van der Walt (2016) conducted a study on self-harming behaviour among South African university students. The findings indicate that mental pain was the most prevalent category of self-harming behaviour, as well as torture with self-defeating thoughts (23.4%), engaging in rejecting relationships (20.9%), and emotionally abusive relationships (15.9%) (Van der Walt, 2016). However, there is a paucity of South African literature pertaining to self-harm as a predictor of coping among university students.

Thirdly, gender differences have been identified in coping strategies, with female and male students adopting emotion-focused coping and problem-focused coping respectively (Anbumalar et al., 2017). Female students tend to seek more emotional and social support than their male counterparts (Anbumalar et al., 2017; Dwyer & Cummings, 2001). However, qualitative findings from Goodwill et al.'s (2018) research stipulate that male university students adopted isolated coping (relying on self and anger-resentment-frustration), engaged coping (social interactions, hobbies and physical activities, substance use, and fighting/violence), and disengaged (acceptance and not dealing with emotions, cutting off emotions, and hiding emotions) coping.

Fourthly, regarding academic level, undergraduate university students tend to be more inclined to adopt avoidant coping responses, such as substance use (Ahorsu et al., 2020; LaBrie et al., 2012; Mofatteh, 2021), while postgraduate university students tend to use active coping,

such as social support or exercise (Ickes et al., 2015). Although undergraduate and postgraduate students tend to experience similar levels of stress, postgraduate students are more likely to cope better, thereby reducing the impact on health-related outcomes and academic performance (Ickes et al., 2015).

Lastly, with regard to age and coping responses among emerging adults, aged 18 to 29, from the University of Botswana, Monteiro et al. (2014) indicate that older students tend to adopt more problem-focused coping strategies or task-orientated coping, namely problem solving, expressing emotion, cognitive restructuring, and altering the meaning of a stressful situation (Cabras & Mondo, 2018; Monteiro et al., 2014; Zimmer-Gembeck & Skinner, 2008). In contrast, younger students adopt wishful thinking, social support, problem avoidance, self-criticism, and social withdrawal (Cabras & Mondo, 2018; Monteiro et al., 2014). Furthermore, there are limited studies on demographic factors, such as age, gender, and academic level, as predictors of coping within the South African context.

University students face numerous psychological and social pressures in their daily lives (Ahorsu et al., 2020; Amin et al., 2019; Li & Nishikawa, 2010; Nekgotha et al., 2020; Renk & Creasey, 2003) and often view their stressors as a negative experience (Lewin & Mawoyo, 2014; Mason, 2017). This tends to hinder their ability to cope with demands if they employ ineffective coping mechanisms, are unable to access resources, and have a lack of social support (Amin et al., 2019; Majumdar & Ray, 2010; Mason, 2017). In this case, university students become impaired in their ability to cope with their stressors and are at a heightened risk of developing psychological disorders and academic attrition (Mason, 2017); the latter of which could result in university students experiencing a low quality of life (Mason, 2017). There is ample international literature on stress and coping among university students (Deasy et al., 2014; Kim et al., 2010).

However, a deeper understanding of impulsive risk behaviours, self-harm, age, gender, and academic level as possible predictors of university students' coping would contribute significantly to the existing body of knowledge in a developing country such as South Africa.

1.3 Research Methodology

This section discusses the study's research, research approach and design, participants and sampling, data collection, and data analysis.

1.3.1 Research Aim

This study aimed to determine whether individual predictor variables (such as Self-harm, Impulsive Risk Behaviour, Age, Gender, and Academic Level) or a combination of these predictor variables significantly contribute to the variance of Coping among university students.

The following research questions were investigated to address this research aim:

- Does the combination of Impulsive Risk Behaviours, Self-harm, Gender, Age, and Academic Level explain a significant percentage of variance in the Coping of university students?
- Do any of the individual predictors significantly contribute to the variance in the Coping among university students?

1.3.2 Research Approach and Design

This research study was conducted by utilising a quantitative approach and was non-experimental in nature (Stangor, 2015). A correlational research design was used in the study to investigate the correlations between the variables (Stangor, 2015).

1.3.3 Participants and Sampling

A non-probability sampling technique known as convenience sampling (Stangor, 2015) was used in this study. The sample comprised 471 university students from the University of the Free

State (UFS) from all ethnic groups and genders, aged between 18 and 29 years, enrolled for any major, and on either undergraduate or postgraduate educational level from various departments in the Faculty of the Humanities. The students were from disciplines that included, but were not limited to, Psychology, Criminology, Anthropology, Communication Science, Sociology, and Political Science.

1.3.4 Data Collection

The participants were required to complete four questionnaires, compiled into one document, which were administered via an electronic/online survey platform, namely Google Forms. The questionnaire was uploaded onto the Google Forms platform by the researcher. After the responses were collected, the files were copied to the researcher's Google Drive account. Access to the data was therefore limited to the researcher only. Permission was obtained from the General Human Research Ethics Committee (GHREC) of the Faculty of the Humanities and the Vice-Rector: Research, Innovation and Internationalisation to retrieve all students' email addresses (see Appendix A). This method maintained students' anonymity as identifying particulars were not requested. The students were able to click on the link sent via email and were required to agree to ethical conditions as an orientation prior to commencing with the questionnaires, which acted as a mechanism to provide informed consent. The link was accompanied by a recruitment letter and information leaflet (see Appendix F), which were sent to all students in the Faculty of the Humanities and associated departments via email. When the students accepted the agreement, their participation was voluntary. An automatic notification of completion was sent to the participants who had completed the questionnaire through the Google Forms function, which stated that their responses had been recorded and would be sent to the researcher. To maximise the number of responses, the researcher sent the questionnaire link with

the accompanying documents via email to all students every two to three weeks for the duration of the data-collection period. The following questionnaires were administered on the Google Forms platform:

A biographical questionnaire (see Appendix B) was used to measure the demographic variables of the participants (such as age, gender, ethnicity, majors, academic level [undergraduate or postgraduate], department, etc.).

To measure coping, the *Coping Orientation to Problems Experienced (COPE) Inventory* (Carver et al., 1989) was used (see Appendix C). This scale comprises 60 items and has 15 subscales. The scale uses a four-point Likert-type scale in which participants respond to items on a scale of 1 to 4. The responses entail (1) *I do not usually do it*, (2) *I sometimes do it*, (3) *I do it with some frequency*, and (4) *I always do it* (Carver et al., 1989). Higher scores indicate a student's most used coping behaviour (Carver et al., 1989). Cronbach's alphas identified for all 15 subscales of the COPE Inventory demonstrate acceptable internal consistency reliabilities ranging from 0.45 to 0.94 (Carver et al., 1989; Thomas et al., 2017). Carver et al. (1989) and Litman (2006) confirm similar internal consistencies of 0.73 for the entire COPE Inventory.

Impulsive risk behaviour was measured using the *Impulsive Behaviour Scale (IBS)* (Rossotto et al., 1994) (see Appendix E). The IBS is a 25-item scale and responses are rated on a five-point Likert-type scale. Participants respond on a scale from 1 to 5, indicating (1) *Never*, (2) *Once*, (3) *On occasion (2-3 times in your life)*, (4) *Sometimes (4-20 times in your life)*, and (5) *Regularly (more than 20 times in your life)*. Higher scores indicate greater levels of impulsivity (Peñas-Lledó & Waller, 2003). Cronbach's alphas obtained from national and international student populations range from 0.85 to 0.90 (Bender, 2009; Naidoo, 2016; Peñas-Lledó & Waller, 2003).

Self-harm was measured using the *Self-Harm Information Form* (SHIF) (Croyle & Waltz, 2007) (see Appendix D). The questionnaire is a 22-item, self-report *yes* or *no* scale that measures the total number of different self-harm behaviours. It provides the extent of the behaviours, which range from 0 to 11 (Croyle & Waltz, 2007). Higher scores are indicative of self-harming behaviour or psychopathology (Latimer et al., 2009). Cronbach's alphas identified for this scale range from 0.80 to 0.94 (Croyle, 2007; Croyle & Waltz, 2007; Latimer et al., 2013).

1.3.5 Data Analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS) Version 27 (IBM Corporation, 2021). Cronbach's alpha coefficients were calculated to ensure the internal reliability of the measuring instruments used in this study. Descriptive statistics for the sample and the measuring instruments were investigated. Correlations were conducted to measure the direction and strength of correlations between variables. Hierarchical multiple regression analyses were used to identify which variable(s) or combination of variables explained the highest percentage of variance in Coping among university students. Coping served as the criterion (dependent) variable, and Impulsive Risk Behaviour, Self-harm, Age, Gender, and Academic Level served as the predictor (independent) variables.

1.4 Ethical Considerations

Ethical clearance was obtained from the GHREC of the Faculty of the Humanities at the UFS (see Appendix A). Permission was also obtained from the Vice-Rector: Research, Innovation and Internationalisation to access and utilise students' email addresses. The ethical principles of the Universal Declaration of Ethical Principles for Psychologists were adhered to, namely respect for the dignity of persons and people, competent caring for the wellbeing of persons and people, integrity, and professional and scientific responsibility to society (Gauthier et al., 2010). The

participants were provided with a recruitment letter, a comprehensive information leaflet, and a questionnaire link via email, which they had to click on/accept to participate voluntarily in the study. The participants were informed of the anonymous nature of their responses and information gathered through the research. If there were unforeseen circumstances that occurred during the research process, the participants had the right to withdraw from the study without explanation or fear of negative consequences (see Appendix F). Furthermore, distressed participants could contact the Coordinator of Adult Practice of the Department of Psychology for counselling sessions.

1.5 Value of the Study

The information obtained in this study could assist in identifying which variable(s) predicts coping most effectively among university students at the UFS. The counselling services at the UFS could utilise the results from this study to create interventions that will have a specific focus on high-risk groups, which is an increasing concern in our country. Consequently, the interventions will assist students in using more adaptive coping strategies to deal with their stressors. Due to the lack of South African studies pertaining to the predictors of coping among university students in the emerging adulthood phase, the findings from this study can make a significant contribution to the existing body of knowledge.

1.6 Definitions of Keywords

The following keywords and terms are used in this study:

Coping: The process of executing a response to a perceived threat or stressor (Carver et al., 1989).

Impulsivity: An individual engaging in behaviours without thought and responding without considering the consequences (Schreiber et al., 2012).

Risky behaviours: Behaviours that individuals perform that may cause injury to their bodies and minds, excluding suicidal behaviour (DiLima, 2018).

Risky sexual behaviour: Sexual behaviour that increases the likelihood of unwanted consequences such as sexually transmitted diseases (DiLima, 2018).

Self-harm: Self-harm or self-injury is the deliberate destruction of one's body tissue with the absence of suicidal intent but with the intent of hurting oneself or for purposes not culturally sanctioned (Wan et al., 2015).

Stress: Any intrinsic or extrinsic stimulus that evokes a biological response (Yaribeygi et al., 2017).

1.7 Summary

The aim of this chapter was to provide an outline of the study. The background/rationale to the study was presented. This was followed by a description of the research methodology, namely the research approach and design, the participants and sampling, data collection, and data analysis. A discussion of the ethical considerations and the value of the study was presented. Lastly, a list of key definitions was provided. The next chapter focuses on the various constructs under study in more detail.

Chapter 2

Literature Review

2.1 Introduction

The focus of this chapter is to utilise a range of international and national literature in order to highlight stress and university students' mental health, the challenges they experience, their inability to cope or difficulty in coping, and the prevalence of and ways in which impulsive risk behaviours, self-harm, and demographic factors such as age, gender, and academic level are linked to coping. Furthermore, literature on the South African context and coping is elaborated on.

2.2 Stress and University Students' Mental Health

Stress is a necessary part of life as it challenges individuals, adds value to their accomplishments, and motivates them to accomplish their goals (Asif et al., 2020; Majumdar & Ray, 2010). However, the benefits of stress have a threshold and once it has been passed, it has deleterious effects on individuals' mental and physical health (Majumdar & Ray, 2010; Okoro, 2018). Stress is considered a global health epidemic (World Health Organization [WHO], 2012) as it depicts 70% to 90% of visits to healthcare professionals globally (Ezeh et al., 2016). Stress is constantly experienced by all individuals regardless of their culture, age, race, socio-economic background, and geographic region (Amponsah et al., 2020; Okoro, 2018). Stress contributes towards 50% of the illnesses in the United States of America (USA), causes health problems, worsens existing illnesses, and significantly contributes to morbidity (Ezeh et al., 2016). Stress-related illnesses also affect more than 20% of people globally, and result in 110 million people dying annually (Ezeh et al., 2016). Millennials, aged 18 to 33 years, as a generational group,

have the highest levels of stress in comparison to other groups, with 39% reporting that their stress levels have increased in the last year (American Psychological Association, 2012).

University life is one of the most stressful and critical periods for many students (Amin et al., 2019; Amponsah et al., 2020; Asif et al., 2020; Brougham et al., 2009; Mudhovozi, 2011). Past studies report that 70% to 80% of students are moderately stressed and 10% to 12% are severely stressed (Pierceall & Keim, 2007). Moreover, during a semester at university, 52% of students report high stress levels (Brougham et al., 2009). From a South African perspective, Nekgotha et al. (2020) report that the stress levels among South African university students aged 17 to 31 are as follows: 88% experienced some level of stress in the past month, 61% felt nervous or stressed very often, and 38% reported that they could not cope with things they had to complete within a specific period.

Students are prone to experiencing an array of stressors, including, but not limited to, financial, work, academic, economic, and social stressors (Ahorsu et al., 2020; Amin et al., 2019; Li & Nishikawa, 2010; Mason, 2017; Mudhovozi, 2011; Nekgotha et al., 2020). Considering the stressors and the unique challenges encountered by university students, new demands in interpersonal relationships, career choices, integrating academic and clinical workload, and other daily stressors (accessing resources and peer conflicts) may contribute to the accumulation of stress (Amin et al., 2019; Govender et al., 2015; Majumdar & Ray, 2010; Mudhovozi, 2011; Okoro, 2018; Van Zyl, 2016). University students often view their stressors as a negative experience (Lewin & Mawoyo, 2014; Mason, 2017), which tends to hinder their ability to cope with demands if they employ ineffective coping mechanisms, are unable to access resources, and have a lack of social support (Amin et al., 2019; Majumdar & Ray, 2010; Mason, 2017). In this case, the university student becomes impaired and is at a heightened risk of developing

psychological disorders and academic attrition (Mason, 2017); the latter of which could result in university students experiencing a low quality of life (Mason, 2017).

The rates of mental health concerns are higher among university students when compared to the general population in many high-income countries (Bantjes et al., 2019; Mofatteh, 2021); one-third of which displayed a common mental disorder (CMD) such as anxiety and depression in the preceding 12 months (Bantjes et al., 2019). However, there is a lack of psychiatric epidemiological research conducted in low- and middle-income countries, including South Africa (Bantjes et al., 2019). The WHO World Mental Health Surveys collect data from 21 countries, which indicate that an average of 20.3% of university students across countries had 12 months of Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) disorders, with 83.1% having a pre-matriculation onset (Bantjes et al., 2019). Symptoms of anxiety and mood disturbances were among the CMDs reported by university students (Asif et al., 2020; Bantjes et al., 2019; Brougham et al., 2009).

Various psychiatric and psychological studies in developed and developing countries over the past decade indicate that stress, anxiety, and depression are higher among university students than among the general population (Bantjes et al., 2019; Ibrahim et al., 2013; Mayer et al., 2016; Mofatteh, 2021). Bantjes et al. (2019) report the prevalence of mental health problems among South African first-year undergraduate students as 38.5% for lifetime prevalence and 31.5% for a 12-month prevalence of any CMD. These results are higher than the national representative sample of the country's general population of 30% and 17% respectively. University students may experience physical (poor health behaviour), psychological, behavioural, and academic difficulties during their university years as a result of inadequate coping strategies in response to

various stressors (Amponsah et al., 2020; Brougham et al., 2009; Dlamini et al., 2020; Mason, 2017; Pascoe et al., 2020).

In addition to the mentioned stressors and rates of mental health problems experienced by university students, the WHO declared the outbreak of the newly discovered coronavirus disease, Covid-19, to be a global public health emergency, in January 2020 (Baloran, 2020; Prasath et al., 2021; Visser & Law-van-Wyk, 2021). In response to this information, many countries implemented lockdown protocols to reduce the spread of the virus (Landa et al., 2021; Prasath et al., 2021; Visser & Law-van-Wyk, 2021). The sudden occurrence of the Covid-19 pandemic has caused a fundamental restructuring in the global and national higher education programmes, including the termination of normal campus operations and the move to online (distance) teaching and learning systems (Landa et al., 2021; Nyar, 2021; Visser & Law-van-Wyk, 2021, Yorguner et al., 2021). The South African higher education sector was unprepared and had to engage in relatively new and untested online learning and teaching strategies, which has impacted students' and staff who do not have access to technology, connectivity, or electricity for those individuals from low socioeconomic backgrounds (Baloran, 2020; Landa et al., 2021; Nyar, 2021). Other challenges included bureaucratic predicaments pertaining to transport, food, and accommodation. For instance, the refunds for accommodation and meals or problems with lease agreements for students who have rented off campus (Baloran, 2020; Nyar, 2021). Many university students also experienced additional financial stressors as the closure of university facilities led to a loss of employment opportunities for students who worked part-time at libraries or cafeteria's as well as resources provided by universities (e.g., food vouchers). Consequently, due to the disruptions caused by the Covid-19 pandemic to university students' daily lives which

has added additional challenges and stressors, this has had an impact on university students' mental health and coping abilities (Baloran, 2020; Nyar, 2021; Visser & Law-van-Wyk, 2021).

Although mental health distress has been problematic at universities prior to the pandemic, Covid-19 has and is continuing to exacerbate this phenomenon (Baloran, 2020; Prasath et al., 2021). A South African study conducted by Visser and Law-van-Wyk (2021) during the first three months into the lockdown on university students' mental health and well-being indicated that a third of the students reported difficulties in coping with psychological challenges and 22.1% experienced the lockdown period as traumatic. University students' subjective experiences of anxiety and depression were 45.6% and 35.0% respectively. These results are higher than previous South African findings (Bantjes et al., 2016) regarding the prevalence rates of anxiety and depression prior to the pandemic with 15.5% and 11.2% respectively, over a two-week period (Bantjes et al., 2016). Visser and Law-van-Wyk's (2021) study further indicated different experiences which had an impact on university students' emotional well-being and mental health such as being in the early years of tertiary education (Nyar, 2021), staying in informal settlements with the limited availability of resources, feelings of serious discomfort, difficulty adjusting academically and feeling socially isolated were unique predictors of poor mental health and emotional well-being. Students coped by escaping reality using sleep, engaging in entertainment or by using substances, seeking emotional support, and obtaining information about safety during the pandemic (Visser & Law-van-Wyk, 2021). Students positive coping strategies scored low which suggested impaired coping abilities (Baloran, 2020; Bantjes et al., 2016; Visser & Law-van-Wyk, 2021). Additionally, Baloran's (2020) study indicated that students coped with their anxiety during the pandemic by following strict covid-19 protocols and avoiding going out into public spaces. Consequently, these findings are suggestive of the

worsening of mental health and emotional well-being amongst university students at the onset of the pandemic.

University student affairs practitioners are required to assist students with developing effective coping strategies and establishing academic and personal life balance considering the multitude of challenges they experience within this unique context (Bantjes et al., 2016; Mason, 2017; Van Heerden-Pieterse, 2015 Visser & Law-van-Wyk, 2021). There is ample international evidence on stress and coping among university students (Deasy et al., 2014; Kim et al., 2010). However, literature that explicitly focuses on impulsive risk behaviours, self-harm, and demographic factors (such as age, gender, and academic level) as predictors of coping among university students in South Africa deserves further attention.

2.3 Coping

Stress is a component of university students' survival and has consequences for how they adapt to the challenges of university life (Agolla & Ongori, 2009; Amponsah et al., 2020; Dlamini et al., 2020; Kwaah & Essilfie, 2017; Mudhovozi, 2011). How university students adapt to these challenges depends on their character traits and past responses to stressors (Frydenberg, 2018). Coping is a function of an individual's perception of a situation, their coping intentions, and situational determinants (Frydenberg, 2018; Zimmer-Gembeck & Skinner, 2016). The individual brings a variety of dispositional factors and personal, biological, and family characteristics to the encounter. These factors affect the perception of the stressor and the coping response to the stressor (Frydenberg, 2018; Zimmer-Gembeck & Skinner, 2016).

Higher education students cope in different ways, with various levels of success (Amponsah et al., 2020; Deasy et al., 2014; Freire et al., 2020, Van der Zanden et al., 2019). Unsuccessful adaptation to university stressors by utilising maladaptive or avoidant coping strategies

contribute to university dropouts, poor academic performance, mental health concerns, poor health outcomes, increased liquor consumption and smoking, increased negative affect, low levels of life satisfaction, diminished self-confidence, and increased self-destructive propensities (Amponsah et al., 2020; Brougham et al., 2009; Li & Nishikawa, 2010; Vizoso et al., 2018). Furthermore, rumination is a well-researched maladaptive coping strategy, which is defined as persistent thoughts of one's depressive symptoms and the implications thereof (Amponsah et al., 2020; Thompson et al., 2010). This is a stable trait among the university student population and is related to maladaptive cognitive styles (negative attributional styles) (Thompson et al., 2010). In addition, other maladaptive coping strategies, including escape, emotional numbing, and intrusive thoughts, are associated with high levels of psychological distress among university students (Thompson et al., 2010).

Lazarus and Folkman's (1984) transactional model of coping suggests that stress could be understood as three processes, namely primary appraisal, secondary appraisal, and coping (Carver et al., 1989; McMordie, 2021). Primary appraisal is a process that refers to how individuals perceive a threat to themselves. Secondary appraisal refers to the response to a threat, and coping refers to the process of executing that response (Al-Dubai et al., 2011; Amponsah et al., 2020; Carver et al., 1989; Engelbrecht, 2020; McMordie, 2021). Lazarus and Folkman (1984) further emphasise that this is a linear process whereby the outcome of one process may reinvoke a preceding process. For instance, if the individual were to realise that a coping response is adequate or inadequate, they may reappraise a threat as less or more threatening (Carver et al., 1989; McMordie, 2021). The consequences of this could either lead to a threat, harm, loss, or challenge, or may indicate available resources (Carver et al., 1989; Frydenberg, 2018). Coping therefore plays a vital role in the adaptation to stressful life events (Al-Dubai et al., 2011).

However, before an individual can decipher whether an encounter exceeds or taxes their resources, a person-environment measure is implemented subconsciously, which subtracts the demands from the individual's available resources (Engelbrecht, 2020; Folkman, 1982). Coping resources include *cognitive resources*, which refer to a positive outlook, capabilities to maintain a positive self-worth, and optimism; *social resources*, which include social support in times of stress; *emotional resources*, which refer to individuals' expression of emotional responses and acceptance to alleviate long-term negative consequences of stress; *spiritual resources*, which refer to individuals being guided by values derived from family, cultural, or religious traditions that define the meaning of a stressful situation; and *physical resources*, which refer to interaction with health-promoting behaviours to decrease negative responses to stressors and increase physical wellbeing (Engelbrecht, 2020; Lazarus & Folkman, 1984). Consequently, the availability of these coping resources affects the choice of the coping strategy employed by an individual (Engelbrecht, 2020; Lazarus & Folkman, 1984).

Coping strategies are the specific behavioural and psychological responses that individuals employ to reduce, tolerate, or master stressful events (Al-Dubai et al., 2011; Engelbrecht, 2020; Ismail et al., 2016). Folkman and Lazarus (1980) distinguish between two types of coping, namely (1) *problem-focused* and (2) *emotion-focused coping*. Problem-focused coping refers to performing an act to alter the source of stress, whereas emotion-focused coping indicates managing or reducing the emotional distress that is associated with a situation (Al-Dubai et al., 2011; Amponsah et al., 2020; Carver et al., 1989; Engelbrecht, 2020; Folkman & Lazarus, 1980). Most stressful situations elicit both coping strategies; however, problem-focused coping dominates when individuals perceive that there could be a constructive outcome (Carver et al., 1989; McMordie, 2021) and emotion-focused coping dominates when individuals feel that the

stressor should be endured. This occurs due to the nature of the stressor as either being unalterable and overwhelming, or when attempting to limit the adverse effects of a stressor in a way that the individual feels relieved. However, the particular stressor may remain unresolved (Al-Dubai et al., 2011; Amponsah et al., 2020; Carver et al., 1989; Folkman & Lazarus, 1980).

Carver et al. (1989) state that the distinction between problem-focused and emotion-focused coping is too simplistic and they consider factors other than problem-focused coping as variations of emotion-focused coping (Al-Dubai et al., 2011; Carver et al., 1989). Carver et al. (1989) also state that the nature of the diversity of these coping strategies deserves further scrutiny; for instance, some emotion-focused coping may involve seeking out social support for emotional reasons, positive reinterpretation of situations, denial, acceptance, and turning to religion (Al-Dubai et al., 2011; Amponsah et al., 2020; Carver et al., 1989; Stanisławski, 2019). Problem-focused coping tends to involve active coping, planning, suppression of competing activities, restraint coping, and seeking social support for instrumental reasons (Carver et al., 1989; Stanisławski, 2019). Thereafter, Carver et al. (1989) notes *avoidant coping*, which refers to person- or task-orientated strategies that attempt to avoid the emotion, encounter, or problem altogether (Engelbrecht, 2020). Coping strategies are expanding, as the complexities of measuring and classifying these coping strategies are evolving (Engelbrecht, 2020).

In addition, Krohne (1993) stipulates a further distinction between *active coping* and avoidant coping strategies (Al-Dubai et al., 2011). The former strategies are psychological and/or behavioural responses that change how one thinks about a stressor or responds to it. The latter coping strategies distract an individual from directly addressing a stressful situation by means of using an activity (such as alcohol intake) or mental states (such as withdrawal) (Al-Dubai et al., 2011). Carver et al. (1989) make a further distinction within these two broad domains.

Carver et al.'s (1989) COPE Inventory was utilised in this study. This inventory consists of 15 subscales that measure different types of coping strategies, which are discussed in detail below. These subscales are active coping (planning, suppression of competing activities, restraint coping), seeking social support for instrumental and emotional reasons, focusing on and venting emotions, behavioural disengagement, mental disengagement, positive reinterpretation and growth, denial, acceptance, religious coping, substance use, and humour.

2.3.1 Active Coping

According to Carver et al. (1989), *active coping* is an individual's ability to initiate a stepwise plan of direct action while increasing their effort. Active coping is a process of taking active steps to reduce a stressor and the effects thereof (Al-Dubai et al., 2011; Ismail et al., 2016). However, Carver et al. (1989) added additional scales under this category, namely planning, suppression of competing activities, and restraint coping. Araújo et al. (2017) report that university music students with a mean age of 21 years, males and females, undergraduate and postgraduate study levels, frequently use active coping (based on mean values) to take action to manage or remove a stressor. Similar findings were reported by Ismail et al. (2016) among postgraduate students, aged 30 to 39 years, predominantly males, that active coping was among the most common strategies used to effectively deal with stressors.

2.3.1.1 Planning

Planning involves devising an action strategy, possible steps that should be taken, and how the situation should be handled. Planning occurs during the secondary appraisal of a situation, whereas active coping occurs during the coping phase (Al-Dubai et al., 2011; Carver et al., 1989; Ismail et al., 2016; Sica et al., 1997). Popa et al. (2020) conducted a study on the role of planning in stress management among 200 undergraduate medical students, aged 20 to 22 years. Two

groups were formed, namely a target group and a control group. The working procedure involved the inoculation of a low level of stress, with the immediate commencement of an evaluation of the participants' coping strategies. Popa et al. (2020) report that there was a statistically significant difference between the two groups that was observed for the planning coping strategy. These results show that planning was frequently used by the target group during the stressful situation, in contrast with the control group, which used this coping strategy to a lesser degree. This indicates that problem solving is an additional coping mechanism that students employ to deal with stress (Popa et al., 2020). In addition, a study conducted by Araújo et al. (2017) demonstrates that planning was among the most common coping strategies utilised by postgraduate students. Similarly, a recent study by Neufeld and Malin (2021) suggests that active coping or problem-focused coping (such as planning) is used to deal with stressors that medical students felt were solvable.

2.3.1.2 Suppression of Competing Activities

Another aspect of active coping is an individual's ability to reduce involvement in competing activities and suppressing the processing of alternate information to maintain focus on the threat or challenge at hand; for instance, setting aside tasks to avoid distraction to focus on the stressor (Al-Dubai et al., 2011; Carver et al., 1989; Sica et al., 1997). Araújo et al. (2017) report that music students utilised suppression of competing activities less than active coping, positive reinterpretation and growth, and instrumental social support.

2.3.1.3 Restraint Coping

This form of coping is indicated by restraining one's actions by waiting for the appropriate opportunity to act. Restraint coping falls in the category of active coping, as it involves dealing effectively with a stressor, directly acting on a stressor, or indirectly not acting on a stressor (Al-

Dubai et al., 2011; Carver et al., 1989). Masalimova et al. (2019) report on 52 university students, aged 17 to 21, who indicated a significant positive correlation between cognitive style (field independence) and this coping strategy (self-control or restraint). Field-independent students are those who tend to communicate less with people and are good at suppressing their feelings in relation to a stressor. The high level of self-control and the restraint depicted assist students in saving and redirecting their emotional energy into effective resolutions of problem situations (Masalimova et al., 2019).

2.3.2 Seeking Social Support for Instrumental and Emotional Reasons

Another coping response that is relevant to problem-focused coping and emotion-focused coping is seeking social support. Individuals may seek social support for two reasons, namely instrumental and emotional reasons. The former refers to seeking assistance, advice, or information, which falls within the problem-focused coping category. The latter refers to receiving sympathy, moral support, and understanding, which falls within the emotion-focused coping category (Al-Dubai et al., 2011; Carver et al., 1989).

These two social support functions have been distinguished as they differ conceptually but co-occur (Carver et al., 1989; Deisinger et al., 1996). Seeking support for emotional reasons can be viewed as either having favourable or unfavourable consequences. Individuals may seek this form of support when they encounter a stressful situation with the aim of reassurance, thereby enabling them to focus on the problem directly, which promotes problem-focused coping. Conversely, sources of sympathy may function as outlets for venting of emotions, which may not be very adaptive in certain cases (Billings & Moos, 1984; Carver et al., 1989; Costanza et al., 1988; Neufeld & Malin, 2021).

Araújo et al. (2017) report frequently used coping strategies among music students at university that were based on mean values, indicating that instrumental social support was among the most frequently used coping strategies to deal with stressors. In their study, instrumental social support was consistently predicted by female students at a postgraduate level of study. This seems to suggest that postgraduate female students tend to use this coping strategy frequently to deal with stressors.

2.3.3 Focusing on and Venting of Emotions

This coping function involves focusing on and the expression of one's feelings to promote adjustment in stressful situations (Carver et al., 1989). This coping function has favourable and unfavourable consequences. For instance, in the grieving process, an individual expresses their emotions to accommodate the loss of a loved one, which is conducive to the healing process. Conversely, there is a risk that one may focus on their emotions for a long period of time, which may impede adjustment after a loss. Individuals who focus only on distress may therefore inhibit their ability to use more active coping strategies (Carver et al., 1989; Neufeld & Malin, 2021).

Ismail et al.'s (2016) findings on gender and coping among university students suggest that female postgraduate students use venting of emotions more frequently to deal with stressors than male students. Contradictory results were found in Khan et al.'s (2016) study on 364 undergraduate medical students, aged 18 to 29. Their findings suggest that 24% of male students and 21% of female students vent by expressing emotions such as anger and frustration.

2.3.4 Behavioural Disengagement

Behavioural disengagement is synonymous with helplessness (Carver et al., 1989). This coping strategy is reflected in individuals' behaviour, such as giving up on tasks that are stressful or reducing one's effort to deal with the stressor. From a theoretical standpoint, behavioural

disengagement is associated with an individual's expectation of a poor outcome from a stressful situation (Carver et al., 1989). Eisenbarth (2019) investigated gender and coping among undergraduate university students aged 18 to 23. The findings suggest that the increase in male students' perceived stress is a result of using behavioural disengagement and self-blame as coping strategies when stressful events are encountered. Furthermore, a recent study by Neufeld and Malin (2021) on medical students suggests that behavioural disengagement, venting, denial, and self-distraction were utilised when they felt that challenges were daunting and uncertain.

2.3.5 Mental Disengagement

This coping strategy is used to distract an individual from focusing on the behavioural component when facing a stressor or goal. Methods of mental disengagement include using alternative activities to distract oneself from the problem, such as watching television, daydreaming, or escaping through sleeping (Carver et al., 1989). Although disengagement from a stressor or goal can be highly adaptive, it can also obstruct the use of active coping. However, it is important to better understand the function of this coping response and its effectiveness in coping with stress (Carver et al., 1989).

Linden and Jurdi-Hage (2017) report on 209 undergraduate university students with a mean age of 22 years old after investigating the predictors of students' mental health outcomes. The findings suggest that mental and behavioural disengagement, known as maladaptive coping strategies, were the most influential predictors of students' mental health concerns such as depression and anxiety. These results are consistent with Carver et al.'s (1989) findings, which are suggestive of maladaptive coping strategies worsening individuals' mental health issues.

2.3.6 Positive Reinterpretation and Growth

This coping function is part of emotion-focused coping and is aimed at managing stressful emotions. However, it is not limited to managing emotions and focuses on interpreting a stressful situation in positive terms, which should intrinsically lead to active, problem-focused coping (Carver et al., 1989). Araújo et al.'s (2017) findings indicate that positive reinterpretation and growth (reframing the stressor) were among the most frequently used coping strategies based on the mean among postgraduate university music students. In addition, Amin et al. (2019) found a significant difference among male and female first-year undergraduate students on problem-focused coping strategies. Positive reinterpretation demonstrated a significant difference among male and female coping strategies, although it was a small difference. The results suggest that male undergraduate students used positive reinterpretation as a coping strategy more than their female counterparts (Amin et al., 2019).

2.3.7 Denial

Carver et al. (1989) indicate that *denial* is operationalised as one's effort to act as if a stressor does not exist. Denial is a response that emerges from the primary appraisal of a stressful situation. Denial can be viewed as useful by minimising distress, which facilitates coping. Conversely, it could contribute to additional problems such as denying the existence of a stressor that exacerbates the problem and contributes to the difficulty of coping effectively (Carver et al., 1989). An additional view of this coping strategy is that it is beneficial during the early stages of a stressful event but may hinder effective coping at a later stage (Carver et al., 1989). Ismail et al.'s (2016) findings suggest that among 14 coping strategies, three were found to effectively manage both male and female postgraduate university students' stress levels, namely denial, self-blame, and self-distraction.

2.3.8 Acceptance

Acceptance is identified as a functional coping mechanism (Carver et al., 1989). This is illustrated by an individual who accepts the reality of a stressful situation and who actively engages with the stressor. Acceptance imposes on two aspects of the coping process, namely acceptance of a stressor as real (which occurs in the primary appraisal process) and the acceptance of a current absence of active coping (which occurs during the secondary appraisal process) (Carver et al., 1989). This coping function is particularly necessary in situations in which individuals, particularly students, are required to accommodate the stressor rather than changing it (Al-Dubai et al., 2011; Carver et al., 1989; Popa et al., 2020). This coping strategy assists students in effectively coping with stress-generated emotions and recognising that if they attempt to control their emotions excessively, the outcome will most likely be negative (Popa et al., 2020). Popa et al. (2020) conducted a study on male and female undergraduate medical students, aged 20 to 22, using a target group and a control group with an induced inoculation of a low level of stress, and an immediate evaluation of the coping strategy. The results indicate that university students in the target group used acceptance coping more frequently than those in the control group. This finding seems to indicate that medical students in the target group tend to use emotional regulation (in the form of acceptance coping) to deal with examination-related stress (Popa et al., 2020).

2.3.9 Religious Coping

McCrae and Costa (1986) suggest that religious coping or turning to religion (Carver et al., 1989) is important for most people in stressful situations. McCrae and Costa (1986) indicate that people turn to religion as a source of emotional support, as an instrument for actively coping with a stressor, or as a mechanism for positive growth and reinterpretation. Khan et al. (2016)

conducted a study in which 364 Middle Eastern undergraduate medical students (first to fourth year), aged 18 to 29, males and females, were included. The results indicate that the majority of the students used religion as a coping strategy to deal with academic stressors. In addition, Al-Dubai et al.'s (2011) study among Malaysian university students found that religious coping was more frequently used among female students than male students.

2.3.10 Substance Use

Another behavioural disengagement coping strategy is the use of alcohol and drugs as a means of disengaging (McCrae & Costa, 1986). It is postulated that substance misuse is a symptom of psychological and social maladjustment among young adults and adolescents (Wong et al., 2013). This indicates that individuals' ability to manage their stress or distress is an important determinant of substance misuse (Wong et al., 2013). Linden and Jurdi-Hage (2017) indicate that substance use (as a maladaptive coping strategy) is a significant predictor of more severe symptoms of depression and anxiety among Canadian undergraduate university students, of which the majority were female. These findings are supported by Carver et al. (1989), who suggest that maladaptive coping strategies, such as substance use, worsen mental health conditions. Furthermore, Al-Dubai et al. (2011) postulate that male Malaysian university students use substances or alcohol as a coping strategy more regularly than female students, which was a statistically significant finding. In their study, smokers were more significantly involved with substances than non-smokers. Their findings suggest that smokers used active coping less frequently than non-smokers and that smoking negatively affected students' abilities to effectively cope with stress (Al-Dubai et al., 2011).

2.3.11 Humour

Humour as a coping function falls within the adaptive category of coping (Carver et al., 1989). Humour is considered to assist individuals in coping more effectively with stressful events (Booth-Butterfield et al., 2007). Humour as a specific coping style is positively related to positive reframing, minimisation, and an unthreatening appraisal of a situation (Saroglou & Anciaux, 2004). Booth-Butterfield et al. (2007) conducted a study with 186 male and female undergraduate students, of which the findings suggest that higher humour orientation was associated with a higher rating of effectiveness, greater self-perceived coping efficacy, and subsequently higher job satisfaction (employment during college years). In addition, Khan et al. (2016) report that among undergraduate medical students, almost 50% of both male and female students used humour as a coping strategy to effectively deal with stressors.

Conversely, humour is also negatively associated with coping that reflects avoidant coping. Humour may also be expressed through distancing and is found to be part of a broad factor of general disengagement (Saroglou & Anciaux, 2004). In addition, a study conducted by Moran and Hughes (2006) on humour and coping with stress among 32 male and female undergraduate social work students found that “liking humour” was positively associated with stress and stress-related physical symptoms. Consequently, this demonstrates that humour is related to poorer wellbeing.

2.4 The South African Context and Coping

Students are under an immense amount of stress, which the media often highlights as them struggling to cope with the demands of university life (Mudhovozi, 2011). Some of these stressors have been highlighted previously; however, in some instances the stressors experienced by the African university student population may be unique to their circumstances and context.

Mudhovozi (2011), a South African researcher, found that university students perceived (1) academic problems to be the most stressful, followed by (2) personal and (3) environmental problems. These included (1) fear of examinations, insensitive lecturers, failure, and inadequate reference books or resources; (2) relationships with parents, students of the opposite sex, lecturers, and other students; and (3) accommodation problems, limited teaching space and overcrowding, and limited recreational facilities. These results were confirmed by Lewin and Mawoyo (2014), Mason (2017), and Van Zyl (2016). Due to the growing socio-economic inequality, many have come to view higher education as an entry point into a better life; however, the tuition fees that students who attend tertiary institutions must pay are a significant source of stress in their lives (Mason, 2017; Mudhovozi, 2011). Mason (2017) found that financial stressors were the highest stressor experienced by students. Furthermore, student protest action has long-lasting effects such as trauma, depression, and anxiety as a result of the violence they experienced, as well as the impact it has on students' academic performance due to the disruption of the academic programme (Greef et al., 2021). Lastly, student's lack of preparedness for university life due to unequal schooling systems is another unique factor which influences their academic performance (Dison et al., 2019).

These stressors may be severe and could lead to committing a violent or a criminal act, suicide, and withdrawing from university (Mudhovozi, 2011). Research from three universities in South Africa depicted that medical students with major depressive disorder reported suicidal ideation and suicidal attempts (Govender et al., 2015). Furthermore, stress-related issues were the primary source of admission into a hospital facility among students, with a high number of students on anti-depressants and anxiolytic medication, with some of them resorting to maladaptive behaviours such as para-suicides and substance abuse (Govender et al., 2015).

Mason's (2017) findings demonstrate the coping strategies utilised by university students, of which the majority of the university students reported problem-focused coping strategies (86.67%), followed by emotion-focused coping strategies (85.78%), avoidance coping strategies (78.22%), and, lastly, meaning-making as a coping strategy (76.89%). Govender et al.'s (2015) study on occupational therapy university students within the medical and health sciences field, ages 17 to 28, found that problem-focused coping, seeking social support, and focusing on the positive were the most utilised coping strategies. On the other hand, the least utilised were self-detachment and tension reduction. A study by Renard and Snelgar (2015) on proactive coping strategies among Southern African university students (South Africa, Botswana, and Namibia) found that proactive coping strategies were used to a greater extent than strategies such as planning, preventative coping, emotional support seeking, and instrumental support seeking. This thus implies that these university students aimed to cope sooner rather than later, by using personal quality management, goal setting, and taking responsibility for the outcomes of stressful events.

This study's findings will be used to bridge the gap in the literature on the predictors of coping, with specific focus on impulsive risk behaviours, self-harm, and demographic variables (age, gender, and academic level) within the South African context, as these variables are seen as an increasing concern among university students. This would be vital information as it would equip tertiary institutions, such as student support facilities, with the necessary information to assist students in improving their coping strategies through unique interventions tailored to the emerging adulthood phase of development. Furthermore, previous research has found that impulsive risk behaviours, self-harm, gender, age, and academic level serve as possible predictors of coping among university students. The next section of the literature review

extensively discusses the predictor variables under study with reference to international and national empirical evidence.

2.5 Impulsive Risk Behaviour

Impulsive risk behaviour is the next construct under discussion as part of the literature review. This subsection commences with defining impulsivity, personality and impulsivity, and behaviour-specific impulsivity. Thereafter, various impulsive risk behaviours are elaborated on in relation to coping strategies among university students. These behaviours include substance use, promiscuous sexual behaviour, and high-risk behaviour such as stealing, impulsive spending, and risk-taking in dangerous activities.

2.5.1 Impulsivity

Impulsivity, which is a multidimensional concept, is defined as an individual engaging in behaviours without thought and responding without considering the consequences (Schreiber et al., 2012). Heightened impulsivity is a risk factor for various risky or maladaptive behaviours, namely smoking, alcohol use, drug use, polydrug use, aggression, gambling pathologies, and risky sexual behaviour (Schreiber et al., 2012; Shin et al., 2012; Wagenaar et al., 2018). Personality and impulsivity are discussed first, utilising the five-factor model of personality. Behaviour-specific impulsivity is discussed secondly, using a dual-process model.

2.5.1.1 Personality and Impulsivity

Four distinct facets of impulsivity that were developed from the five-factor model of personality capture various aspects of impulsivity (Shin et al., 2012). These facets are (1) *sensation seeking*, (2) *urgency*, (3) *lack of premeditation*, and (4) *lack of perseverance*. The meaning of each of the factors are as follows: (1) the tendency to seek thrilling experiences, (2) to act quickly to regulate negative emotions, (3) non-planning impulsiveness that involves

selecting immediate reward without considering the consequences, and (4) poorer concentration and increased distraction due to lack of interest (Shin et al., 2012).

Shin et al. (2012) conducted a study with 190 male and female university students, aged 18 to 25. They found that sensation seeking and urgency were consistently related to alcohol variables while controlling for overall psychological distress and parental alcohol use. These findings seem to suggest that students who tend to engage in higher levels of alcohol use were more likely to develop binge drinking and alcohol use disorders in emerging adulthood. Urgency in this impulsivity model reflects the tendency to alleviate negative emotional states (Shin et al., 2012). In addition, Charnigo et al. (2013) conducted a study with a large sample of young adults, aged 18 to 26, males and females, and the results stipulate that sensation seeking and impulsive decision making were positively associated with sexual risk behaviours.

2.5.1.2 Behaviour-Specific Impulsivity

Behaviour-specific impulsive processes can be evaluated using the dual-process model (Hofmann et al., 2008; Wiers et al., 2010). In the dual-process model, behaviour can be explained as the joint outcome of the impulsive (associative) and reflective (propositional) processes. The influence of both of these processes on a situation is dependent on boundary conditions such as situational and personal variables. Dual-process models have been adapted to predict psychopathology and addictive behaviours (Wiers et al., 2007). These behaviours include alcohol and drug use and aggression after binge eating. From this perspective, trait “impulsivity” is considered a multifaceted construct.

Firstly, the strength of the impulsive behaviour will differ depending on different target behaviours, such as characteristics of impulsivity and concepts of disinhibition, which are related to different behaviours (i.e., aggression, drug use, risky sexual behaviour) (Cyders & Smith,

2008; De Wit, 2009; Wiers et al., 2010). However, not all impulsive individuals will display the same behaviours as they have different temptations. Behaviour-specific impulsive responses can be learned behaviour, as they result from the motivational impact of association with reinforcement (incentive motivation) (Wiers et al., 2010). The impulsive (associative) process is dependent on individuals' learning history and rate of learning and is moderated by their reward sensitivity and developmental stage (Silk et al., 2009; Wiers et al., 2010). For impulsive (associative) processes to be controlled, individuals should be motivated to control their behaviour. Without the motivation to control, there would be no purpose in obtaining a resourceful control process to override associative processes (Wiers et al., 2010; Wiers et al., 2007).

Secondly, individuals differ in their ability to refrain from acting on their impulses (Wiers et al., 2010). This aspect of impulsivity is closely related to the conceptualisation pertaining to the role of executive control functions or lack of frontal-cortical control over the limbic drive and impulses (Crews & Boettiger, 2009). Thirdly, there are specific conditions that may limit people's capacity to override prepotent impulses. These include high cognitive load, stress, resource depletion, or alcohol consumption that may impair their control capacities. Their behavioural impulses are thus influenced differently (Hofmann et al., 2008; Wiers et al., 2010).

Reflective (propositional) processes in the dual-process model are composed of two components, namely self-regulatory goal (related to a long-term goal) and the ability to resist temptation (impact on long-term goals) (Wiers et al., 2010). For individuals to resist impulsive influences on behaviours, they need to utilise a variety of cognitive executive control functions (Giancola, 2000; Wiers et al., 2010). A prediction from this framework indicates that individuals with higher executive functions display less impulsively driven behaviour due to their capacity to

inhibit the influence of associative processes on behaviour (Wiers et al., 2010). Pertaining to risky behaviours, this alludes to the moderation of impulsive action tendencies to engage in risky behaviours. The executive control functions also include the motivation to control impulsive tendencies and effects from fluctuating states such as stress and fatigue, and acute effects from alcohol and drug use (Wiers et al., 2010). Furthermore, individuals have a variety of reasons to limit their alcohol intake, including health consequences, religion, general risks, other reasons to abstain, negative expectancies, and motivation to change (individuals with alcohol problems) (Wiers et al., 2010).

Regarding specific coping strategies and impulsive risk behaviours, students may engage in risky behaviour as a form of mental or behavioural disengagement to cope with a variety of stressors (DiLima, 2018). For the purposes of this study, a variety of impulsive risk behaviours and coping literature will be elaborated on in the discussions that follow. The types of impulsive risk behaviours include substance use, promiscuous sexual behaviour, stealing and risk-taking in dangerous activities, impulsive spending, and other risky behaviours.

2.5.2 Substance Use and Coping

Emerging adulthood is considered as a period of increased alcohol intake (Du Preez et al., 2016; Schwartz & Petrova, 2019; White & Jackson, 2004). As such, university culture has been identified as having the perception of the normalisation of alcohol use, which is encouraged by peer groups in a university population. The use of alcohol is considered to be a part of the university experience and is one that many first-year students struggle with (Ham & Hope, 2003). In the South African context, Peltzer et al. (2011) identifies between 18 and 35 years as the age group whereby most individuals are at risk of binge drinking. Similarly, ample

international studies have associated this period of emerging adulthood with an increased level of alcohol usage (Lemoine et al., 2020; Lu et al., 2019).

Individuals' impairment in coping has been found to be related to the onset and increase in substance use among young adults (Algorani & Gupta, 2021; DiLima, 2018; Markova & Nikitskaya, 2017; Wong et al., 2013). A coping strategy that has been found to preserve substance use is disengagement coping, particularly venting of emotions (Wong et al., 2013). An international study conducted by the University of Algarve suggests that alcohol consumption is related to avoidant coping among students (Galvão et al., 2016). As such, students who utilise alcohol and drugs as a coping strategy perceive less stress, which suggests that it is a form of maladaptive coping (Galvão et al., 2016, Wu et al., 2016). Moreover, repeated drug use may compromise self-control or restraint as a coping strategy, and may result in other impulsive risk behaviours, such as risky sexual behaviours (Wu et al., 2016). In contrast, a more proactive strategy or task-orientated coping strategy is associated with preventing substance use among young adults. Wong et al.'s (2013) study confirms that behavioural coping has a positive impact, specifically on the prevention of drug use initiation and growth over time among an adolescent population, while avoidant coping is associated with an increase in substance use (Wong et al., 2013). Furthermore, Stoltzfus and Farkas (2012) report that positive religious coping is associated with a decrease in alcohol use among university students.

From a South African perspective, Van Zyl and Dhurup's (2016) study on 334 university students, the majority of which were female students, from the Vaal University of Technology in Gauteng, demonstrates that substance abuse as a coping strategy was lower than other coping strategies (such as introspection and veneration, emotional support, humour, and negativism and

denial). Although this is the case, Van Zyl and Dhurup (2016) state that this finding certainly shows a maladaptive approach to coping with stressors among university students.

2.5.3 Promiscuous Sexual Behaviour and Coping

University students in developing countries lag behind in the percentage of condom usage compared to students in developed countries (Birkett, 2001). In South Africa, the percentage of regular condom usage was 45% in comparison to 69% in the USA (Birkett, 2001). Specifically, regarding coping strategies, the passive, disengagement form of coping is related to inconsistent condom usage and an increase in the number of sexual partners (Compas et al., 2001; Hulland et al., 2015). Heightened psychosocial stressors, coupled with passive coping approaches, may be associated with greater engagement in risk behaviours. Furthermore, the effects of this have an influence on adolescents' sexual decisions and reduced condom use in sexual encounters (Hulland et al., 2015; Schwartz et al., 2008). Hulland et al.'s (2015) findings suggest that higher interpersonal stress, regardless of the coping strategy employed, resulted in a decrease in condom usage over a 24-month period among African American female adolescents. Hulland et al.'s (2015) study produced findings that were contradictory to the existing literature (Gailliot & Baumeister, 2007; Schwartz et al., 2008; Wu et al., 2016), which indicate that the type of coping strategy used had no association with sexual risk engagement over a 24-month period. In contrast to the aforementioned, active coping or problem-focused coping is associated with more consistent condom use (Hulland et al., 2015).

A study conducted by DiLima (2018) on university students between the ages of 18 and 45 found that higher levels of depressive symptoms resulted in increased risky sexual engagement and other general risky behaviour. Consequently, university students employed disengagement coping. Also, a positive correlation between disengagement coping and sensation seeking alludes

to the notion that students may be engaging in risk for both distraction and pleasure (DiLima, 2018).

Stress exposure models focus on the effects of stress on health risk behaviours such as risky sexual behaviour (Wu et al., 2016). Coping resources have been identified as mitigating the effects of stressors on one's health, such as adaptive coping or social support (Amponsah et al., 2020; Kwaah & Essilfie, 2017; Wu et al., 2016). However, individuals with low self-control or ineffective coping resources may experience high levels of self-imposed stress and engage in impulsive responses, such as unprotected sex (Gailliot & Baumeister, 2007; Wu et al., 2016). Moreover, self-control as a coping resource acts as a mediator between stress and risky sexual behaviour; thus reducing risky sexual behaviour (Gailliot & Baumeister, 2007; Wu et al., 2016). South African findings on university students suggest that there is a significant positive correlation between low family and social support and general risks, sexual behaviour, and depression (Birkett, 2001). This finding indicates that environmental risk factors (low family and peer support) may contribute significantly to young people's daily challenges (Birkett, 2001). This study also demonstrates that other factors (environmental factors), other than coping strategies alone (approach or avoidant coping strategy), were responsible for engagement in risk behaviours and poor health outcomes (Birkett, 2001).

Additionally, personality traits are another factor that is associated with sexual risk-taking behaviour. Gil's (2005) findings on undergraduate university students indicate that the combination of the personality trait (*novelty seeking* – the tendency to respond with high excitement to novelty stimuli) and the tendency towards risking (associated with novelty seeking), together with the coping strategy of denial, led one to engage in risky sexual behaviour. However, this is speculated by Gil (2005) and requires further research.

2.5.4 High-Risk Behaviour (Impulsive Spending, and Stealing and Risk-Taking in Dangerous Activities) and Coping

High-risk behaviours, which form part of the IBS used in this study, include the following constructs: impulsive spending, and stealing and risk-taking in dangerous activities. The aforementioned is elaborated on in relation to coping in this subsection.

2.5.4.1 Impulsive Spending

Impulsive spending or buying is termed a sudden hedonically complex spending or buying behaviour; that is, an impulsive decision that omits thoughtful consideration of alternative information and choices (Ahmad et al., 2019; Alloway et al., 2016; Muruganantham & Bhakat, 2013). This behaviour is characterised as an individual's choice made under fixation of immediate gratification, rather than considering the possible negative consequences of the purchase(s). The aftereffects of this impulsive behaviour include buyer's remorse and harm to one's financial situation (Ahmad et al., 2019; Alloway et al., 2016; Muruganantham & Bhakat, 2013). However, university students' spending behaviour has become a significant part of the income generated by a nation based on the students' demands and needs (Chang et al., 2019). Furthermore, students' management of their finances is a major concern due to reckless or impulsive spending based on peer or societal influences and poor financial management (Chang et al., 2019).

Multiple factors contribute to impulsive spending, such as affective processes and personality traits (Ahmad et al., 2019; Alloway et al., 2016). The former, as mentioned previously, can be understood as (1) to satisfy one's emotional needs for new and exciting experiences or hedonic desires, and (2) to escape or avoid negative feelings or moods (Ahmad et al., 2019; Alloway et al., 2016; Muruganantham & Bhakat, 2013). Individuals may purchase or fantasise about a

new product that may lead to happiness and pleasure. When individuals avoid their negative emotions, or employ avoidant coping strategies, they experience gratifying benefits that strengthen the impulsive buying or spending behaviour (Ahmad et al., 2019; Alloway et al., 2016; Muruganatham & Bhakat, 2013). External or situational factors are also involved in impulsive spending/buying behaviour, such as the shopping environment, the product itself, and the diverse demographic and socio-cultural aspects that have an influence on individuals' impulsive buying behaviour (Muruganatham & Bhakat, 2013). Moreover, the lack of cognitive responses such as planning, which involves reflecting and interpreting, when making a purchase is another factor that contributes to impulsive spending or buying behaviour (Sharma, 2012). A South African study on 400 Generation Y university students (aged 18 to 24) demonstrates that time availability and money availability have statistically positive influences on students' affective response to buying on impulse (Neves, 2016). This means that time and money availability (situational factors) influences the cognitive response to the buying impulses of Generation Y university students (Neves, 2016).

2.5.4.2 Stealing and Risk-Taking in Dangerous Activities

Youth (ages 18 to 24), from a developmental psychology perspective, is characterised as a risk-taking period (Dariotis & Chen, 2020; Erikson, 1968). Young people are more likely to engage in risky behaviours that seem to be related to the transitioning period between childhood and adulthood. An explanation by psychologists suggests that during this process, young people are pushing the boundaries in order to understand themselves (Dariotis & Chen, 2020; Erikson, 1968). These risky behaviours include delinquency (thievery, fighting, or joining a gang), risky sexual behaviour (sexual behaviour that increases the likelihood of unwanted consequences such as sexually transmitted diseases, risky driving, and self-mutilation (DiLima, 2018). Stealing is

common and generally appears to begin in childhood or adolescence (Grant et al., 2016). This behaviour is also associated with numerous mental health conditions such as mood disorders, substance abuse, and other antisocial behaviours (Grant et al., 2016). Although these behaviours may not have any benefits, they may have underlying motives, which are discussed below (DiLima, 2018).

Grant et al.'s (2016) study demonstrates that the percentage of stealing urges among university students was small (0.9%); although, in comparison to previous findings on kleptomania among high school (0.7%) and university students (0.4%), the urges to steal were somewhat similar (Grant et al., 2011). In Grant et al.'s (2016) study, urges to steal were associated with higher levels of perceived stress, depressive symptoms, and bipolar disorder. This finding thus suggests that students utilise this impulsive behaviour to modulate their emotional dysregulation through distraction (Grant et al., 2016).

From a South African perspective, given risk-taking behaviour and violence, along with the gap in scientific literature, risk-taking behaviour and coping among university students become an important part of new research. According to the crime trends provided by the South African Police Service in the Gauteng province for 2017/2018, drunk driving was the most prevalent offence among the general population (Ross & Rasool, 2019). This being said, the majority of the South African fatal injury victims fall within the young adult age group of 20 to 29 years, which also corresponds with the age group of the university student population (Rodriguez et al., 2013). The fatal injuries may not have occurred in the campus environment; however, this does not indicate that campus environments are immune from fatal injuries and crimes (Rodriguez et al., 2013). In KwaZulu-Natal, crimes that affect the University of KwaZulu-Natal are as follows: (1) robbery with 40%, (2) property theft with 88%, (3) vehicle theft with 53%, (4)

physical assault with 16%, and (5) damage to property with 38% (Tshabalala, 2001).

Furthermore, in most instances, crimes on South African campuses are generalisable (Rodriguez et al., 2013). Tshabalala's (2001) findings are therefore suggestive of the general rates and types of crimes that affect South African university environments. With the aforementioned crime statistics as a frame of reference, stealing and risk-taking in dangerous activities in South Africa are demonstrated as being widespread and of concern across universities. However, there is a paucity of literature on stealing and risk-taking in dangerous activities as predictor coping strategies among university students.

2.6 Self-Harm

Self-harm and coping literature among university students is elaborated on in this section of the literature review.

2.6.1 Self-Harm Among University Students

Non-suicidal self-injury (NSSI) or self-harm and suicidal thoughts and behaviour (STB) are serious public health concerns among young adults (Paul et al., 2015). NSSI and STB differ significantly in terms of lethality, frequency, and intention. The two phenomena are usually distinguished by an individual's intent to die. The nature of the relationship is multifaceted such that prior NSSI is one of the strongest predictors of suicidal thoughts and behaviours (Paul et al., 2015).

Among young people and university students, self-harm is the deliberate destruction of one's body tissue with the absence of suicidal intent but with the intent to hurt oneself or for purposes not culturally sanctioned (Wan et al., 2015). The most common forms of self-harm behaviour that occur between early adolescence and young adulthood are cutting, burning the skin, interfering with healing wounds, banging one's head, scratching, and ingesting a toxic substance

or object (Gollust et al., 2008; Wan et al., 2015). Among a South African university student population, mental pain (torture with self-defeating thoughts and engaging in rejecting relationships), alcohol abuse, and promiscuous behaviour were the most frequent forms of self-harm behaviours (Van der Walt, 2016).

Findings from a meta-analysis indicate that 13.4% of young adults were identified as *ever having engaged* in NSSI (Paul et al., 2015). The prevalence rate of self-harm among undergraduate university students ranges from 12% to 38% (Paul et al., 2015). A study conducted using two elite north-eastern United States universities among a random sample of university students reported the lifetime prevalence of NSSI as 17% (Gollust et al., 2008). Williams and Hasking (2010) found a high percentage of NSSI among young adults in the community; the majority of which were currently studying, with an age range from 18 to 30 years old, with a lifetime prevalence of 41% to 44%. In South Africa, Van der Walt (2016) found increasingly higher results as compared to the previous studies mentioned, indicating that 54% of the students had used more than one method to self-harm, 15% indicated that they had used only one method, and 31% had never engaged in self-harming. Considering that NSSI has been reported as one of the most difficult behaviours to treat, and that 80% of young adults do not seek formal psychotherapy, there is a dire need to understand these behaviours to facilitate effective treatment (Trepal et al., 2015).

2.6.2 Self-Harm and Coping

The affect regulation model states that self-harm is a mechanism that individuals use to control or express the emotions they feel, which they perceive as being incapable of expressing (Brown et al., 2007; Wan et al., 2015). There is an association between negative emotional states and non-suicidal deliberate self-harm (Muehlenkamp, 2005). This suggests that self-harm

behaviour may serve one of the following functions among people who experience negative emotional affect: (1) decreasing negative affect, (2) avoiding unpleasant emotions, and (3) expressing negative emotions (Muehlenkamp, 2005).

The experiential avoidance model by Chapman et al. (2006) further acknowledges this association by stating that self-harm is a behaviour that is negatively reinforced through reducing unpleasant internal experiences, particularly emotional responses. Individuals who engage in deliberate self-harm thus have strong experiential avoidance repertoires that stem from poor distress tolerance, deficits in emotional regulation, intense emotional responses, and implementing poor alternative coping strategies (Brown et al., 2007). Additional factors related to individuals who respond with self-harm were identified by Williams and Hasking (2010). These factors include emotional inexpressivity, emotional dysregulation, and affect intensity or reactivity (Williams & Hasking, 2010).

According to Chapman et al. (2006), individuals who engage in self-harming behaviours tend to use ineffective coping strategies and are prone to utilise avoidance or escape strategies. Disengagement coping is utilised, as individuals use self-harming behaviour to escape from negative emotions by redirecting their emotional pain into a physical sensation (DiLima, 2018; Chapman et al., 2006). Many individuals who self-harm report reductions in fear, anger, sadness, tension, emptiness, and feelings of relief as a result. This confirms the evidence for self-harm as a maladaptive coping strategy (Andover et al., 2007; Paul et al., 2015).

Brown et al. (2007) conducted a study on first-year psychology students with an average age of 19 years old. The findings indicate that there were no significant differences in coping strategies among past, recent, and never self-harmers. However, two maladaptive coping mechanisms were identified among recent and past self-harmers as compared to never self-

harmers. These were behavioural disengagement and substance use coping (Brown et al., 2007; Trepal et al., 2015). This generally suggests that individuals with a history of self-harming are more likely to give up when confronted with a stressor or challenge (Brown et al., 2007).

Interestingly, substance use was among the most used coping strategies among past self-harmers as compared to recent and never self-harmers, which represents a significant difference. Brown et al. (2007) speculate that substance use coping might be used as an alternative to self-harm behaviour among past self-harmers.

Trepal et al. (2015) report on undergraduate university students, indicating that those who engaged in NSSI had used greater amounts of maladaptive coping strategies than both past and never self-harmers. Individuals currently engaging in NSSI report all six maladaptive coping strategies (denial, self-distraction, venting, substance use, behavioural disengagement, and self-blame) significantly more than those who had never self-harmed. Specifically, students who had self-harmed in the past reported using behavioural disengagement, venting, and substance use as coping strategies more than those who had never self-harmed (Trepal et al., 2015). On the other hand, individuals engaging in NSSI typically engage less in specific coping strategies, such as problem- and emotion-focused coping, religious coping, and instrumental coping (Trepal et al., 2015). In addition, those who self-harm tend to experience less interpersonal support, and communication with or belonging to family members, peers, or significant others than non-self-harmers (Trepal et al., 2015).

The common mental health concerns associated with those who engage in NSSI are depression and anxiety, which have been reported among community and clinical samples (Williams & Hasking, 2010). Trepal et al.'s (2015) study supports this finding, as university students who currently self-harm report high levels of depression and anxiety and employ more

maladaptive coping strategies than past and never self-harmers. This is an indication that those who engage in NSSI have a low distress tolerance, which demonstrates an increased need to engage in multiple coping strategies and to reduce negative emotional states experienced due to anxiety and depression. Consequently, self-harm may be used as a method to cope with intense emotions, which indicates that this behaviour serves the function of emotion regulation (Laye-Gindhu & Schonert-Reichl, 2005; Williams & Hasking, 2010).

2.7 Demographic Factors as Predictors of Coping

Most university students tend to adopt problem- and emotion-orientated coping strategies. However, age, gender, year of study, background, and the perception of stress tend to influence students' coping abilities (Kariv & Heiman, 2005; McInnis, 2001; Monteiro et al., 2014). The demographic factors under study are age, gender, and academic level (undergraduate and postgraduate). These factors, as possible predictors of coping, are explored further in this section of the literature review.

2.7.1 Age and Coping

Age and the developmental stage of individuals influence their ability to cope with stress (Aldwin, 1991). Erikson's (1982) psychosocial theory states that young, middle-aged, and older adults go through a series of life stages. Particularly of interest to this study is emerging adulthood, which is the stage whereby individuals are career orientated and focused on developing long-lasting intimate relationships (Chen et al., 2018; Diehl et al., 1996). The main psychosocial conflict that arises within this stage of development is *intimacy vs isolation* (Chen et al., 2018; Diehl et al., 1996). Supporters of the lifespan perspective suggest that the transition from adolescence to adulthood is characterised by reorganising the way young adults cope with internal and external demands (Erikson, 1982). An additional perspective is the contextual theory

of ageing by Folkman and Lazarus (1980), which proposes that as individuals age, they encounter different types of stress, and these differences in stressors influence their coping ability and health outcomes (Chen et al., 2018).

Monteiro et al. (2014) mention that as individuals mature, they are able to adaptively use behavioural, cognitive, and emotional coping strategies to deal with life stressors. An explanation for this finding is that older adults may use more diverse strategies to cope with their problems. This is known as a differentiated approach to problem situations (Cabras & Mondo, 2018; Monteiro et al., 2014). Furthermore, the experience of previous stressful situations influences an individual's ability to resolve the same or a similar incident in the future (Monteiro et al., 2014).

Monteiro et al. (2014) conducted a study on a university sample population in Botswana, with an age range from 18 to 29 years old. It found that age significantly predicted the use of problem-focused coping. This suggested that older students tend to use problem-focused coping more than younger students (Cabras & Mondo, 2018; Monteiro et al., 2014, Zimmer-Gembeck & Skinner, 2008). This is due to the reasoning that older university students engage in the process of changing the meaning of the stressful situations they encounter (Monteiro et al., 2014) and they adopt a range of cognitive strategies to cope with stressful academic experiences (Cabras & Mondo, 2018). Zimmer-Gembeck and Skinner (2008) found that older students employed significantly higher average use of task-orientated coping than younger students.

In contrast, Cabras and Mondo's (2018) study on age differences and coping strategies among university students between the ages of 18 and 37 reveals higher differences in avoidance coping for younger groups (18 to 23) compared to older groups (24 to 37). Younger students specifically tend to use distraction as a form of avoidant coping (Zimmer-Gembeck & Skinner, 2008).

However, contradictory findings suggest that all age groups use distraction as a coping mechanism, more than problem solving or support seeking behaviour (Zimmer-Gembeck & Skinner, 2008).

In Southern Africa, a study conducted by Renard and Snelgar (2015), on South African (80% of the sample), Namibian, and Botswanan university students' proactive coping styles and age (18 to 22 age group, 23 to 27 age group, and 33+ age group), the findings between these age groups reveal that older students utilise more proactive coping styles than younger students. This could be due to the suggestion that older students have overcome obstacles in the past and are most experienced with goal setting. On the other hand, younger students may be unaware and less equipped to resolve university challenges, which may be due to less-established support systems in comparison to their older counterparts (Renard & Snelgar, 2015).

The empirical evidence highlighted in the aforementioned studies provides an indication of the coping strategies used by young and older university student populations. The literature mainly focuses on international studies, with a paucity of literature on African populations. Consequently, this study focuses on the coping strategies of the emerging adulthood South African population, between the ages of 18 and 29 years.

2.7.2 Gender and Coping

“Gender is plural. It is usually twofold, masculine/feminine, but it is not so by nature. It is often plural, as in the history of languages and in social evolution” (Laplanche & Fairfield, 2007, p. 201). Gender differences and coping were investigated by Lawrence et al. (2006), who identified significant differences among male and female students. These differences were that males were most likely to inhibit their emotions and detach themselves from an emotionally salient situation (Lawrence et al., 2006). Conversely, females used frequent social support and

emotional coping and achieved better academic results (Day & Livingstone, 2003; Lawrence et al., 2006).

Monteiro et al. (2014) conducted a study among a university student population in Botswana. They report that female students used disengagement coping and wishful thinking more often than male students. Female students in this sample revealed that they avoided engaging with the stressful situation and did not become actively involved in problem solving (Monteiro et al., 2014). This finding portrays gender roles that encourage women to engage in wishful or fantasy-like thinking rather than cognitive or behavioural approaches to problem solving, specifically conflict situations (Monteiro et al., 2014). Disengagement coping may assist to alleviate uncomfortable or distressing emotions as a short-term goal for individuals who lack control or are helpless within the traditional context (Monteiro et al., 2014). Predominantly, in Botswanan culture, it is important to show respect to elders by controlling the outward display of emotions and by seeking advice. This may further enable disengagement and passive coping among females (Monteiro et al., 2014).

A qualitative study conducted on Black male university students, aged 18 to 25, in the USA by Goodwill et al. (2018), indicates specific coping strategies employed due to their unique experiences, stressors, and challenges. Some of these stressors include finances, college readiness, employment, and the ability to finance one's own family and extended family, along with learning to cope with the increasing academic demands of university. This adds to Black male students' psychosocial health outcomes (Goodwill et al., 2018). The qualitative results from Goodwill et al.'s (2018) research reveal the following coping themes among male university students: isolated coping (relying on the self and anger-resentment-frustration), engaged coping (social interactions, hobbies and physical activities, substance use, and fighting/violence), and

disengaged coping (acceptance and not dealing with emotions, cutting off emotions, and hiding emotions).

From a South African perspective, Van Zyl and Dhurup's (2016) study on university students demonstrates the following findings pertaining to gender and coping strategies: (1) a significant difference between the veneration and introspective factor between male and female students, which is indicative of female students utilising this coping strategy more than male students; and (2) a significant difference between the substance abuse factor between male and female students, which suggests that male students engage in substance use activities more than their female counterparts. Furthermore, Renard and Snelgar's (2015) study on Southern African university students demonstrates a similar usage of proactive coping between male and female students. This confirms that both genders cope by proactively taking charge of situations, turning stressful situations into positive experiences, and working through obstacles. However, the evidence in this study suggests that female students utilise emotional support more than their male counterparts (Renard & Snelgar, 2015). The empirical evidence and discussions above therefore demonstrate that the coping strategies employed in a university setting may differ according to the student's gender.

2.7.3 Academic Level (Undergraduate and Postgraduate Students) and Coping

There are differences in the stress levels experienced by undergraduate and postgraduate students and their ability to cope with stressors. Currently, there are limited sources that have investigated academic level (undergraduate and postgraduate) as a predictor of coping among South African university students, which is the aim of this study. Literature pertaining to academic level and coping is explored in this subsection of the literature review.

Among undergraduate students, inadequate resources, low motivation, academic workload, poor performance, and the uncertainty of securing employment are the main causes of stress (Ahorsu et al., 2020; Mofatteh, 2021). The stress levels experienced by students in their final year of undergraduate studies were found to be higher than other undergraduate students (Ahorsu et al., 2020; Govender et al., 2015; Mofatteh, 2021). Furthermore, the American College Health Association (2014) found that the stress levels experienced by undergraduate and postgraduate students were 39.5% and 43.2% respectively. The difference in stress levels between undergraduate and postgraduate university students is a significant finding, as stress has an impact on students' academic performance and their subsequent coping ability.

Confirmatory South African findings indicate that the stressors experienced among South African occupational therapy students varied across academic levels such that academic stress, personal stress, and university-related stress (peer conflict, adjustment to university life, and a lack of library resources) were higher for third-year and fourth-year students in comparison to first-year and second-year students (Govender et al., 2015). However, Govender et al.'s (2015) findings do not indicate significant differences between the demographic variables, stressors, and coping strategies. The coping strategies that occupational therapy students mostly utilised were therefore problem-focused coping, focusing on the positive, and seeking social support, and the least used were tension reduction, detachment, and keeping to themselves (Govender et al., 2015).

According to Ickes et al. (2015), the most common coping strategies used by university students were physical activity, food, and sleep, which were used as avoidant or approach-focused coping. Undergraduate students were more susceptible to using more avoidant coping mechanisms such as tobacco, alcohol, and drugs (LaBrie et al., 2012; Metzger et al., 2017). Ickes

et al. (2015) report that alcohol use was employed as a coping mechanism for both undergraduates (42.9%) and postgraduates (43.2%) in their study. This behaviour seems to be prevalent among the university population and may have long-term negative effects on students' health (Ickes et al., 2015). In the same study, postgraduate students tended to use more adaptive coping strategies to deal with stressors, such as physical activity and social support, which may have a positive impact on their ability to function (Freire et al., 2020; Ickes et al., 2015).

The discussions above provided literature on academic level and coping strategies among university students. However, there is a paucity of South African literature that addresses this topic, which indicates a gap in the existing literature, which this study aims to rectify.

2.8 Conclusion

It is evident that university students are faced with immense pressures, with a variety of stressors during the emerging adulthood phase of development. Students' appraisal and response to stressors are based on their available resources, which ultimately affect coping strategies. However, students may adopt maladaptive coping strategies as a result of their inability to cope with stressors, which could lead to the utilisation of a range of impulsive risk behaviours and/or self-harm behaviour. Furthermore, students from various age groups (18 to 29 years), genders (male and female), and academic levels (postgraduate and undergraduate) may also utilise different coping strategies to deal with their unique challenges. Consequently, the use of maladaptive coping could lead to adverse effects on students' psychological and physical wellbeing. The aim of this study was thus to determine whether individual predictor variables (such as Self-Harm, Impulsive Risk Behaviour, Age, Gender, and Academic Level) or a combination of these predictor variables significantly contribute to the variance of Coping among university students. A further understanding of this would contribute significantly

towards the body of knowledge in a developing country such as South Africa and would assist higher education student counselling centres to provide specialised interventions to high-risk groups or students who are coping ineffectively.

2.9 Summary

This chapter focused on literature pertaining to the following: stress and university students' mental health, coping, the South African context and coping, impulsive risk behaviours, self-harm, and demographic factors (age, gender, and academic level). Specifically, definitions and empirical evidence on each construct in relation to university students' coping strategies were presented. The next chapter explores the methodology used in this study.

Chapter 3

Methodology

3.1 Introduction

This chapter discusses the methodology employed in this research study. The research methodology was used to gather data pertaining to the predictors of coping among university students at the UFS. Firstly, the research aim is mentioned. Secondly, the research questions, research approach and design, and the participants and sampling method are discussed. Thirdly, the data-collection method, measuring instruments, and data-analysis procedure are elaborated on. Lastly, the ethical considerations and the value of the study are discussed.

3.2 Research Aim

This study aimed to determine whether individual predictor variables such as Self-Harm, Impulsive Risk Behaviour, Age, Gender, and Academic Level or a combination of these predictor variables significantly contribute to the variance of Coping among university students.

3.3 Research Questions

The following research questions were investigated to address the research aim:

- Does the combination of Impulsive Risk Behaviours, Self-Harm, Gender, Age, and Academic Level explain a significant percentage of variance in the Coping of university students?
- Do any of the individual predictors significantly contribute to the variance in the Coping among university students?

3.4 Research Approach and Design

A research design and approach can be referred to as an overarching strategy or guideline that is followed to collect data to answer predetermined research questions (Vogt et al., 2012). This

research study was conducted by utilising a quantitative research approach and was non-experimental in nature (Stangor, 2015). A correlational research design was used in the study to investigate the correlations between the variables (Stangor, 2015).

Gravetter and Forzano (2018) state that quantitative research is based on measuring variables for participants to obtain numerical scores, which are submitted to statistical analysis for interpretation and drawing conclusions. A quantitative research approach is also described as descriptive research that utilises more formal measures of behaviour such as questionnaires and systematic observation of behaviour, which are subjected to statistical analysis (Stangor, 2015). A quantitative research approach can be further expanded into experimental, pre-experimental, quasi-experimental, and non-experimental research (Gravetter & Forzano, 2018). This study was non-experimental in nature, which pertains to the comparison of scores from different groups and employs a non-manipulated variable to define the groups, namely a participant variable (Gravetter & Forzano, 2018). Using non-experimental research, several variables such as Self-harm, Impulsive Risk Behaviours, Age, Gender, and Academic Level were investigated to determine whether these variables could serve as possible predictors of Coping among university students.

A correlational research design was used in this study to describe and examine the relationships between the variables (Gravetter & Forzano, 2018; Stangor, 2015). In this design, the data should consist of two or more measurements; one for each of the variables under examination (Gravetter & Forzano, 2018). Specifically, a correlational study attempts to establish whether a relationship exists between variables and describes the nature of these relationships (Gravetter & Forzano, 2018). Furthermore, correlational research does not imply

causality between two variables, which indicates that one does not explain the other (Gravetter & Forzano, 2018).

3.5 Participants and Sampling

Sampling is referred to as the selection of research participants from a target population, which involves considering the type of people, behaviours, social processes under observation, settings, and events. Precisely who or what will be studied is influenced by the unit of analysis (Terre Blanche et al., 2014). The main concern in sampling is the representativeness of the sample to the population, from which the researcher aims to draw conclusions (Terre Blanche et al., 2014).

A non-probability sampling technique known as convenience sampling (Stangor, 2015) was used in this study. Non-probability convenience sampling refers to sampling where the selection of elements is not determined by the statistical principle of randomness (Terre Blanche et al., 2014). This sampling technique is more time and cost effective than probability sampling techniques (Stangor, 2015; Vehovar et al., 2016) and was implemented due to the effects of covid-19 as face-to-face interaction was restricted and limited to online methods of sampling. This study utilised convenience sampling as the sample was based on the participants' availability and convenience to the researcher (Creswell & Creswell, 2017; Terre Blanche et al., 2014). Additionally, the participants who indicated an interest in the study participated voluntarily at their convenience and based on their accessibility to the research material via their email and the Google Forms platform.

In this study, the sample comprised 471 (N=471) university students from the UFS from differing ethnic groups, males and females, aged between 18 and 29 years, enrolled for any major, and on either an undergraduate or postgraduate educational level from various

departments within the Faculty of the Humanities. The students were from various disciplines that included, but were not limited to, Psychology, Criminology, Anthropology, Communication Science, Sociology, and Political Science (as represented in Table 1). Participants who did not meet the inclusion criteria for the study were excluded, as these participants did not fall within the emerging adulthood phase of development.

3.6 Data-Collection Procedure

The participants were required to complete four questionnaires, compiled into one document, which was administered via an electronic/online survey platform, namely Google Forms. The questionnaires were uploaded onto the Google Forms platform by the researcher. After the responses were collected, the files were copied to the researcher's Google Drive account. Access was thus limited to the researcher only. Permission was obtained from the GHREC and the Vice-Rector: Research, Innovation and Internationalisation to retrieve all Humanities students' email addresses (Ethics number: UFS-HSD2020/0202/1208) (see Appendix A). This method upheld students' anonymity as identifying particulars were not requested. Students were able to click on the link sent via email and were required to agree to ethical conditions as an orientation prior to commencing with the study, which also acted as a mechanism to provide informed consent. The link was accompanied by a recruitment letter and an information leaflet that were sent to all students via email within the Faculty of the Humanities and its associated departments (see Appendix F).

Once the students accepted the informed consent agreement, their participation was considered voluntary. An automatic notification of completion was sent to the participants who completed the questionnaire through the Google Forms notification function, which stated that their responses had been recorded and would be sent to the researcher. To maximise the number

of responses, the researcher sent the questionnaire link with the accompanying documents via email to all students every two to three weeks for the duration of the data-collection period (three months).

3.7 Measuring Instruments

The following measurement instruments employed in the study were administered on the Google Forms platform:

- A biographical questionnaire;
- The COPE Inventory;
- The IBS; and
- The SHIF.

3.7.1 Biographical Questionnaire

A biographical questionnaire was used to measure the demographic variables of the participants (such as age, gender, ethnicity, majors, and academic level [undergraduate or postgraduate]) from various departments within the Faculty of the Humanities such as Psychology, Criminology, Anthropology, Communication Science, Sociology, and Political Science (see Appendix B).

3.7.2 The Coping Orientation to Problem Experience (COPE) Inventory

To measure the coping strategies of the participants, the COPE Inventory (Carver et al., 1989) was used (see Appendix C). This scale comprises 60 items and has 15 subscales and uses a four-point Likert-type scale in which participants respond to items on a scale of 1 to 4. The responses include (1) *I do not usually do it*, (2) *I sometimes do it*, (3) *I do it with some frequency*, and (4) *I always do it* (Carver et al., 1989). The total score ranges between 60 and 240 points with high scores on all 15 subscales indicating a student's higher usage of a particular coping strategy

(Carver et al., 1989). Theoretically, the COPE subscales have been developed to represent the broad domains of coping, which include emotion-focused, problem-focused, socially supported strategies, and avoidance (Carver et al., 1989; Thomas et al., 2017). Furthermore, the developers of the COPE intentionally did not provide guidance on how to combine the COPE subscale scores to create indices of overarching coping constructs (problem-focused or emotion-focused coping) (Thomas et al., 2017). However, this was not in correspondence with the aim of this study. Cronbach's alphas identified for all 15 subscales of the COPE Inventory demonstrated acceptable internal consistency reliabilities ranging from 0.45 to 0.94 (Carver et al., 1989; Thomas et al., 2017). Carver et al. (1989) and Litman (2006) confirm similar internal consistencies of 0.73 for the entire COPE Inventory. The test-retest reliabilities for the dispositional form ("what the person usually does under stress") of the COPE ranged from 0.42 to 0.89 at 6 weeks, and from 0.46 to 0.86 in 8 weeks (Carver et al., 1989). However, several subscales in the current version of the COPE were not developed when the study was conducted. Folkman (1992) stated that alternate forms of assessing reliability such as with the test-retest method, are inappropriate because the items are not equivalent. The inherent variability in the utilisation of coping strategies across situations means that test-retest reliability may be of limited value in establishing the psychometric properties of coping instruments (Donoghue, 2004; Folkman, 1992).

3.7.3 The Impulsive Behaviour Scale (IBS)

The impulsive risk behaviours of the participants were measured using the IBS (Rossotto et al., 1994) (see Appendix E). The IBS is a 25-item scale where responses are rated on a five-point Likert-type scale. Participants respond on a scale from 1 to 5; indicating (1) *Never*, (2) *Once*, (3) *On occasion (2-3 times in your life)*, (4) *Sometimes (4-20 times in your life)*, and (5) *Regularly*

(*more than 20 times in your life*). The total score ranges between 25 and 125 points, with the higher scores indicating greater levels of impulsivity (Peñas-Lledó & Waller, 2003). Cronbach's alphas for the IBS obtained from national and international university student populations ranged from 0.85 to 0.90 (Bender, 2009; Naidoo, 2016; Peñas-Lledó & Waller, 2003).

3.7.4 The Self-Harm Information Form (SHIF)

The self-harm behaviours of the participants were measured using the SHIF (Croyle & Waltz, 2007) (see Appendix D). The questionnaire is a 22-item, self-report, *yes* or *no* scale that measures the total number of different self-harm behaviours, as well as potentially maladaptive behaviours. The questionnaire also measures the extent of the behaviours, which range from 0 to 11 (Croyle & Waltz, 2007). The total score ranges between 11 and 22 points with the higher scores indicating the presence of self-harming behaviour or psychopathology (Latimer et al., 2013). Furthermore, the SHIF was developed to assess self-harm among a non-clinical population (Croyle, 2007). However, there is no attempt to separate clinical and non-clinical levels of self-harm, such as participants who may have harmed themselves on occasion (once or twice) or who may have harmed themselves superficially (Croyle, 2007). For this reason, reports of self-harm on the SHIF questionnaire are somewhat higher than on similar self-harm questionnaires. The advantage of utilising the SHIF is that it allows the researcher to study both clinical and non-clinical levels of self-harm simultaneously, which appears most appropriate for non-clinical populations (Croyle, 2007). The test-retest reliability data which was conducted on a Hispanic student sample on two occasions, two and three weeks apart, suggested that the self-harming behaviours on the first and second administration were highly correlated ($r=0.84$) (Croyle & Waltz, 2007). Cronbach's alphas identified for this scale ranged from 0.80 to 0.94 (Croyle, 2007; Croyle & Waltz, 2007; Latimer et al., 2013).

3.8 Data Analysis

The data were analysed by using SPSS (Version 27) (IBM Corporation, 2021). SPSS utilises univariant and multivariant modelling techniques to gain accurate conclusions and insight into complex relationships within the data and between variables (IBM Corporation, 2021). The system was used to calculate the descriptive statistics for the sample and all measuring instruments. Furthermore, Cronbach's alpha coefficients are an estimate of the average correlation among all items on a scale and are used as a measure of the internal consistency and reliability of a scale (Stangor, 2015; Tavakol & Dennick, 2011). Consequently, Cronbach's alpha coefficients were calculated to investigate the internal reliability of all the measurement instruments used in this study.

Pearson's product-moment correlation coefficient (r) is the most common measure of relationships among variables and is utilised by behavioural scientists to determine the size and direction of the relationships between variables (Stangor, 2015; Terre Blanche et al., 2014). The correlation coefficient ranges from $r = -1.00$ to $r = 1.00$. Positive values of r are indicative of positive correlations and negative values indicate negative correlations. Consequently, the values from the correlation coefficient that are further from zero (positive or negative) indicate a stronger relationship; conversely, values that are closer to zero indicate weaker relationships (Stangor, 2015). Correlations between the variables were investigated in this study to measure the direction and strength of the correlations between the variables.

Multiple regression, specifically hierarchical multiple regression, as a statistical approach has the advantage that it allows the researcher to consider how multiple individual independent variables or combinations of predictor variables relate to the dependent (outcome) variable (Stangor, 2015). After controlling for other factors, hierarchical regression is a strategy for

analysing the effect of a predictor variable(s). This is accomplished by accounting for the increase in variance after each variable is put into the regression model by measuring the change in adjusted R^2 at each phase of the analysis (Lewis, 2007; Pedhazur, 1997). The ability of all the predictor variables to predict the outcome variable is indicated by a statistic known as the multiple correlation coefficient (R) and the statistic regression coefficients² or accountable variation indicates whether each of the predictor variables makes a significant contribution to the prediction of the outcome variable (Stangor, 2015; Terre Blanche et al., 2014). Additionally, both of these tests utilise the F -distribution or F -test (Terre Blanche et al., 2014). Hierarchical multiple regression analyses were conducted in this study to investigate which predictor or independent variable(s) or combination of variables (Impulsive Risk Behaviours, Self-harm, Age, Gender, and Academic Level) explained a significant percentage of variance in the outcome or dependent variable (Coping) among university students. This is in accordance with the aim and research questions of the study.

3.9 Ethical Considerations

Ethical clearance for this study was obtained from the GHREC of the Faculty of the Humanities at the UFS (Ethics number: UFS-HSD2020/0202/1208). Permission was also obtained from the Vice-Rector: Research, Innovation and Internationalisation to access and utilise the students' email addresses (see Appendix A). The ethical principles from the Universal Declaration of Ethical Principles for Psychologists were adhered to, namely respect for the dignity of persons and people, competent caring for the wellbeing of persons and people, integrity, and professional and scientific responsibility to society (Gauthier et al., 2010). Furthermore, the ethical principles of confidentiality, beneficence, non-maleficence, and avoiding harm to participants were adhered to in this research (Allan, 2016). The participants

were provided with a recruitment letter, a comprehensive information leaflet, and a questionnaire link via email, which they had to click on in order to voluntarily agree to participate in the study (see Appendix F). The participants who indicated an interest in the study participated voluntarily at their convenience and based on their accessibility to the research material via their emails and the Google Forms platform. The participants were informed of the anonymous nature of their responses and all information gathered. Permission was obtained to store data and report on it anonymously, by using the comprehensive information leaflet sent via email. After the data-collection process, the anonymity of the participants' responses was ensured by utilising a coding system and the data were stored securely on the researcher's Google Drive account and on a password-protected computer to which only the researcher had access. Additionally, if there were any unforeseen circumstances that occurred during the research process, the participants had the right to withdraw from the study without explanation or fear of negative consequences. Furthermore, distressed participants could contact the Coordinator of the Adult Practice of the Department of Psychology for counselling sessions at the UFS. There were no participants, to the researcher's knowledge, who required counselling sessions after completing the research questionnaires via the Google Forms platform.

3.10 Value of the Study

The information obtained in this study could assist in identifying which variable(s) predicts coping among university students at the UFS. The counselling services at the UFS can utilise the results from this study to create interventions that will have a specific focus on high-risk groups, which is an increasing concern in our country. Furthermore, the results can be utilised to assist students in using more adaptive coping strategies to deal with their stressors. Due to the lack of South African studies pertaining to the predictors of coping among university students in the

emerging adulthood phase, the findings from this study will make a significant contribution to the body of knowledge.

3.11 Summary

This chapter discussed the research methodology utilised in this research study. Firstly, the research aim and research questions were stated. This was followed by a theoretical and practical discussion of the research approach and design, as well as the participants and sampling method. Thirdly, the data-collection procedure was elaborated on in detail and the measuring instruments were discussed extensively, accompanied by empirical findings. Fourthly, the data-analysis procedure, which comprised a theoretical discussion of Cronbach's alphas, correlations, and hierarchical regression analyses, with reference to the study was elaborated on. Lastly, the ethical considerations based on all steps of the research process and the value of the study were mentioned.

Chapter 4

Results

4.1 Introduction

The results from the statistical analyses are reported in this chapter. Firstly, descriptive statistics for the research sample are presented. Secondly, descriptive statistics of the measuring instruments are presented. Thirdly, the results of the correlation analyses are reported and discussed. Fourthly, the results of the hierarchical regression analyses conducted independently for each of the criterion variables are reported and discussed. Only results that are statistically significant and that show at least a medium effect size are discussed in the reporting of the results. For correlations, Steyn (2005) reports that an effect size of 0.1 is small, an effect size of 0.3 is medium, and an effect size of 0.5 is large. According to Cohen (1992), an effect size of 0.02 is small, an effect size of 0.15 is medium, and an effect size of 0.35 is large in terms of hierarchical regression analyses. Both the 1% and 5% levels of significance were used in the analyses of the data.

4.2 Descriptive Statistics of the Sample

The frequency distribution of the research sample, shown in Table 1, were calculated pertaining to participants' gender, race, home language, year of study, main major, academic level, living arrangement, religious affiliation, relationship status, province, happiness at university, and satisfaction with university.

Table 1*Frequency Distribution of Participants According to Demographic Variables*

Biographical variable	<i>n</i>	%
<i>Sex</i>		
Male	88	18.7
Female	383	81.3
<i>Race</i>		
Black	379	80.5
Coloured	31	6.6
White	56	11.9
Indian	3	0.6
Latina	1	0.2
Hispanic and Filipino	1	0.2
<i>Home language</i>		
South Sotho	120	25.5
North Sotho	28	5.9
Xhosa	54	11.5
Zulu	83	17.6
Tswana	53	11.3
English	28	5.9
Afrikaans	60	12.7
Tsonga	9	1.9
Venda	14	3.0
Swati	7	1.5
Swazi	1	0.2
Ndebele	5	1.1
Xitsonga	3	0.6
Ashanti	1	0.2
Sign language	1	0.2
Yoruba	1	0.2
Tagalog	1	0.2
Spanish	1	0.2
Sotho-Tswana	1	0.2
<i>Year of study</i>		
First-year undergraduate	131	27.8
Second-year undergraduate	114	24.2
Third-year undergraduate	126	26.8
Fourth-year undergraduate	54	11.5
Honours	28	5.9
Master's	18	3.8
<i>Main major</i>		
Psychology	235	49.9
Criminology	26	5.5
Sociology	9	1.9
Anthropology	6	1.3
Political Science	37	7.9
Industrial Psychology	34	7.2
Communication Science	45	9.6
Languages	16	3.4
Philosophy	2	0.4
Social Work	27	5.7
Journalism	2	0.4
Drama and Theatre Arts	6	1.3

Biographical variable	n	%
Fine Arts	5	1.1
Community Development	10	2.1
Business Management	3	0.6
History	1	0.2
Music	3	0.6
Classical Studies	2	0.4
Geography	1	0.2
African Studies	1	0.2
<i>Academic level</i>		
Undergraduate	424	90.0
Postgraduate	47	10.0
<i>Living arrangement</i>		
Campus hostel	112	23.8
Hostel off campus	90	19.1
Home with parents	80	17.0
Flat in town	69	14.6
Student house	107	22.7
Rental house	10	2.1
Own house	3	0.6
<i>Religious affiliation</i>		
No religion	45	9.6
Christianity	412	87.5
Islam	4	0.8
Jehovah's Witness	1	0.2
African Religion	2	0.4
African Spirituality	2	0.4
Agnosticism	1	0.2
Omnism	1	0.2
Methodist	1	0.2
Asatru	1	0.2
Spiritual	1	0.2
<i>Relationship status</i>		
Single	293	62.2
In a relationship	173	36.7
Married	4	0.8
Engaged	1	0.2
<i>Province</i>		
Eastern Cape	43	9.1
Free State	187	39.7
Gauteng	64	13.6
KwaZulu-Natal	70	14.9
Limpopo	28	5.9
Mpumalanga	16	3.4
Northern Cape	21	4.5
North West	19	4.0
Western Cape	12	2.5
International	11	2.3
<i>Happiness at university</i>		
I am enthusiastic about it	121	25.7
I like it	172	36.5
I am more or less neutral about it	161	34.2
I do not like it	17	3.6
<i>Same institution</i>		
Yes, definitely	167	35.5
Probably yes	161	34.2

Biographical variable	<i>n</i>	%
Probably no	106	22.5
No, definitely not	37	7.9

The sample was primarily female ($n=383$; 81.3%), with only 18.7% being male ($n=88$). The data on the age of the participants were continuous in nature. Consequently, the average age of the participants was 21.66 years (standard deviation [SD] = 2.36). In terms of race or ethnicity, 80.5% ($n=379$) of the sample identified as Black, 11.9% ($n=56$) identified as white, 6.6% ($n=31$) identified as coloured, 0.6% ($n=3$) identified as Indian, and 0.2% ($n=1$) identified as Latina and Hispanic Filipino. The participants were widely spread in terms of their home language. The majority of the students spoke South Sotho ($n=120$; 25.5%), followed by isiZulu with 17.6% ($n=83$), Afrikaans was represented by 12.7% ($n=60$), isiXhosa ($n=54$; 11.5%), Setswana ($n=53$; 11.3%), English and North Sotho were both represented by 5.9% ($n=28$), Venda ($n=14$; 3.0%), Tsonga ($n=9$; 1.9%), siSwati ($n=7$; 1.5%), Ndebele ($n=5$; 1.1%), Xitsonga ($n=3$; 0.6%), and Swazi, Ashanti, sign language, Yoruba, Tagalog, and Spanish were the least represented home languages depicted by 0.2% for each group ($n=1$).

The majority of the students were enrolled in undergraduate studies ($n=424$; 90%). Firstly, 27.8% of students were enrolled in their first year of undergraduate studies ($n=131$; 27.8%). Secondly, 26.8% were third-year undergraduate students ($n=126$). Thirdly, 24.4% were second-year undergraduates ($n=114$), and lastly, the least represented students were fourth-year undergraduate students with 11.5% ($n=54$). Of the sample, 10% were enrolled in postgraduate studies ($n=47$), which were distributed between honours students and master's students with 5.9% ($n=28$) and 3.8% ($n=18$) respectively. The students' main majors were also vastly spread out, with almost half of the students belonging to the Psychology discipline ($n=235$; 49.9%), followed by Communication Science ($n=45$; 9.6%), Political Science ($n=37$; 7.9%), Industrial

Psychology ($n=34$; 7.2%), Criminology ($n=26$; 5.5%), and Languages ($n= 16$; 3.4%). The other main majors accounted for smaller proportions of the sample and were demonstrated in Table 1. Furthermore, 23.8% of the students lived on campus in a hostel ($n=112$) or in a student house ($n=107$; 22.7%).

The provinces from where the students originated were the Free State with 39.7% ($n=187$), followed by KwaZulu-Natal with 14.9% ($n=70$), and Gauteng with 13.6% ($n=64$). The majority of students' religious affiliation was categorised as Christianity with 87.5% ($n=412$). Conversely, students with no religious affiliation comprised 9.6% ($n=45$) of the sample. Another biographical variable that was investigated in the study was relationship status. The majority of students were single ($n=293$; 62.2%). This was followed by students who were in a relationship, which was 36.7% ($n=173$) of the sample. Finally, most students indicated that they liked university ($n=172$; 36.5%) and would definitely choose the same institution again if they had to ($n=167$; 35.5%).

4.3 Descriptive Statistics of the Measuring Instruments

The means, standard deviations, skewness, kurtosis, as well as the internal consistencies of the various subscales of the measuring instruments are reported in Table 2 for the total group of participants. Cronbach's alpha coefficient (α) was calculated as an indication of the internal consistency of the subscales.

Table 2*Descriptive Statistics and Reliability Coefficients for the COPE Inventory, IBS, and SHIF*

Measures	N	M	SD	α	Skewness	Kurtosis
<i>COPE</i>						
Positive Reinterpretation and Growth	471	3.161	0.677	0.747	-0.695	0.030
Mental Disengagement	471	2.808	0.628	0.351	-0.183	-0.358
Focus on and Venting of Emotions	471	2.610	0.740	0.668	0.039	-0.678
Use of Instrumental Social Support	471	2.448	0.892	0.840	0.060	-1.005
Active Coping	471	2.857	0.677	0.716	-0.350	-0.249
Denial	471	1.747	0.660	0.681	0.745	-0.040
Religious Coping	471	3.066	0.924	0.908	-0.818	-0.398
Humour	471	2.252	0.934	0.886	0.336	-1.002
Behavioural Disengagement	471	1.817	0.686	0.727	0.859	0.391
Restraint	471	2.632	0.644	0.580	-0.012	-0.489
Use of Emotional Social Support	471	2.336	0.936	0.865	0.206	-1.057
Substance Use	471	1.513	0.857	0.960	1.692	1.802
Acceptance	471	3.073	0.664	0.699	-0.346	-0.662
Suppression of Competing Activities	471	2.583	0.628	0.580	-0.099	-0.246
Planning	471	3.040	0.757	0.828	-0.649	-0.064
<i>IBS</i>	471	1.098	0.166	0.840	1.933	1.010
<i>SHIF</i>	471	1.707	0.466	0.785	3.321	1.376

It is evident from Table 2 that the Cronbach's alpha coefficients for the COPE subscales, IBS, and SHIF ranged from 0.351 to 0.960. The majority of these scales therefore displayed acceptable to excellent levels of internal consistency (Vogt, 2005) and were thus all included in the subsequent statistical analyses, except for the Mental Disengagement, Restraint, and Suppression of Competing Activities subscales of the COPE, which had unacceptable levels of internal consistency and were thus excluded from further statistical analyses. As part of the descriptive statistics in this table, the researcher investigated whether the data are normally distributed by calculating the skewness and kurtosis values of the different subscales. According to Kahane (2008), the cut-off point for skewness is $> |2|$ and kurtosis $> |4|$. From Table 2, it is evident that the scores on all the subscales were within these cut-off points and thus did not deviate substantially from normality.

4.4 Correlations Between Variables

Before conducting the regression analyses, Pearson's product-moment correlation coefficients were calculated for the independent (predictor) and dependent (outcome) variables. To use the Gender and Academic Level variables, the researcher created two categories per variable, namely Male (coded 1) vs Female (Coded 2) for Sex and Undergraduate (coded 1) vs Postgraduate (coded 2) for Academic Level. All the assumptions of correlational analyses were met. The correlation coefficients can be viewed in Table 3.

Table 3

Correlations Between the COPE Subscales and Age, Gender, Academic Level, IBS Scale, and SHIF Scale (N=471)

COPE Subscales	Age	Gender	Academic Level	IBS	SHIF
Positive Reinterpretation and Growth	0.137**	0.002	0.051	-0.111*	-0.212**
Focus on and Venting of Emotions	0.046	0.162**	-0.009	0.125**	0.122**
Use of Instrumental Social Support	0.174**	0.027	0.089	-0.160**	-0.210**
Active Coping	0.170**	-0.117*	0.094*	-0.131**	-0.217**
Denial	-0.129**	-0.002	-0.163**	0.181**	0.179**
Religious Coping	0.108*	0.236**	0.009	-0.256**	-0.218**
Humour	0.057	-0.056	-0.004	0.180**	0.060
Behavioural Disengagement	-0.174**	0.055	-0.213**	0.309**	0.284**
Use of Emotional Social Support	0.168**	0.080	0.072	-0.198**	-0.227**
Substance Use	-0.059	-0.125**	-0.075	0.527**	0.435**
Acceptance	0.026	0.011	-0.036	-0.001	-0.109*
Planning	0.177**	-0.090	0.083	-0.168**	-0.279**

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

Table 3 indicates that the IBS demonstrates positive statistically and practically significant correlations with the Behavioural Disengagement and Substance Use subscales of the COPE. These correlations are statistically significant at the 1% level, with respectively medium (0.3, Confidence interval [CI] = 99%) and large (0.5, CI = 99%) corresponding effect sizes. These findings seem to suggest the following: (1) when students have increased levels of Impulsive Risk Behaviour, they seem to have increased levels of Behavioural Disengagement, or when students have increased levels of Behavioural Disengagement, they seem to have increased

levels of Impulsive Risk Behaviour, and (2) when students have increased levels of Impulsive Risk Behaviour, they seem to have increased levels of Substance Use, or when students have increased levels of Substance Use, they seem to have increased levels of Impulsive Risk Behaviour. Table 3 also indicates that the SHIF demonstrates a positive statistically and practically significant correlation with the Substance Use subscale of the COPE. This correlation is statistically significant at the 1% level, with a medium corresponding effect size of 0.4 (CI = 99%). This finding seems to suggest that when students have increased levels of Self-Harm, they seem to have increased levels of Substance Use. This finding might also suggest that when students have increased levels of Substance Use, they seem to have increased levels of Self-harm.

The results of the hierarchical regression analyses are discussed next.

4.5 Hierarchical Regression Analyses

The proportion of the variance in each of the subscales of the COPE (Positive Reinterpretation and Growth, Focus on and Venting of Emotions, Use of Instrumental Social Support, Active Coping, Denial, Religious Coping, Humour, Behavioural Disengagement, Use of Emotional Social Support, Substance Use, Acceptance, and Planning) accounted for by the independent (predictor) variables were investigated. Hierarchical regression analyses were conducted to investigate the contribution of the different sets of variables (biographical, Impulsive Risk Behaviour, and Self-harm) to the percentage of variance in Coping, as well as the contribution of each of the individual independent (predictor) variables. Coping was measured using 12 different subscales. Twelve hierarchical regression analyses were conducted with one of the coping subscales as the criterion variable. All the assumptions of regression analyses were met.

The percentage of variance of Positive Reinterpretation and Growth explained by these independent variables is discussed next.

4.5.1 Hierarchical Regression Analysis with Positive Reinterpretation and Growth as the Criterion Variable

The results of the hierarchical regression analysis utilising Positive Reinterpretation and Growth as the criterion variable are reported in Table 4.

Table 4

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Positive Reinterpretation and Growth as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.055	1-2=0.001	0.492	-
2. [Age + Gender + AL] + [SH]	0.054			
3. [Age + Gender + AL] + [IRB] + [SH]	0.055	3-4=0.026	12.794**	0.03
4. [Age + Gender + AL] + [IRB]	0.029			
5. [SH] + [IRB] + [Age + Gender + AL]	0.055	5-9=0.009	1.476	0.01
6. [SH] + [IRB] + Age	0.055	6-9=0.009	4.448*	0.01
7. [SH] + [IRB] + Gender	0.046	7-9=0.000	-	-
8. [SH] + [IRB] + AL	0.047	8-9=0.001	0.490	-
9. [SH] + [IRB]	0.046			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 4 that the combination of the independent variables accounts for 5.5% ($F_{5;465} = 5.403$; $p \leq 0.01$) of the variance in the Positive Reinterpretation and Growth scores of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Focus on and Venting of Emotions as the criterion variable is discussed next.

4.5.2 Hierarchical Regression Analysis with Focus on and Venting of Emotions as the Criterion Variable

The results of the hierarchical regression analysis with Focus on and Venting of Emotions as the criterion variable are reported in Table 5.

Table 5

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Focus on and Venting of Emotions as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.052	1-2=0.005	2.453*	0.01
2. [Age + Gender + AL] + [SH]	0.047			
3. [Age + Gender + AL] + [IRB] + [SH]	0.052	3-4=0.004	1.962	-
4. [Age + Gender + AL] + [IRB]	0.048			
5. [SH] + [IRB] + [Age + Gender + AL]	0.052	5-9=0.033	5.396*	0.04
6. [SH] + [IRB] + Age	0.023	6-9=0.004	1.912	-
7. [SH] + [IRB] + Gender	0.046	7-9=0.027	13.217**	0.03
8. [SH] + [IRB] + AL	0.019	8-9=0.000	-	-
9. [SH] + [IRB]	0.019			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 5 that the combination of the independent variables accounts for 5.2% ($F_{5,465} = 5.090$; $p \leq 0.01$) of the variance in the Focus on and Venting of Emotions of the sample. This finding, however, was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Use of Instrumental Social Support as the criterion variable are discussed next.

4.5.3 Hierarchical Regression Analysis with Use of Instrumental Social Support as the Criterion Variable

The results of the hierarchical regression analysis with Use of Instrumental Social Support as the criterion variable are reported in Table 6.

Table 6

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Use of Instrumental Social Support as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.066	1-2=0.002	0.996	-
2. [Age + Gender + AL] + [SH]	0.064			
3. [Age + Gender + AL] + [IRB] + [SH]	0.066	3-4=0.012	5.974	0.01
4. [Age + Gender + AL] + [IRB]	0.054			
5. [SH] + [IRB] + [Age + Gender + AL]	0.066	5-9=0.021	3.485**	0.02
6. [SH] + [IRB] + Age	0.064	6-9=0.019	9.480**	0.02
7. [SH] + [IRB] + Gender	0.046	7-9=0.001	0.490	-
8. [SH] + [IRB] + AL	0.050	8-9=0.005	2.458	0.01
9. [SH] + [IRB]	0.045			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 6 that the combination of the independent variables accounts for 6.6% ($F_{5,465} = 6.582$; $p \leq 0.01$) of the variance in the Use of Instrumental Social Support of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Active Coping as the criterion variable are discussed next.

4.5.4 Hierarchical Regression Analysis with Active Coping as the Criterion Variable

The results of the hierarchical regression analysis with Active Coping as the criterion variable are reported in Table 7.

Table 7

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Active Coping as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.078	1-2=0.000	-	-
2. [Age + Gender + AL] + [SH]	0.078			
3. [Age + Gender + AL] + [IRB] + [SH]	0.078	3-5=0.019	9.582**	0.02
4. [Age + Gender + AL] + [IRB]	0.059			
5. [SH] + [IRB] + [Age + Gender + AL]	0.078	5-9=0.031	5.212**	0.03
6. [SH] + [IRB] + Age	0.064	6-9=0.017	8.482	0.02
7. [SH] + [IRB] + Gender	0.061	7-9=0.015	6.963**	0.02
8. [SH] + [IRB] + AL	0.052	8-9=0.005	2.463	0.01
9. [SH] + [IRB]	0.047			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

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

It is evident from Table 7 that the combination of the independent variables accounts for 7.8% ($F_{5,465} = 7.899$; $p \leq 0.01$) of the variance in the Active Coping of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Denial as the criterion variable are discussed next.

4.5.5 Hierarchical Regression Analysis with Denial as the Criterion Variable

The results of the hierarchical regression analysis with Denial as the criterion variable are reported in Table 8.

Table 8

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Denial as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.065	1-2=0.009	4.476**	0.01
2. [Age + Gender + AL] + [SH]	0.056			
3. [Age + Gender + AL] + [IRB] + [SH]	0.065	3-4=0.003	1.492	-
4. [Age + Gender + AL] + [IRB]	0.062			
5. [SH] + [IRB] + [Age + Gender + AL]	0.065	5-9=0.025	4.144**	0.03
6. [SH] + [IRB] + Age	0.050	6-9=0.010	4.916	0.01
7. [SH] + [IRB] + Gender	0.040	7-9=0.000	-	-
8. [SH] + [IRB] + AL	0.061	8-9=0.021	10.444**	0.02
9. [SH] + [IRB]	0.040			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 8 that the combination of the independent variables accounts for 6.5% ($F_{5;465} = 6.488$; $p \leq 0.01$) of the variance in the Denial of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Religious Coping as the criterion variable are discussed next.

4.5.6 Hierarchical Regression Analysis with Religious Coping as the Criterion Variable

The results of the hierarchical regression analysis with Religious Coping as the criterion variable are reported in Table 9.

Table 9

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Religious Coping as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.131	1-2=0.021	11.237**	0.02
2. [Age + Gender + AL] + [SH]	0.110			
3. [Age + Gender + AL] + [IRB] + [SH]	0.131	3-4=0.004	2.140	0.001
4. [Age + Gender + AL] + [IRB]	0.127			
5. [SH] + [IRB] + [Age + Gender + AL]	0.131	5-9=0.060	10.702**	0.07
6. [SH] + [IRB] + Age	0.077	6-9=0.006	3.036	0.01
7. [SH] + [IRB] + Gender	0.123	7-9=0.052	27.690**	0.07
8. [SH] + [IRB] + AL	0.071	8-9=0.000	-	-
9. [SH] + [IRB]	0.071			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

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

It is evident from Table 9 that the combination of the independent variables accounts for 13.1% ($F_{5,465} = 14.045$; $p \leq 0.01$) of the variance in the Religious Coping of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Humour as the criterion variable are discussed next.

4.5.7 Hierarchical Regression Analysis with Humour as the Criterion Variable

The results of the hierarchical regression analysis with Humour as the criterion variable are reported in Table 10.

Table 10

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Humour as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.043	1-2=0.031	15.063**	0.03
2. [Age + Gender + AL] + [SH]	0.012			
3. [Age + Gender + AL] + [IRB] + [SH]	0.043	3-4=0.003	1.458	-
4. [Age + Gender + AL] + [IRB]	0.040			
5. [SH] + [IRB] + [Age + Gender + AL]	0.043	5-9=0.006	0.972	0.01
6. [SH] + [IRB] + Age	0.040	6-9=0.003	1.459	-
7. [SH] + [IRB] + Gender	0.039	7-9=0.002	0.972	-
8. [SH] + [IRB] + AL	0.037	8-9=0.000	-	-
9. [SH] + [IRB]	0.037			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 10 that the combination of the independent variables accounts for 4.3% ($F_{5,465} = 4.135$; $p \leq 0.01$) of the variance in Humour of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Behavioural Disengagement as the criterion variable are discussed next.

4.5.8 Hierarchical Regression Analysis with Behavioural Disengagement as the Criterion Variable

The results of the hierarchical regression analysis with Behavioural Disengagement as the criterion variable are reported in Table 11.

Table 11

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Behavioural Disengagement as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.155	1-2=0.031	17.059**	0.04
2. [Age + Gender + AL] + [SH]	0.124			
3. [Age + Gender + AL] + [IRB] + [SH]	0.155	3-4=0.007	3.852**	0.01
4. [Age + Gender + AL] + [IRB]	0.148			
5. [SH] + [IRB] + [Age + Gender + AL]	0.155	5-9=0.046	8.438**	0.05
6. [SH] + [IRB] + Age	0.127	6-9=0.018	9.629**	-
7. [SH] + [IRB] + Gender	0.113	7-9=0.004	2.106	0.01
8. [SH] + [IRB] + AL	0.144	8-9=0.035	19.095**	0.04
9. [SH] + [IRB]	0.109			

Key: AL = Academic Level, SH = Self-harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 11 that the combination of the independent variables accounts for 15.5% ($F_{5;465} = 17.071$; $p \leq 0.01$) of the variance in the Behavioural Disengagement of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Use of Emotional Social Support as the criterion variable are discussed next.

4.5.9 Hierarchical Regression Analysis with Use of Emotional Social Support as the Criterion Variable

The results of the hierarchical regression analysis with Use of Emotional Support as the criterion variable are reported in Table 12.

Table 12

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Use of Emotional Social Support as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.080	1-2=0.005	2.527	0.01
2. [Age + Gender + AL] + [SH]	0.075			
3. [Age + Gender + AL] + [IRB] + [SH]	0.080	3-4=0.011	5.560**	0.01
4. [Age + Gender + AL] + [IRB]	0.069			
5. [SH] + [IRB] + [Age + Gender + AL]	0.080	5-9=0.023	3.875**	0.03
6. [SH] + [IRB] + Age	0.074	6-9=0.017	8.573**	0.02
7. [SH] + [IRB] + Gender	0.063	7-9=0.006	2.990	0.01
8. [SH] + [IRB] + AL	0.059	8-9=0.002	0.993	-
9. [SH] + [IRB]	0.057			

Key: AL = Academic Level, SH = Self-Harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 12 that the combination of the independent variables accounts for 8.0% ($F_{5,465} = 8.129$; $p \leq 0.01$) of the variance in the Use of Emotional Social Support of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Substance Use as the criterion variable are discussed next.

4.5.10 Hierarchical Regression Analysis with Substance Use as the Criterion Variable

The results of the hierarchical regression analysis with Substance Use as the criterion variable are reported in Table 13.

Table 13

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Substance Use as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.315	1-2=0.092	62.453**	0.13
2. [Age + Gender + AL] + [SH]	0.223			
3. [Age + Gender + AL] + [IRB] + [SH]	0.315	3-4=0.025	16.971**	0.04
4. [Age + Gender + AL] + [IRB]	0.290			
5. [SH] + [IRB] + [Age + Gender + AL]	0.315	5-9=0.012	2.715*	0.02
6. [SH] + [IRB] + Age	0.303	6-9=0.000	-	-
7. [SH] + [IRB] + Gender	0.314	7-9=0.011	7.488**	0.02
8. [SH] + [IRB] + AL	0.304	8-9=0.001	0.671	-
9. [SH] + [IRB]	0.303			

Key: AL = Academic Level, SH = Self-Harm, IRB = Impulsive Risk Behaviour

**p≤0.01, *p≤0.05

It is evident from Table 13 that the combination of the independent variables accounts for 31.5% ($F_{5;465} = 42.842$; $p \leq 0.01$) of the variance in the Substance Use of the sample. Impulsive Risk Behaviour is responsible for 9.2% of the variance in the Substance Use scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.13$) indicates a tendency towards a medium effect size, which indicates that the finding is of practical importance. No further practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Acceptance as the criterion variable are discussed next.

4.5.11 Hierarchical Regression Analysis with Acceptance as the Criterion Variable

The results of the hierarchical regression analysis with Acceptance as the criterion variable are reported in Table 14.

Table 14

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Acceptance as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.022	1-2=0.007	3.328**	0.01
2. [Age + Gender + AL] + [SH]	0.015			
3. [Age + Gender + AL] + [IRB] + [SH]	0.022	3-4=0.019	9.034**	0.02
4. [Age + Gender + AL] + [IRB]	0.003			
5. [SH] + [IRB] + [Age + Gender + AL]	0.022	5-9=0.003	0.476	-
6. [SH] + [IRB] + Age	0.019	6-9=0.000	-	-
7. [SH] + [IRB] + Gender	0.019	7-9=0.000	-	-
8. [SH] + [IRB] + AL	0.021	8-9=0.002	0.954	-
9. [SH] + [IRB]	0.019			

Key: AL = Academic Level, SH = Self-Harm, IRB = Impulsive Risk Behaviour

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

It is evident from Table 14 that the combination of the independent variables accounts for 2.2% ($F_{5;465} = 2.082$; $p \leq 0.01$) of the variance in the Acceptance of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

The results of the hierarchical regression analysis with Planning as the criterion variable are discussed next.

4.5.12 Hierarchical Regression Analysis with Planning as the Criterion Variable

The results of the hierarchical regression analysis with Planning as the criterion variable are reported in Table 15.

Table 15

Contributions of Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour to R² with Planning as the Criterion Variable

<i>Variables in Equation</i>	<i>R²</i>	<i>Contribution to R²: Full minus reduced model</i>	<i>F</i>	<i>f²</i>
1. [Age + Gender + AL] + [SH] + [IRB]	0.101	1-2=0.000	-	-
2. [Age + Gender + AL] + [SH]	0.101			
3. [Age + Gender + AL] + [IRB] + [SH]	0.101	3-4=0.036	18.621**	0.04
4. [Age + Gender + AL] + [IRB]	0.065			
5. [SH] + [IRB] + [Age + Gender + AL]	0.101	5-9=0.023	3.966**	0.03
6. [SH] + [IRB] + Age	0.093	6-9=0.015	7.723**	0.02
7. [SH] + [IRB] + Gender	0.086	7-9=0.008	4.088**	0.01
8. [SH] + [IRB] + AL	0.081	8-9=0.003	1.525	-
9. [SH] + [IRB]	0.078			

Key: AL = Academic Level, SH = Self-Harm, IRB = Impulsive Risk Behaviour

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

It is evident from Table 14 that the combination of the independent variables accounts for 10.1% ($F_{5;465} = 10.463$; $p \leq 0.01$) of the variance in the Planning of the sample. However, this finding was not practically significant. No practically significant results were found for this hierarchical regression analysis.

4.6 Summary

The results of the statistical analyses were presented in this chapter. The combination of the predictor variables (Age, Gender, Academic Level, Self-Harm, and Impulsive Risk Behaviour) significantly predicted Focus on and Venting of Emotions, Denial, Religious Coping, Humour, Behavioural Disengagement, Substance Use, and Acceptance. Furthermore, an individual predictor variable, Impulsive Risk Behaviour, served as a statistically and practically significant predictor of Substance Use Coping (criterion variable). No other practically significant results were found. In the next chapter, the results reported here are discussed within the context of the relevant literature.

Chapter 5

Discussion of Results, Limitations, Recommendations, and Conclusion

5.1 Introduction

This chapter presents a conclusive discussion of the findings of the study, as well as a discussion of the implications of the findings. The results are reported based on the thorough exploration and connection to the literature discussed in Chapter 2. This research study aimed to investigate which predictor variable(s) or combination of predictor variables (Impulsive Risk Behaviours, Self-Harm, Age, Gender, and Academic Level) explained a significant percentage of the variance of Coping among university students at the UFS. Specific attention is paid to the reliability of the various measuring instruments utilised to measure the variables in this study. This discussion is followed by the limitations, recommendations, and conclusion of the study.

5.2 Discussion of Results

This section presents a detailed discussion of the measuring instruments and the results from the study in relation to existing literature.

5.2.1 Discussion of Measuring Instruments

The various measuring instruments used to collect the data in this study entailed the COPE Inventory, the IBS, the SHIF, and a researcher-compiled biographical questionnaire. Table 2 (Section 4.3) revealed the Cronbach's alpha coefficients for the various measuring instruments. It is evident from Table 2 that the Cronbach's alpha coefficients for the COPE subscales, IBS, and SHIF ranged from 0.351 to 0.960. The majority of these scales displayed acceptable to excellent levels of internal consistency and were included in the analyses (Vogt, 2005), with the exception of the Mental Disengagement, Restraint, and Suppression of Competing Activities subscales of

the COPE Inventory, which had unacceptable levels of internal consistency and were excluded from further statistical analysis.

Regarding the COPE Inventory, adequate to exceptional Cronbach's alpha coefficients were revealed for the remaining 12 subscales; ranging from 0.668 for Focus on and Venting of Emotions, 0.699 for Acceptance, 0.681 for Denial, 0.716 for Active Coping, 0.747 for Positive Reinterpretation and Growth, 0.727 for Behavioural Disengagement, 0.828 for Planning, 0.865 for Use of Emotional Social Support, 0.840 for Use of Instrumental Social Support, 0.886 for Humour, 0.908 for Religious Coping, to 0.960 for Substance Use. Thomas et al.'s (2017) study on undergraduate university students reveals similar Cronbach's alpha coefficients on all 15 subscales on the COPE Inventory, which demonstrate acceptable internal consistency reliabilities ranging from 0.54 to 0.94. Moreover, Litman (2006) reports an internal consistency of 0.73 for the entire COPE Inventory.

The IBS demonstrated an acceptable internal consistency of 0.840. This finding is consistent with the Cronbach's alphas obtained from research studies on national and international university student populations, ranging from 0.85 to 0.90 (Bender, 2009; Naidoo, 2016; Naidoo & Collings, 2017; Peñas-Lledó & Waller, 2003). Furthermore, the SHIF demonstrated an acceptable internal consistency of 0.785. This result is consistent with the Cronbach's alphas found in previous studies, which ranged from 0.80 to 0.94 (Croyle, 2007; Croyle & Waltz, 2007; Latimer et al., 2013).

5.3 Discussion of the Significant Correlations Between Variables in the Study

This study investigated the correlations between the predictor (independent) variables and the outcome (dependent) variables. Many statistically significant correlations were identified, but only a few correlations were also practically significant. An effect size of 0.1 is considered as

small, an effect size of 0.3 is medium, and 0.5 is large in terms of correlations, as stipulated by Steyn (2005). Consequently, only the results that yielded both statistical and practical significance are discussed.

5.3.1 Correlation Between Impulsive Risk Behaviour and Coping

The results indicated that Impulsive Risk Behaviour demonstrated statistically significant positive correlations with Behavioural Disengagement and Substance Use. These correlations are statistically significant at the 1% level, with respectively medium (0.3) and large (0.5) effect sizes. These findings seem to suggest the following: (1) when students have increased levels of Impulsive Risk Behaviour, they seem to have increased levels of Behavioural Disengagement, or when students have increased levels of Behavioural Disengagement, they seem to have increased levels of Impulsive Risk Behaviour, and (2) when students have increased levels of Impulsive Risk Behaviour, they seem to have increased levels of Substance Use, or when students have increased levels of Substance Use, they seem to have increased levels of Impulsive Risk Behaviour.

A positive association exists between deviant behaviour (impulsive risk behaviour) and disengagement coping strategies. Individuals who engage in deviant behaviour (violent behaviour, smoking, and substance use) are more likely to escape, avoid, or distance themselves from stressors (Keough et al., 2016; Markova & Nikitskaya, 2017; Nowakowska, 2020; Richardson et al., 2014). Consequently, these findings suggest that an increase in deviant behaviour tends to lead to an increase in disengagement coping. Furthermore, the impulsivity personality dimension, lack of perseverance, is a positive predictor of disengagement coping (Nowakowska, 2020). Lack of perseverance encompasses poorer concentration and increased distraction due to lack of interest (Shin et al., 2012). Nowakowska's (2020) study found that

disengagement coping was the most utilised coping strategy from the avoidant coping category, as it involves the least amount of resources and may be considered the easiest to implement. Young adults who lack perseverance (increase in lack of perseverance – personality dimension) in their actions are thus more likely to use disengagement coping as it does not require effort or a plan (Nowakowska, 2020). The literature presented suggests that when students tend to have increased behaviour-specific impulsivity (deviant behaviour) and impulsivity as a personality dimension (lack of perseverance), they also tend to have increased disengagement coping, which supports this study's finding, namely that when students have increased levels of Impulsive Risk Behaviour, they seem to have increased levels of Behavioural Disengagement, or when students have increased levels of Behavioural Disengagement, they seem to have increased levels of Impulsive Risk Behaviour. This study's finding adds to the paucity of literature on the correlation between behaviour-specific impulsive risk behaviour and behavioural disengagement coping among South African university students.

The second correlation suggests that when students have increased levels of Impulsive Risk Behaviour, they seem to also have increased levels of Substance Use, or when students have increased levels of Substance Use, they tend to have increased levels of Impulsive Risk Behaviour. The *Barratt Impulsivity Scale* (BIS) was administered to patients with a discharge diagnosis of substance abuse disorder and to a control group of undergraduate students (Moeller et al., 2001; Patton et al., 1995). The average score on the BIS was significantly higher among the substance abusers than of the control group, which demonstrates that there are higher levels of impulsivity among individuals who have a substance use problem (Allen et al., 1998; Keough et al., 2016; Moeller et al., 2001), which corresponds with this study's finding that an increase in Impulsive Risk Behaviour (impulsivity) tends to have an increase in Substance Use among

university students. Furthermore, Keough et al. (2016) demonstrate that elevated impulsivity (behaviour-specific) might be linked to drinking as a method of changing internal states (increase positive or decrease negative affect); therefore, confirming this study's finding.

5.3.2 Correlation Between Self-Harm and Coping

The results from this study indicated a statistically significant positive correlation between Self-Harm and Substance Use Coping. This correlation is statistically significant at a 1% level, with a medium corresponding effect size of 0.4. This finding seems to suggest that when students have increased levels of Self-Harm, they also tend to have increased levels of Substance Use. Conversely, the finding may also suggest that when students have increased levels of Substance Use, they tend to have increased levels of Self-Harm.

Individuals who engage in self-harm behaviour tend to utilise ineffective coping strategies and are prone to using avoidance or escape coping such as substance use (DiLima, 2018; Chapman et al., 2006). Brown et al.'s (2007) study supports this study's finding, which revealed that as university students' self-harm behaviour increases, their substance use also tended to increase. Moreover, Brown et al. (2007) identified two maladaptive coping mechanisms present among recent and past self-harming university students compared to never self-harming students, namely behavioural disengagement and substance use coping. Substance use was the highest among past and recent self-harmers compared to never self-harmers, with a significant difference that suggests that substance use coping was utilised among past and recent self-harmers (Brown et al., 2007). Additionally, Van der Walt et al. (2016) and Trepal et al. (2015) report similar findings that support the evidence that students who self-harmed in the past utilised substance use coping more than never self-harmers. Hence, the aforementioned studies support this study's

finding that indicates that as Self-Harm increases, there seems to be a subsequent increase in Substance Use Coping.

5.4 Discussion of the Predictors of Coping

The proportion of variance in Coping accounted for by the predictor variables (independent variables) was investigated. Hierarchical regression analyses were conducted to investigate the contribution of the different combinations of predictors variables (Impulsive Risk Behaviour, Self-Harm, Age, Gender, and Academic Level) to the percentage of variance in Coping, as well as the contribution of each of the individual predictor (independent) variables. The combination of the predictor variables statistically significantly predicted Focus on and Venting of Emotions, Denial, Religious Coping, Humour, Behavioural Disengagement, Substance Use, and Acceptance. However, not all the significant results are reported on as they were not all of practical significance.

An individual predictor variable, Impulsive Risk Behaviour, is responsible for 9.2% of the variance in the Substance Use Coping scores of the sample. This finding is statistically significant at the 1% level and the corresponding effect size ($f^2 = 0.13$) indicates that the finding is of practical importance. In practical terms, 9.2% of Substance Use Coping utilised by university students can be explained by Impulsive Risk Behaviour.

Impulsivity is a multidimensional concept and can be defined as an individual engaging in behaviours without thought and responding without considering the consequences (Keough et al., 2016; Schreiber et al., 2012). Heightened impulsivity is a risk factor for various risky or maladaptive behaviours, namely smoking, alcohol use, drug use, polydrug use, aggression, gambling pathologies, and risky sexual behaviour (Schreiber et al., 2012; Shin et al., 2012; Wagenaar et al., 2018). Higher levels of impulsivity, as measured by the IBS in this study,

pertain to higher levels of impulsive behaviours such as substance use, promiscuous sexual behaviour, and high-risk behaviours (impulsive spending, stealing, and risk-taking in dangerous activities) among university students. Consequently, this study's results indicate that Impulsive Risk Behaviour (as a predictor variable) contributes to the prediction of Substance Use Coping.

Previous findings suggest that impulsivity is related to alcohol-related problems and heavy drinking (Allen et al., 1998; Dick et al., 2010; Keough et al., 2016; Richardson et al., 2014). The underlying vulnerability towards disinhibition or impulsivity contributes towards various externalising disorders such as childhood externalising disorders, antisocial personality disorder and Bipolar I disorder, including alcohol dependence (Dick et al., 2010; Moeller et al., 2001). The level of impulsivity which were observed in alcohol dependent individuals and in other externalising disorders mentioned above can be explained by electrophysiological abnormalities, indicating that impulsivity may be a general risk factor for disorders on the externalising spectrum (Dick et al., 2010; Keough et al., 2016; Moeller et al., 2001). In addition, a survey was conducted on over 20000 individuals to examine the prevalence of substance use disorders among individuals with associated non-substance-use psychiatric disorders, namely anxiety disorders, mood disorders, antisocial personality disorder and schizophrenia (Moeller et al., 2001). The results suggested that the two disorders that were associated with the highest rates of alcohol dependence were antisocial personality disorder with 83.6% and Bipolar I disorder with 60.7%. The explanation of the high rates of alcohol dependence thereof, could be that among these disorders impulsivity is an underlying symptom (Dick et al., 2010; Moeller et al., 2001). Additionally, a study conducted by Patton et al. (1995), administered the BIS to 146 patients with a discharge diagnosis of substance use disorder and to a control group of 412 undergraduate students, of which the average score was significantly higher among the substance use disorder

group than the control group. Furthermore, another study by Allen et al. (1998) confirmed this finding by using a non-college student control group, which indicated that the BIS was significantly higher in individuals with a history of substance dependence. Consequently, the literature provided strengthens the association between impulsivity and substance use, with a focus on pathology.

Other findings suggest that elevated levels of impulsivity are related to drinking behaviour indirectly (through motives) and directly (Keough et al., 2016; Krank et al., 2011). Keough et al.'s (2016) study investigated whether impulsivity moderated the relationship between social anxiety, alcohol use, and alcohol-related problems among undergraduate students. The findings demonstrate that impulsivity and social anxiety are statistically significant predictors of alcohol-related problems ($R^2 = .15$). Furthermore, there was a significant positive association between social anxiety and alcohol-related problems, but only with high levels of impulsivity (Keough et al., 2016). The interactive effect among the variables (social anxiety, alcohol-related problems, and impulsivity) was further mediated by coping. Keough et al.'s (2016) study demonstrates that elevated impulsivity might be linked to drinking as a method of changing internal states (increase positive or decrease negative affect). Keough et al.'s (2016) study found that only coping motives mediated the effect of social anxiety on alcohol-related problems indicating that individuals are at risk for alcohol dependence problems due to their coping motives of alcohol use (Keough et al., 2016). Similarly, Kuntsche et al.'s (2005) study supports the evidence of the drinking motives theoretical standpoint, specifically regarding the coping motives that are associated with alcohol-related problems in adulthood. It can be argued that drinking to cope has short-term benefits and is utilised to compensate for deficits in problem-focused coping which, could ultimately have long-term adverse effects as the negative affect individuals experience have not

been managed (Keough et al., 2016; Kuntsche et al., 2005). The mentioned findings further confirm the relationship between impulsivity and substance use as a coping strategy, which is in accordance with the results of this study.

5.5 Limitations of the Study

There are limitations in the study that may have influenced the results thereof and, consequently, the results should be interpreted against these limitations. Firstly, a practical limitation in the study included the data-collection procedure, which utilised online or electronic methods of communication, namely email and the Google Forms platform. The implication of the online data-collection method resulted in the researcher not having face-to-face contact with the participants. The lack of face-to-face interaction may have impeded the participants' ability to ask clarifying questions about the data-collection documents or instruments.

Secondly, the UFS is a unique and contextualised environment. However, the sample consisted of participants only from the Faculty of Humanities, which could have hindered the study's ability to generalise the findings to students from other faculties and majors at the UFS. Moreover, this study focused on students enrolled within a university context and omitted other tertiary institutions (Further Education and Training [FET] colleges, Technical Vocational Education and Training [TVET] colleges, and private colleges). The implication of this is that students who attend these other tertiary institutions may have experienced a variation in their coping abilities. Hence, this study's results cannot be generalised to other student populations at universities or other tertiary institutions nationally or internationally (Maree, 2014).

Thirdly, the self-report measures utilised to test the variables in the study may have resulted in an intentional distortion of participants responses. Despite the anonymity of the study, the students may have provided an incorrect indication of their impulsive risk behaviour, self-harm,

and coping strategies (Lavrakas, 2008). Furthermore, cognitive bias pertaining to reactivity or self-promotion may have occurred due to participants inaccurately answering questions on the measuring instruments (Stangor, 2015). Fourthly, the variables under study were measured within a short period of time (three months) and did not account for possible changes over the lifespan of the participants. The data were collected during a period when the COVID-19 pandemic affected students' ability to attend university, as well as created a disruption to normality. In this unique context, it is possible that the majority of the sample could have changed their routine and behaviours during the South African isolation period. This period could have affected students' responses to the questions on the measuring instruments and the subsequent results. Consequently, future research should focus on a longitudinal study that may be beneficial to obtain more accurate findings on the predictors of students' coping without the contextual factor – the abnormality to daily life due to COVID-19. Lastly, the study employed a quantitative research approach that lacked the ability to demonstrate the finer nuances of the sample's experiences pertaining to their coping strategies. This is an important consideration as the concept of coping is complex and should be studied further utilising a qualitative research approach.

5.6 Recommendations for Future Studies

Several important recommendations require consideration for future research endeavours. Due to the paucity of South African literature pertaining to the predictors of coping among a university student population, more studies should build upon the knowledge of coping. This would be important as the concept of coping or maladaptive coping has been identified as a serious concern in emerging adulthood and among university students. Furthermore, it would be beneficial if (1) a longitudinal study and (2) a qualitative study were conducted on the predictors

of coping among university students, as this would (1) reduce the influence of the contextual factor (the abnormality of daily living due to COVID-19), which may have affected the results in terms of university students' coping abilities and (2) provide finer nuances in the understanding of coping among university students.

Similar research studies should be conducted in different tertiary institutions, such as FET, TVET, and other private colleges within the South African context to ensure that a holistic understanding of coping is achieved with different populations of tertiary students. Furthermore, similar research should be conducted at different universities in South Africa, and with a larger sample, as this will allow for a more varied sample pertaining to the variables under study (Impulsive Risk Behaviour, Self-Harm, Age, Gender, Academic Level, and Coping).

Consequently, the study's research question pertaining to the variable or combination of variables as the best predictors of coping could be addressed among students at different tertiary institutions in South Africa, which could provide a variation in the findings.

This study's results indicate that (1) Impulsive Risk Behaviour and Self-Harm positively correlate with Substance Use Coping, (2) Impulsive Risk Behaviour positively correlate with Behavioural Disengagement, and (3) a statistically and practically significant percentage of the variance in Substance Use Coping utilised by university students can be explained by Impulsive Risk Behaviours. The findings' practical utility suggests that Impulsive Risk Behaviour (as a predictor variable) contributes to the prediction of Substance Use Coping among university students. In response to this finding, it is recommended that specialised interventions for high-risk students who engage in impulsive risk behaviour, self-harm, and/or substance use are implemented at university counselling centres. The implementation of this recommendation will ensure that high-risk university students adopt adaptive coping mechanisms to deal with their

daily stressors. Additionally, future research could focus on the types of stressors that students encounter, as this may be a contributing factor to the utilisation of maladaptive coping mechanisms.

5.7 Conclusion

Regardless of the limitations to the study, this research contributes significantly to the limited body of knowledge pertaining to Impulsive Risk Behaviours, Self-Harm, and demographic factors (Age, Gender, and Academic Level) as predictors of Coping among university students at the UFS. Furthermore, this study addresses the current paucity of literature with a specific focus on coping among university students. The research study further supports the reliability of the measuring instruments utilised within the South African context. The study's findings, which were of statistical and practical significance, were only discussed with reference to previous literature. Firstly, the research findings highlighted that Impulsive Risk Behaviour demonstrated statistically significant positive correlations with (1) Behavioural Disengagement and (2) Substance Use Coping. Secondly, a statistically significant positive correlation was found between Self-Harm and Substance Use Coping. Thirdly, Impulsive Risk Behaviour statistically and practically significantly predicted Substance Use Coping among university students, which corresponds with previous research that indicates a positive relationship between impulsive risk behaviours and substance use coping. However, the study was not able to demonstrate the combination of predictor variables to predict Coping among university students. Consequently, numerous variables yielded statistically significant results, although practical significance was not obtained. In conclusion, the study's findings demonstrate the relationship between Impulsive Risk Behaviours, Self-Harm, Behavioural Disengagement Coping, and Substance Use Coping, which are of concern among university students. These results indicate that students tend to

utilise maladaptive behaviours and coping strategies to deal with their stressors. This information could be beneficial for the Student Counselling and Development Centre at the UFS to develop interventions that are tailored to the needs of high-risk groups.

References

- Agolla, J. E., & Ongori, H. (2009). An assessment of academic stress among undergraduate students: The case of University of Botswana. *Educational Research and Review*, 4(2), 63-70.
- Ahmad, M. B., Ali, H. F., Malik, M. S., Humayun, A. A., & Ahmad, S. (2019). Factors affecting impulsive buying behavior with mediating role of positive mood: An empirical study. *European Online Journal of Natural and Social Sciences*, 8(1), 17-35. <https://european-science.com/eojnss/article/view/5510>
- Ahorsu, D. K., Adjaottor, E. S., Yeboah, F. A., & Opoku, Y. (2020). Mental health challenges in academia: Comparison between students of the various educational levels in Ghana. *Journal of Mental Health*, 30(3), 292-299. <https://doi.org/10.1080/09638237.2020.1739253>
- Al-Dubai, S. A. R., Al-Naggar, R. A., Alshagga, M. A., & Rampal, K. G. (2011). Stress and coping strategies of students in a medical faculty in Malaysia. *The Malaysian Journal of Medical Sciences*, 18(3), 57-64.
- Aldwin, C. M. (1991). Does age affect the stress and coping process? Implications of age differences in perceived control. *Journal of Gerontology*, 46(4), 174-180.
- Algorani, E. B., & Gupta, V. (2021). *Coping mechanisms*. StatPearls. <https://doi.org/www.ncbi.nlm.nih.gov/books/NBK559031/>
- Allan, A. (2016). *Law and ethics in psychology: An international perspective*. Inter-Ed.
- Allen, T. J., Moeller, F. G., Rhoades, H. M., & Cherek, D. R. (1998). Impulsivity and history of drug dependence. *Drug Alcohol Dependence*, 50(2), 137-145.
- Alloway, T. P., Gerzina, A., & Moulder, R. (2016). Investigating the roles of affective processes, trait impulsivity, and working memory in impulsive buying behaviors. *Comprehensive Psychology*, 5, 2165222816659640. <https://doi.org/10.1177/2165222816659640>

- American College Health Association (ACHA). (2014). *National College Health Assessment II: Reference group executive summary*. https://www.acha.org/documents/ncha/ACHA-NCHA-II_ReferenceGroup_ExecutiveSummary_Spring2014.pdf
- American Psychological Association (APA). (2012). *Stress in America survey*. Author.
- Amin, R., Asadullah, M. A., & Sultan, S. (2019). Perceived stress and coping strategies among undergraduate university students: Role of gender. *Bahria Journal of Professional Psychology*, 18(1), 63-76. <https://bjpp.bahria.edu.pk/index.php/BJPP/article/view/120>
- Amponsah, K. D., Adasi, G. S., Mohammed, S. M., Ampadu, E., & Okrah, A. K. (2020). Stressors and coping strategies: The case of teacher education students at University of Ghana. *Cogent Education*, 7(1), 1727666. <https://doi.org/10.1080/2331186X.2020.1727666>
- Anbumalar, C., Dorathy, A. P., Jaswanti, V. P., Priya, D., & Reniangelin, D. (2017). Gender differences and perceived stress levels and coping strategies among college students. *The International Journal of Indian Psychology*, 4(4), 23-33. <https://doi.org/10.25215/0404.103>
- Andover, M. S., Pepper, C. M., & Gibb, B. E. (2007). Self-mutilation and coping strategies in a college sample. *Suicide and Life-Threatening Behavior*, 37(2), 238-243. <https://doi.org/10.1521/suli.2007.37.2.238>
- Araújo, L. S., Wasley, D., Perkins, R., Atkins, L., Redding, E., Ginsborg, J., & Williamon, A. (2017). Fit to perform: An investigation of higher education music students' perceptions, attitudes, and behaviors toward health. *Frontiers in Psychology*, 8, 1558. <https://doi.org/10.3389/fpsyg.2017.01558>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480. <https://doi.org/10.1037//0003-066X.55.5>

- Arnett, J. J. (2014). *Adolescence and emerging adulthood* (5th ed.). Pearson Education.
- Asif, S., Mudassar, A., Shahzad, T. Z., Raouf, M., & Pervaiz, T. (2020). Frequency of depression, anxiety and stress among university students. *Pakistan Journal of Medical Sciences*, 36(5), 971-976. <https://doi.org/10.12669/pjms.36.5.1873>
- Baloran, E.T. (2020) Knowledge, Attitudes, Anxiety, and Coping Strategies of Students during COVID-19 Pandemic, *Journal of Loss and Trauma*, 25(8), 635-642, <https://doi.org/10.1080/15325024.2020.1769300>
- Bantjes, J. R., Kagee, A., McGowan, T., & Steel, H. (2016). Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among South African university students. *Journal of American College Health*, 64(6), 429–437. <https://doi.org/10.1080/07448481.2016.1178120>
- Bantjes, J., Lochner, C., Saal, W., Roos, J., Taljaard, L., Page, D., Auerbach, R. P., Mortier, P., Bruffaerts, R., Kessler, R. C., & Stein, D. J. (2019). Prevalence and sociodemographic correlates of common mental disorders among first-year university students in post-apartheid South Africa: Implications for a public mental health approach to student wellness. *BMC Public Health*, 19(1), 1-12. <https://doi.org/10.1186/s12889-019-7218-y>
- Bender, T. W. (2009). *Suicidality and impulsivity: A test of the mediating role of painful experiences* (Master's thesis, Florida State University). Semantic Scholar.
- Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology*, 46, 877-891.
- Birkett, C. (2001). *Risks, protective factors, and coping style in the lives of young people: Findings from a survey of university students' health and wellbeing* (Master's thesis, University of KwaZulu-Natal). DSpace.

- Booth-Butterfield, M., Booth-Butterfield, S., & Wanzer, M. (2007). Funny students cope better: Patterns of humor enactment and coping effectiveness. *Communication Quarterly*, 55(3), 299-315.
- Brougham, R. R., Zail, C. M., Mendoza, C. M., & Miller, J. R. (2009). Stress, sex differences, and coping strategies among college students. *Current Psychology*, 28(2), 85-97.
- Brown, S. A., Williams, K., & Collins, A. (2007). Past and recent deliberate self-harm: Emotion and coping strategy differences. *Journal of Clinical Psychology*, 63(9), 791-803.
- Burns, L. R., Dittmann, K., Nguyen, N. L., & Mitchelson, J. K. (2000). Academic procrastination, perfectionism, and control: Associations with vigilant and avoidant coping. *Journal of Social Behavior & Personality*, 15(5), 35-46.
- Cabras, C., & Mondo, M. (2018). Coping strategies, optimism, and life satisfaction among first-year university students in Italy: Gender and age differences. *Higher Education*, 75(4), 643-654. <http://dx.doi.org/10.1007/s10734-017-0161-x>
- Carter, M. A., Pagliano, P., Francis, A., & Thorne, M. (2017). Australian university students and mental health: Viewpoints from the literature. *International Journal of Innovation, Creativity and Change*, 3(3), 1-25. <http://www.ijicc.net>
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283. <https://doi.org/10.12691/education-2-7-5>
- Chang, L. Y., Lim, P. M., Teo, Y. Y., Yau, Y. Y., & Yeoh, Y. L. (2019). *Spending behaviour among university students: Case of Universiti Tunku Abdul Rahman (Kampar)* (Final-year project). Universiti Tunku Abdul Rahman. <http://eprints.utar.edu.my/id/eprint/3918>

- Chapman, A. L., Gratz, K. L., & Brown, M. Z. (2006). Solving the puzzle of deliberate self-harm: The experiential avoidance model. *Behaviour Research and Therapy*, *44*(3), 371-394.
- Charnigo, R., Noar, S. M., Garnett, C., Crosby, R., Palmgreen, P., & Zimmerman, R. S. (2013). Sensation seeking and impulsivity: Combined associations with risky sexual behavior in a large sample of young adults. *Journal of Sex Research*, *50*(5), 480-488.
- Chen, Y., Peng, Y., Xu, H., & O'Brien, W. H. (2018). Age differences in stress and coping: Problem-focused strategies mediate the relationship between age and positive affect. *The International Journal of Aging and Human Development*, *86*(4), 347-363.
<https://doi.org/10.1177/0091415017720890>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155-159.
<https://doi.org/10.1037/0033-2909.112.1.155>
- Compas, B. E. (1987). Coping with stress during childhood and adolescence. *Psychological Bulletin*, *3*, 393-403. <https://doi.org/10.1037/0033-2909.101.3.393>
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, *127*(1), 87-127.
- Costanza, R. S., Derlega, V. J., & Winstead, B. A. (1988). Positive and negative forms of social support: Effects of conversational topics on coping with stress among same-sex friends. *Journal of Experimental Social Psychology*, *24*, 182-193.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Crews, F. T., & Boettiger, C. A. (2009). Impulsivity, frontal lobes and risk for addiction. *Pharmacology, Biochemistry and Behavior*, *93*, 237-247.

- Croyle, K. L. (2007). Self-harm experiences among Hispanic and non-Hispanic white young adults. *Hispanic Journal of Behavioral Sciences*, 29(2), 242-253.
- Croyle, K. L., & Waltz, J. (2007). Subclinical self-harm: Range of behaviors, extent, and associated characteristics. *American Journal of Orthopsychiatry*, 77(2), 332-342.
<https://doi.org/10.1037/0002-9432.77.2.332>
- Cyders, M. A., & Smith, G. T. (2008). Emotion-based dispositions to rash action: The trait of urgency. *Psychological Bulletin*, 134, 807-828.
- Dariotis, J. K., & Chen, F. R. (2020). Stress coping strategies as mediators: Toward a better understanding of sexual, substance, and delinquent behavior-related risk-taking among transition-aged youth. *Deviant Behavior*, 2020, 1-18.
<https://doi.org/10.1080/01639625.2020.1796210>
- Day, A. L., & Livingstone, H. A. (2003). Gender differences in perceptions of stressors and utilization of social support among university students. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, 35, 73-83.
- Deasy, C., Coughlan, B., Pironom, J., Jourdan, D., & Mannix-McNamara, P. (2014). Psychological distress and coping amongst higher education students: A mixed method enquiry. *PLoS ONE*, 9(12), e115193. <https://doi.org/10.1371/journal.pone.0115193>
- Deisinger, J. A., Cassisi, J. E., & Whitaker, S. L. (1996). Relationships between coping-style and PAI profiles in a community sample. *Journal of Clinical Psychology*, 52, 303-310.
- De Wit, H. (2009). Impulsivity as a determinant and consequence of drug use: A review of underlying processes. *Addiction Biology*, 14, 22-31.

- Dick, D. M., Smith, G., Olausson, P., Mitchell, S. H., Leeman, R. F., O'Malley, S. S., & Sher, K. (2010). Understanding the construct of impulsivity and its relationship to alcohol use disorders. *Addiction Biology, 15*, 217-226.
- Diehl, M., Coyle, N., & Labouvie-Vief, G. (1996). Age and sex differences in strategies of coping and defense across the life span. *Psychology and Aging, 11*(1), 127-39.
- Dijkstra, M., & Homan, A. C. (2016). Engaging in rather than disengaging from stress: Effective coping and perceived control. *Frontiers in Psychology, 7*, 1415.
<https://doi.org/10.3389/fpsyg.2016.01415>
- DiLima, R. K. (2018). Risky behaviour: The roles of depression, openness to experience and coping. *Journal of Undergraduate and Research and Creative Works*.
https://www.sparksjournal.org/wp-content/uploads/2018/07/dilima_2018.pdf
- Dison, L., Shalem, Y., & Langsford, D. (2019). Resourcefulness matters: student patterns for coping with structural and academic challenges. *South African Journal of Higher Education, 33*(4), 76-93. <http://dx.doi.org/10.20853/33-4-2831>
- Dlamini, B. I., Tom, R. F., Nel, K. A., & Junior, L. K. Z. (2020). Adjustment experiences of first-year students in South Africa. *Academy of Educational Leadership Journal, 24*(2), 1-10.
<https://www.abacademies.org/articles/adjustment-experiences-of-firstyear-students-in-south-africa-9347.html>
- Donoghue, K. J. (2004). *Measuring coping: evaluating the psychometric properties of the cope*.
https://ro.ecu.edu.au/theses_hons/968
- Du Preez, R., Pentz, C. D., & Lategan, B. W. (2016). Why students drink: A study of South African university students' drinking behaviour. *South African Journal of Higher Education, 30*(2), 73-93. <https://doi.org/10.20853/30-2-582>

- Dwyer, A. L., & Cummings, A. L. (2001). Stress, self-efficacy, social support and coping strategies in university students. *Canadian Journal of Counselling / Revue Canadienne de Counseling*, 35(3), 208-220.
- Eisenbarth, C. A. (2019). Coping with stress: Gender differences among college students. *College Student Journal*, 53(2), 151-162. <https://doi.org/10.1371/journal.pone.0255634>
- Engelbrecht, L. (2020). *Exploring the coping strategies of emerging adult millennials at a higher education institution delivery site* (Doctoral dissertation, North-West University). NWU-IR.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. W.W. Norton & Company.
- Erikson, E. H. (1982). *The life cycle completed: A review*. W. W. Norton & Company.
- Eskin, M., Sun, J. M., Abuidhail, J., Yoshimasu, K., Kujan, O., Janghorbani, M., Flood, C., Giovanni, M., Tran, U. S. Mechri, A., Hamdan, M., Poyrazli, S., Aidoudi, K., Bakhshi, S., Harlak, H., Moro, M. F., Nawafleh, H., Phillips, L., Shaheen, A., ... Voracek, M. (2016). Suicidal behavior and psychological distress in university students: A 12-nation study. *Archives of Suicide Research*, 20(3), 369-388. <https://doi.org/10.1177/1363461518823933>
- Ezeh, O. H., Ezeh, C. C., & Okey, B. I. (2016). Prevalence, sources and patterns of stress among university students. *African Journal for the Psychological Studies of Social Issues*, 19(1), 16-23. <https://www.ajol.info/index.php/ajpssi/article/view/136896>
- Folkman, S. (1982). An approach to the measurement of coping. *Journal of Occupational Behaviour*, 3(1), 95-107.
- Folkman, S. (1992). Commentary to part three: Improving coping assessment: reply to Stone and Kennedy-Moore. In H.S. Friedman (Ed.) *Hostility, Coping, and Health* (pp. 203-214). Washington: American Psychological Association.

- Folkman, S. (2013). Stress, coping, and hope. In B. I. Carr & J. Steel (Eds.). *Psychological aspects of cancer* (pp. 119-127). Springer.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behaviour*, *21*, 219-239.
<https://doi.org/10.2307/2136617>
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, *50*(3), 571-579. <https://doi.org/org/10.1037/0022-3514.50.3.571>
- Forbes-Mewett, H., & Sawyer, A. (2016). International students and mental health. *Journal of International Students*, *6*(3), 661-677. <https://doi.org/10.32674/jis.v6i3.348>
- Freire, C., Ferradás, M. D. M., Regueiro, B., Rodríguez, S., Valle, A., & Núñez, J. C. (2020). Coping strategies and self-efficacy in university students: A person-centered approach. *Frontiers in Psychology*, *11*, 841. <https://doi.org/10.3389/fpsyg.2020.00841>
- Frydenberg, E. (2018). *Adolescent coping: Promoting resilience and well-being*. Routledge.
- Gailliot, M. T., & Baumeister, R. F. (2007). Self-regulation and sexual restraint: Dispositionally and temporarily poor self-regulatory abilities contribute to failures at restraining sexual behavior. *Personality and Social Psychology Bulletin*, *33*(2), 173-186.
- Galvão, A. M., Noné, A. R., & Gomes, M. J. (2016). Alcoholism and coping strategies among IPB students. In S. N. de Jesus & P. Pinto (Eds.), *International Congress on Interdisciplinarity in Social and Human Sciences* (pp. 165-170). University of Algarve.
- Gautam, K., & Madnawat, A. V. S. (2017). Coping strategies and level of satisfaction with life among college female students. *Indian Journal of Health & Wellbeing*, *8*(11), 1353-1356.
<http://www.i-scholar.in/index.php/ijhw/article/view/165966>

- Gauthier, J., Pettifor, J., & Ferrero, A. (2010). The Universal Declaration of Ethical Principles for Psychologists: A culture-sensitive model for creating and reviewing a code of ethics. *Ethics & Behavior*, 20(3-4), 179-196. <https://doi.org/10.1080/10508421003798885>
- Giancola, P. R. (2000). Executive functioning: A conceptual framework for alcohol-related aggression. *Experimental and Clinical Psychopharmacology*, 8, 576-597.
- Gil, S. (2005). Personality traits and coping styles as mediators in risky sexual behavior: A comparison of male and female undergraduate students. *Social Behavior and Personality: An International Journal*, 33(2), 149-158.
- Gollust, S. E., Eisenberg, D., & Golberstein, E. (2008). Prevalence and correlates of self-injury among university students. *Journal of American College Health*, 56(5), 491-498.
- Goodwill, J. R., Watkins, D. C., Johnson, N. C., & Allen, J. O. (2018). An exploratory study of stress and coping among black college men. *American Journal of Orthopsychiatry*, 88(5), 538-549. <https://doi.org/10.1037/ort0000313>
- Govender, P., Mkhabela, S., Hlongwane, M., Jalim, K., & Jetha, C. (2015). OT students' experiences of stress and coping. *South African Journal of Occupational Therapy*, 45(3), 34-39. <http://dx.doi.org/10.17159/2310-3833/2015/v45n3/a7>
- Grant, J. E., Odlaug, B. L., Lust, K., & Christenson, G. (2016). Characteristics and correlates of stealing in college students. *Criminal Behaviour and Mental Health*, 26(2), 101-109. <https://doi.org/10.1002/cbm.1986>
- Grant, J. E., Potenza, M. N., Krishnan-Sarin, S., Cavallo, D. A., & Desai, R. A. (2011). Stealing among high school students: Prevalence and clinical correlates. *Journal of the American Academy of Psychiatry and the Law*, 39, 44-52.

- Gravetter, F. J., & Forzano, L. A. B. (2018). *Research methods for the behavioral sciences*. Cengage Learning.
- Greeff, M., Mostert, K., Kahl, C., & Jonke, C. (2021). The# feesmustfall protests in South Africa: exploring first-year students' experiences at a peri-urban university campus. *South African Journal of Higher Education*, 35(4), 78-103. <http://dx.doi.org/10.20853/35-4-4219>
- Ham, L. S., & Hope, D. A. (2003). College students and problematic drinking: A review of the literature. *Clinical Psychology Review*, 23(5), 719-759.
- Haw, C., Hawton, K., Casey, D., Bale, E., & Shepherd, A. (2005). Alcohol dependence, excessive drinking and deliberate self-harm. *Social Psychiatry and Psychiatric Epidemiology*, 40(12), 964-971. <https://doi.org/10.1007/s00127-005-0981-3>
- Hofmann, W., Friese, M., & Wiers, R. W. (2008). Impulsive versus reflective influences on health behavior: A theoretical framework and empirical review. *Health Psychology Review*, 2, 111-137.
- Hulland, E. N., Brown, J. L., Swartzendruber, A. L., Sales, J. M., Rose, E. S., & DiClemente, R. J. (2015). The association between stress, coping, and sexual risk behaviors over 24 months among African-American female adolescents. *Psychology, Health & Medicine*, 20(4), 443-456. <https://doi.org/10.1080/13548506.2014.951369>
- IBM Corporation. (2021). *IBM SPSS Statistics for Windows, Version 27.0*. IBM Corp.
- Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2013). A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research*, 47, 391-400.

- Ickes, M. J., Brown, J., Reeves, B., & Zephyr, P. M. D. (2015). Differences between undergraduate and graduate students in stress and coping strategies. *Californian Journal of Health Promotion, 13*(1), 13-25. <https://core.ac.uk/download/pdf/267865779.pdf>
- Ismail, A., Ashur, S. T., Jamil, A. T., Lee, C. W., & Mustafa, J. (2016). Stress level and the common coping strategies among international postgraduate students at university Kebangsaan Malaysia medical Centre (UKMMC), Cheras, Kuala Lumpur, Malaysia. *ASEAN Journal of Psychiatry, 17*(1), 1-12.
- Jensen, C., Forlini, C., Partridge, B., & Hall, W. (2016). Australian university students' coping strategies and use of pharmaceutical stimulants as cognitive enhancers. *Frontiers in Psychology, 7*, 277. <https://doi.org/10.3389/fpsyg.2016.00277>
- Kahane, L. (2008). *Regression basics* (2nd ed.). Sage Publications.
- Kariv, D., & Heiman, T. (2005). Task-oriented versus emotion-oriented coping strategies: The case of college students. *College Student Journal, 39*(1), 72-85.
- Keough, M. T., Badawi, G., Nitka, D., O'Connor, R. M., & Stewart, S. H. (2016). Impulsivity increases risk for coping-motivated drinking in undergraduates with elevated social anxiety. *Personality and Individual Differences, 88*, 45-50. <https://doi.org/10.1016/j.paid.2015.08.036>
- Khan, M., Ahmed, F., Yasir, I., Asghar, A. A., Jahangir, M. H., Khan, A., & Tipu, H. H. A. (2016). Sources of stress and various coping strategies among MBBS students of a medical college. *ISRA Medical Journal, 8*(2), 83-88.
- Kim, E., Newton, F. B., Downey, R. G., & Benton, S. L. (2010). Personal factors impacting college student success: Constructing College Learning Effectiveness Inventory (CLEI). *College Student Journal, 44*, 112-125. <https://eric.ed.gov/?id=EJ917205>

- Kitzrow, M. (2009). The mental health needs of today's college students: Challenges and recommendations. *Journal of Student Affairs Research and Practice*, 46(4), 165-179. <https://doi.org/10.2202/1949-6605.5037>
- Kostić, J., Žikić, O., Stankovic, M., & Nikolić, G. (2019). Nonsuicidal self-injury among adolescents in south-east Serbia. *International Journal of Pediatrics and Adolescent Medicine*, 6(4), 131-134. <https://doi.org/10.1016/j.ijpam.2019.06.002>
- Krank, M., Stewart, S. H., O'Connor, R., Woicik, P. B., Wall, A. M., & Conrod, P. J. (2011). Structural, concurrent, and predictive validity of the Substance Use Risk Profile Scale in early adolescence. *Addictive Behaviors*, 36, 37-46.
- Krohne, H. W. (1993). Vigilance and cognitive avoidance as concepts in coping research. In Krohne, H.W. (Ed.), *Attention and avoidance: Strategies in coping with aversiveness* (pp. 19-50). Hogrefe & Huber Publishers.
- Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A review of drinking motives. *Clinical psychology review*, 25(7), 841-861. <https://doi.org/10.1016/j.cpr.2005.06.002>
- Kwaah, C. Y., & Essilfie, G. (2017). Stress and coping strategies among distance education students at the University of Cape Coast, Ghana. *Turkish Online Journal of Distance Education*, 18(3), 120-134. <https://files.eric.ed.gov/fulltext/EJ1147588.pdf>
- LaBrie, J. W., Hummer, J. F., Pedersen, E. R., Lac, A., & Chithambo, T. (2012). Measuring college students' motives behind prepartying drinking: Development and validation of the prepartying motivations inventory. *Addictive Behaviors*, 37(8), 962-969.
- Landa, N., Zhou, S. & Marongwe, N. Education in emergencies: Lessons from COVID-19 in South Africa. *Int Rev Educ* 67, 167–183 (2021). <https://doi.org/10.1007/s11159-021-09903-z>

- Laplanche, J., & Fairfield, S. (2007). Gender, sex, and the sexual. *Studies in Gender and Sexuality*, 8(2), 201-219.
- Latimer, S., Covic, T., Cumming, S. R., & Tennant, A. (2009). Psychometric analysis of the Self-Harm Inventory using Rasch modelling. *BMC Psychiatry*, 9(1), 53.
<https://doi.org/10.1186/1471-244X-9-53>
- Latimer, S., Meade, T., & Tennant, A. (2013). Measuring engagement in deliberate self-harm behaviours: Psychometric evaluation of six scales. *BMC Psychiatry*, 13(1), 1-11.
- Lavrakas, P. J. (2008). *Encyclopaedia of survey research methods*. Sage Publications.
- Lawrence, J., Ashford, K., & Dent, P. (2006). Gender differences in coping strategies of undergraduate students and their impact on self-esteem and attainment. *Active Learning in Higher Education*, 7(3), 273-281.
- Laye-Gindhu, A., & Schonert-Reichl, K. A. (2005). Nonsuicidal self-harm among community adolescents: Understanding the “whats” and “whys” of self-harm. *Journal of Youth and Adolescence*, 34(5), 447-457.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer.
- Lemoine, M., Gmel, G., Foster, S., Marmet, S., & Studer, J. (2020). Multiple trajectories of alcohol use and the development of alcohol use disorder: Do Swiss men mature-out of problematic alcohol use during emerging adulthood? *PloS One*, 15(1), e0220232.
<https://doi.org/10.1371/journal.pone.0220232>
- Lewin, T., & Mawoyo, M. (2014). *Student access and success: Issues and interventions in South African universities*. The South African Institute for Advancement.

- Lewis, M. (2007). *Stepwise versus hierarchical regression: Pros and cons*. Paper presented at the Annual Meeting of the Southwest Educational Research Association, San Antonio, Texas.
<https://eric.ed.gov/?id=ED534385>
- Li, M., & Nishikawa, T. (2010). The relationship between active coping and trait resilience across U.S. and Taiwanese college student samples. *Journal of College Counseling, 15*, 157-171.
- Li, R., Cooper, C., Bradley, J., Shulman, A., & Livingston, G. (2012). Coping strategies and psychological morbidity in family caregivers of people with dementia: A systematic review and meta-analysis. *Journal of Affective Disorders, 139*, 1-11.
<https://doi.org/10.1016/j.jad.2011.05.055>
- Linden, B., & Jurdi-Hage, R. (2017). Examining the predictors of mental health outcomes among undergraduate postsecondary students in Canada. *Journal of Social, Behavioral, and Health Sciences, 11*(1), 1-30. <https://doi.org/10.5590/JSBHS.2017.11.1.01>
- Litman, J. A. (2006). The COPE inventory: Dimensionality and relationships with approach-and avoidance-motives and positive and negative traits. *Personality and Individual Differences, 41*(2), 273-284.
- Lu, W., Xu, J., Taylor, A. W., Bewick, B. M., Fu, Z., Wu, N., Qian, L., & Yin, P. (2019). Analysis of the alcohol drinking behavior and influencing factors among emerging adults and young adults: A cross-sectional study in Wuhan, China. *BMC Public Health, 19*(1), 1-10.
<https://doi.org/10.1186/s12889-019-6831-0>
- Majumdar, B., & Ray, A. (2010). Stress and coping strategies among university students: A phenomenological study. *Indian Journal of Social Science Research, 7*(2), 100-111.
- Maree, K. (2014). *First steps in research* (15th ed.). Van Schaik.

- Markova, S., & Nikitskaya, E. (2017). Coping strategies of adolescents with deviant behaviour. *International Journal of Adolescence and Youth*, 22(1), 36-46.
<https://doi.org/10.1080/02673843.2013.868363>
- Martinez-Zaragoza, F., Benavides-Gil, G., Rovira, T., Martín-del-Río, B., Edo, S., García-Sierra, R., Solanes-Puchol, A., & Fernández-Castro, J. (2020). When and how do hospital nurses cope with daily stressors? A multilevel study. *PLoS ONE*, 15(11), e0240725.
<https://doi.org/10.1371/journal.pone.0240725>
- Masalimova, A. R., Mikhaylovsky, M. N., Grinenko, A. V., Smirnova, M. E., Andryushchenko, L. B., Kochkina, M. A., & Kochetkov, I. G. (2019). The interrelation between cognitive styles and copying strategies among student youth. *Eurasia Journal of Mathematics, Science and Technology Education*, 15(4), em1695. <https://doi.org/10.29333/ejmste/103565>
- Mason, H. D. (2017). Stress-management strategies among first-year students at a South African university: A qualitative study. *Journal of Student Affairs in Africa*, 5(2), 131-149.
<https://files.eric.ed.gov/fulltext/EJ1164781.pdf>
- Mayer, F. B., Souza Santos, I., Silveira, P. S., Itaquí Lopes, M. H., De Souza, A. R., Campos, E. P., De Abreu, B. A., Hoffman, I., Magalhães, C. R., Lima, M. C., Almeida, R., Spinardi, M., & Tempski, P. (2016). Factors associated to depression and anxiety in medical students: A multicenter study. *BMC Medical Education*, 16(1), 282. <https://doi.org/10.1186/s12909-016-0791-1>
- McCrae, R., & Costa, P. (1986). Personality, coping and coping effectiveness in an adult sample. *Journal of Personality and Social Psychology*, 54, 385-405.
- McInnis, C. (2001). Researching the first-year experience: Where to from here? *Higher Education Research and Development*, 20, 105-114.

- McMordie, L. (2021). Avoidance strategies: Stress, appraisal and coping in hostel accommodation. *Housing Studies*, 36(3), 380-396.
<https://doi.org/10.1080/02673037.2020.1769036>
- Melato, S. R., Van Eeden, C., Rothmann, S., & Bothma, E. (2017). Coping self-efficacy and psychosocial well-being of marginalised South African youth. *Journal of Psychology in Africa*, 27(4), 338-344. <https://doi.org/10.1080/14330237.2017.1347755>
- Metzger, I. W., Blevins, C., Calhoun, C. D., Ritchwood, T. D., Gilmore, A. K., Stewart, R., & Bountress, K. E. (2017). An examination of the impact of maladaptive coping on the association between stressor type and alcohol use in college. *Journal of American College Health*, 65(8), 534-541. <https://doi.org/10.1080/07448481.2017.1351445>
- Moeller, F. G., Dougherty, D. M., Barratt, E. S., Schmitz, J. M., Swann, A. C., & Grabowski, J. (2001). The impact of impulsivity on cocaine use and retention in treatment. *Journal of Substance Abuse Treatment*, 21(4), 193-198.
- Mofatteh, M. (2021). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health*, 8(1), 36-65.
<https://doi.org/10.3934/publichealth.2021004>
- Monteiro, N. M., Balogun, S. K., & Oratile, K. N. (2014). Managing stress: The influence of gender, age and emotion regulation on coping among university students in Botswana. *International Journal of Adolescence and Youth*, 19(2), 153-173.
<https://doi.org/10.1080/02673843.2014.908784>
- Moran, C. C., & Hughes, L. P. (2006). Coping with stress: Social work students and humour. *Social Work Education*, 25(5), 501-517.

- Mudhovozi, P. (2011). Analysis of perceived stress, coping resources and life satisfaction among students at a newly established institution of higher learning. *South African Journal of Higher Education*, 25(3), 510-522.
- Muehlenkamp, J. J. (2005). Self-injurious behaviour as a separate clinical syndrome. *American Journal of Orthopsychiatry*, 75, 324-333.
- Muehlenkamp, J. J., Bagge, C. L., Tull, M. T., & Gartz, K. L. (2013). Body regard as a moderator of the relation between emotion dysregulation and nonsuicidal self-injury. *The American Association of Suicidology*, 43(5), 479-493. <https://doi.org/10.1111/sltb.12032>
- Muruganantham, G., & Bhakat, R. S. (2013). A review of impulse buying behavior. *International Journal of Marketing Studies*, 5(3), 149-160. <https://doi.org/10.5539/IJMS.V5N3P149>
- Naidoo, S. (2016). *Testing the interpersonal-psychological theory of suicidal behaviour (IPTTS) in the South African context* (Doctoral dissertation, University of KwaZulu-Natal). Semantic Scholar.
- Naidoo, S., & Collings, S. J. (2017). Measuring acquired capability for suicide: Incremental validity of the Death Inurement Scale. *Social Behavior and Personality: An international Journal*, 45(11), 1933-1936.
- Nekgotha, T. K., Nel, K., & Govender, S. (2020). Stress levels and alcohol use amongst beginning students at a peri-urban South African university: A brief report. *Journal of Psychology in Africa*, 30(3), 208-210. <https://doi.org/10.1080/14330237.2020.1777021>
- Neufeld, A., & Malin, G. (2021). How medical students cope with stress: A cross-sectional look at strategies and their sociodemographic antecedents. *BMC Medical Education*, 21(1), 1-12. <https://doi.org/10.1186/s12909-021-02734-4>

- Neves, J. A. (2016). *Factors influencing impulse buying behaviour amongst Generation Y students* (Doctoral dissertation, North-West University). NWU-IR.
- Nowakowska, I. (2020). *The role of time perspectives and impulsivity dimensions in coping styles: An exploratory study on young adults*. PsyArXiv Preprints.
<https://psyarxiv.com/xwyd7/>
- Nyar, A. (2021). The 'Double Transition' for First-Year Students: Understanding the Impact of Covid-19 on South Africa's First-Year University Students. *Journal of Student Affairs in Africa*, 9(1), 77-92. <https://doi.org/10.24085/jsaa.v9i1.1429>
- Odacı, H., & Çıkrıkçı, Ö. (2012). University students' ways of coping with stress, life satisfaction and subjective well-being. *The Online Journal of Counselling and Education*, 1(3), 117-130.
- Okoro, E. (2018). *Assessment of stress related issues and coping mechanisms among college students* (Master's thesis, Minnesota State University). ETDS.
- Ormel, J., Raven, D., Van Oort, F., Hartman, C. A., Reijneveld, S. A., Veenstra, R., Vollebergh, W. A., Buitelaar, J., Verhulst, F. C., & Oldehinkel, A. J. (2015). Mental health in Dutch adolescents: A TRAILS report on prevalence, severity, age of onset, continuity and co-morbidity of DSM disorders. *Psychological Medicine*, 45(2), 345-360.
<https://doi.org/10.1017/S0033291714001469>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104-112. <https://doi.org/10.1080/02673843.2019.1596823>
- Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt impulsiveness scale. *Journal of Clinical Psychology*, 51, 768-774.

- Paul, E., Tsypes, A., Eidlitz, L., Ernhout, C., & Whitlock, J. (2015). Frequency and functions of non-suicidal self-injury: Associations with suicidal thoughts and behaviors. *Psychiatry Research*, 225(3), 276-282. <https://doi.org/10.1016/j.psychres.2014.12.026>
- Pedhazur, E. (1997). *Multiple regression in behavioural research* (3rd ed.). Harcourt Brace.
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry*, 39(5), 503-511. <https://doi.org/10.1007/s40596-014-0205-9>
- Peltzer, K., Davids, A., & Njuho, P. (2011). Alcohol use and problem drinking in South Africa: Findings from a national population-based survey in 2008. *African Journal of Psychiatry*, 14, 30-37.
- Peñas-Lledó, E., & Waller, G. (2003). Emotionally-driven behaviours among undergraduate women: A preliminary study. *Revista Psicologia e Educação*, 2(1), 63-71.
- Pengpid, S., & Peltzer, K. (2015). Gender differences in health risk behaviour among university students: An international study. *Gender & Behaviour*, 13(1), 6576-6583. <https://doi.org/10.1177/10598405060220010501>
- Pickens, B. C., McKinney, R., & Bell, S. C. (2019) A hierarchical model of coping in the college student population. *Journal of Interdisciplinary Studies in Education*, 7(2), 1-17. <https://doi.org/files.eric.ed.gov/fulltext/EJ1267016.pdf>
- Pierceall, E. A., & Keim, M. C. (2007). Stress and coping strategies among community college students. *Community College Journal of Research and Practice*, 31(9), 703-712.
- Popa, C. O., Schenk, A., Rus, A., Szasz, S., Suci, N., Szabo, D. A., & Cojocar, C. (2020). The role of acceptance and planning in stress management for medical students. *Acta Marisiensis - Seria Medica*, 66(3), 101-105. <https://doi.org/10.2478/amma-2020-0020>

- Prasath, P. R., Mather, P. C., Bhat, C. S., & James, J. K. (2021). University Student Well-Being during COVID-19: The Role of Psychological Capital and Coping Strategies. *Professional Counselor*, 11(1), 46-60. <https://doi.org/10.15241/prp.11.1.46>
- Renard, M., & Snelgar, R. J. (2015). Using the Proactive Coping Inventory to measure Southern African university students' coping styles. *South African Journal of Psychology*, 45(2), 168-181. <https://doi.org/10.1177/0081246314561542>
- Renk, K., & Creasey, G. L. (2003). The relation of gender, gender identity and coping strategies in late adolescents. *Journal of Adolescents*, 26, 159-168. [https://doi.org/10.1016/S0140-1971\(02\)00135-5](https://doi.org/10.1016/S0140-1971(02)00135-5)
- Richardson, G. B., Freedlander, J. M., Katz, E. C., Dai, C. L., & Chen, C. C. (2014). Impulsivity links reward and threat sensitivities to substance use: A functional model. *Frontiers in Psychology*, 5, 1194. <https://doi.org/10.3389/fpsyg.2014.01194>
- Rodriguez, L., Kramer, S., & Sherriff, B. (2013). Investigating risk and protective factors to mainstream safety and peace at the University of South Africa. *African Safety Promotion: A Journal of Injury and Violence Prevention*, 11(1), 39-60.
- Ross, E., & Rasool, S. (2019). 'You go to campus with fear and come back with fear'. University students' experiences of crime. *SA Crime Quarterly*, 68, 7-20. <http://dx.doi.org/10.17159/2413-3108/2019/v0n68a4895>
- Rossotto, E., Yager, J., & Rorty, M. (1994). *Impulsive and self-harm behaviours among women with bulimia nervosa*. Paper presented at the 6th International Conference on Eating Disorders, New York. <https://doi.org/10.1097/NMD.0b013e31819d96c0>
- Saleem, S., Mahmood, Z., & Naz, M. (2013). Mental health problems in university students. *FWU Journal of Social Sciences*, 7(2), 124-130.

<http://sbbwu.edu.pk/journal/FWU%20Journal%20Vol.7,%20No.2/3.Mental%20Health%20Problems%20in%20University.pdf>

- Sansone, R. A., & Sansone, L. A. (2010). Measuring self-harm behavior with the self-harm inventory. *Psychiatry (Edgmont)*, 7(4), 16-20.
- Saroglou, V., & Anciaux, L. (2004). Liking sick humor: Coping styles and religion as predictors. *Humour*, 17(3), 257-277.
- Scardera, S., Perret, L. C., Ouellet-Morin, I., Gariépy, G., Juster, R. P., Boivin, M., Turecki, G., Tremblay, R. E., Côté, S., & Geoffroy, M. C. (2020). Association of social support during adolescence with depression, anxiety, and suicidal ideation in young adults. *JAMA Network Open*, 3(12), e2027491-e2027491. <https://doi.org/10.1001/jamanetworkopen.2020.27491>
- Schreiber, B. (2018). Mental health at universities: Universities are not in loco parentis – Students are active partners in mental health. *Journal of Student Affairs in Africa*, 6(2), 121-127. <https://doi.org/10.24085/jsaa.v6i2.3318>
- Schreiber, L. R., Grant, J. E., & Odlaug, B. L. (2012). Emotion regulation and impulsivity in young adults. *Journal of Psychiatric Research*, 46(5), 651-658.
- Schwartz, R. M., Hogben, M., Liddon, N., Augenbraun, M., McCormack, W. M., Rubin, S., & Wilson, T. E. (2008). Coping with a diagnosis of C trachomatis or N gonorrhoeae: Psychosocial and behavioral correlates. *Journal of Health Psychology*, 13, 921-929. <https://doi.org/10.1177/1359105308095066>
- Schwartz, S. J., & Petrova, M. (2019). Prevention science in emerging adulthood: A field coming of age. *Prevention Science*, 20(3), 305-309. <https://doi.org/10.1007/s11121-019-0975-0>
- Sharma, K. (2012). *Impact of affective and cognitive processes on impulse buying of consumers* (Doctoral dissertation, Saurashtra University).

- Shin, S. H., Hong, H. G., & Jeon, S. M. (2012). Personality and alcohol use: The role of impulsivity. *Addictive Behaviors, 37*(1), 102-107.
- Sica, C., Novara, C., Dorz, S., & Sanavio, E. (1997). Coping strategies: Evidence for cross-cultural differences? A preliminary study with the Italian version of coping orientations to problems experienced (COPE). *Personality and Individual Differences, 23*, 1025-1029.
[https://doi.org/10.1016/s0191-8869\(97\)00112-8](https://doi.org/10.1016/s0191-8869(97)00112-8)
- Silk, J. S., Siegle, G. J., Whalen, D. J., Ostepenko, L. J., Ladouceur, C. D., & Dahl, R. E. (2009). Pubertal changes in emotional information processing: Pupillary, behavioral, and subjective evidence during emotional word identification. *Development and Psychopathology, 21*, 7-26.
- Stangor, C. (2015). *Research methods for the behavioral sciences* (5th ed.). Wadsworth Cengage Learning.
- Stanisławski, K. (2019). The coping circumplex model: An integrative model of the structure of coping with stress. *Frontiers in Psychology, 10*, 694.
<https://doi.org/10.3389/fpsyg.2019.00694>
- Steyn, H. S. (2005). *Handleiding vir die bepaling van effekgrootte-indekse en praktiese betekenisvolheid*. <http://puk.ac.za/fakulteite/natuur/skd/index.html>
- Stoltzfus, K. M., & Farkas, K. J. (2012). Alcohol use, daily hassles, and religious coping among students at a religiously affiliated college. *Substance Use & Misuse, 47*(10), 1134-1142.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Terre Blanche, M. J., Durrheim, K., & Painter, D. (Eds.). (2014). *Research in practice: Applied methods for the social sciences*. Juta.

- Thomas, C. L., Cassady, J. C., & Heller, M. L. (2017). The influence of emotional intelligence, cognitive test anxiety, and coping strategies on undergraduate academic performance. *Learning and Individual Differences, 55*, 40-48. <https://doi.org/10.1016/j.lindif.2017.03.001>
- Thompson, R. J., Mata, J., Jaeggi, S. M., Buschkuhl, M., Jonides, J., & Gotlib, I. H. (2010). Maladaptive coping, adaptive coping, and depressive symptoms: Variations across age and depressive state. *Behaviour Research and Therapy, 48*(6), 459-466.
- Trepal, H. C., Wester, K. L., & Merchant, E. (2015). A cross-sectional matched sample study of nonsuicidal self-injury among young adults: Support for interpersonal and intrapersonal factors, with implications for coping strategies. *Child and Adolescent Psychiatry and Mental Health, 9*(1), 1-10.
- Tshabalala, N. G. (2001). *Protective services and crime control in the university community: A study of the University of Zululand protective services unit* (Master's thesis, University of Zululand). UZSpace.
- Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology, 128*(3), 185-199. <https://doi.org/10.1037/abn0000410>
- Van der Walt, F. (2016). Self-harming behaviour among university students: A South African case study. *Journal of Psychology in Africa, 26*(6), 508-512. <https://dx.doi.org/10.1080/14330237.2016.1250420>
- Van der Zanden, P. J., Denessen, E., Cillessen, A. H., & Meijer, P. C. (2019). Patterns of success: First-year student success in multiple domains. *Studies in Higher Education, 44*(11), 2081-2095. <https://doi.org/10.1080/03075079.2018.1493097>

- Van Heerden-Pieterse, E. (2015). *Life skills: My journey, my destiny*. Van Schaik.
- Van Zyl, A. (2016). The contours of inequality: The links between socio-economic status of students and other variables at the University of Johannesburg. *Journal for Student Affairs in Africa*, 4(1), 1-16. <https://doi.org/10.14426/jsaa.v4i1.141>
- Van Zyl, Y., & Dhurup, M. (2016). When things get tough, the tough get going: University students' perceived stress and coping mechanisms. *International Journal of Social Sciences and Humanity Studies*, 8(1), 218-232.
<https://dergipark.org.tr/en/pub/ijsshs/issue/26211/275965>
- Vehovar, V., Toepoel, V., & Steinmetz, S. (2016). Non-probability sampling. In C. Wolf, D. Joye, T. W. Smith, & Y. Fu (Eds.), *The SAGE handbook of survey methodology* (pp. 329-345). Sage Publications.
- Visser, M., & Law-van Wyk, E. (2021). University students' mental health and emotional wellbeing during the COVID-19 pandemic and ensuing lockdown. *South African Journal of Psychology*, 51(2), 229-243. <https://doi.org/10.1177/00812463211012219>
- Vizoso, C., Rodríguez, C., & Arias-Gundín, O. (2018). Coping, academic engagement and performance in university students. *Higher Education Research & Development*, 37(7), 1515-1529. <https://doi.org/10.1080/07294360.2018.1504006>
- Vogt, W. P. (2005). *Dictionary of statistics and methodology*. Sage Publications.
- Vogt, W. P., Gardner, D. C., & Haeffele, L. M. (2012). *When to use what research design*. Guilford Press.
- Wagenaar, C., Florence, M., Adams, S., & Savahl, S. (2018). Factors influencing the relationship between alcohol consumption and risky sexual behaviour among young people: A systematic review. *Cogent Psychology*, 5(1), 1483049. <https://doi.org/10.1080/23311908.2018.1483049>

- Walsh, B. W., & Rosen, P. M. (1988). *Self-mutilation: Theory, research, and treatment*. Guilford.
- Wan, Y. H., Xu, S. J., Chen, J., Hu, C. L., & Tao, F. B. (2015). Longitudinal effects of psychological symptoms on non-suicidal self-injury: A difference between adolescents and young adults in China. *Social Psychiatry and Psychiatric Epidemiology*, *50*(2), 237-247. <https://doi.org/10.1007/s00127-014-0917-x>
- White, H. R., & Jackson, K. (2004). Social and psychological influences on emerging adult drinking behavior. *Alcohol Research & Health*, *28*(4), 182-190.
- Wiers, R. W., Ames, S. L., Hofmann, W., Krank, M., & Stacy, A. (2010). Impulsivity, impulsive and reflective processes and the development of alcohol use and misuse in adolescents and young adults. *Frontiers in Psychology*, *1*, 144. <https://doi.org/10.3389/fpsyg.2010.00144>
- Wiers, R. W., Bartholow, B. D., Van den Wildenberg, E., Thush, C., Engels, R. C. M. E., Sher, K. J., Grenard, J., Ames, S. L., & Stacy, A. W. (2007). Automatic and controlled processes and the development of addictive behaviors in adolescents: A review and a model. *Pharmacology Biochemistry and Behavior*, *86*, 263-283.
- Williams, F., & Hasking, P. (2010). Emotion regulation, coping and alcohol use as moderators in the relationship between non-suicidal self-injury and psychological distress. *Prevention Science*, *11*(1), 33-41.
- Wong, C. F., Silva, K., Kecojevic, A., Schrage, S. M., Bloom, J. J., Iverson, E., & Lankenau, S. E. (2013). Coping and emotion regulation profiles as predictors of nonmedical prescription drug and illicit drug use among high-risk young adults. *Drug and Alcohol Dependence*, *132*(1-2), 165-171.
- World Health Organization (WHO). (2012). *Stress: A global epidemic*. WHO.

Wu, Z. H., Tennen, H., Hosain, G. M., Coman, E., Cullum, J., & Berenson, A. B. (2016). Stress mediates the relationship between past drug addiction and current risky sexual behaviour among low-income women. *Stress and Health, 32*(2), 138-144.

<https://doi.org/10.1002/smi.2587>

Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T. P., & Sahebkar, A. (2017). The impact of stress on body function: A review. *EXCLI Journal, 16*, 1057-1072.

<https://doi.org/10.17179/excli2017-480>

Yorguner, N., Bulut, N. S., & Akvardar, Y. (2021). An Analysis of the Psychosocial Challenges Faced by the University Students During COVID-19 Pandemic, and the Students' Knowledge, Attitudes, and Practices Toward the Disease. *Archives of Neuropsychiatry, 58*(1),

3. <http://doi.org/10.29399/npa.27503>

Zimmer-Gembeck, M. J., & Skinner, E. A. (2008). Adolescents coping with stress: Development and diversity. *The Prevention Researcher, 15*(4), 3-8.

Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping: The implications of psychopathology and resilience. *Risk, Resilience and Intervention, 4*, 1-61.

<https://doi.org/10.1002/9781119125556.devpsy410>

APPENDICES

Appendix A: Faculty of Humanities Research Ethics Approval Letter

GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

12-Aug-2020

Dear Miss Prianca Harichand

Application Approved

Research Project Title:

Impulsive risk behaviours, self-harm and demographic factors as predictors of coping amongst university students

Ethical Clearance number:

UFS-HSD2020/0202/1208

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. Furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

Dr Adri Du Plessis**Chairperson: General/Human Research Ethics Committee**

Adri du Plessis
2020.08.12
12:42:46
+02'00'

205 Nelson Mandela
 Drive
 Park West
 Bloemfontein 9301
 South Africa

P.O. Box 339
 Bloemfontein 9300
 Tel: +27 (0)51 401
 9337
duplessisA@ufs.ac.za
www.ufs.ac.za



Appendix B: Biographical Questionnaire

1. What is your gender?

Male	1
Female	2
Non-binary	3

2. How old are you?

Specify age in years	
----------------------	--

3. What is your racial group?

Black	1
Coloured	2
White	3
Asian	4
Indian	5
Mixed race	6
African	7
Latina	8
Hispanic Filipino	9
KhoiSan	10

4. What is your ethnic group?

South Sotho	1
North Sotho	2
Xhosa	3
Zulu	4
Tswana	5
English	6
Afrikaans	7
Tsonga	8
Venda	9
Swati	10
Swazi	11
Ndebele	12
Xitsonga	13
Ashanti	14
Sign language	15
Yoruba	16
Tagalog	17
Taiwanese	18
Somali	19
Shona	20
Lozi	21
KhoiSan	22
Spanish	23
Sotho-Tswana	24

5. In what year of study are you currently?

First-year undergraduate	1
Second-year undergraduate	2
Third-year undergraduate	3
Fourth-year undergraduate	4
Honours	5
Master's	6
Doctoral	7
Higher certificate	8
Occasional Studies	9
Extended programme	10

6. What is your main major?

Psychology	1
Criminology	2
Sociology	3
Anthropology	4
Political Science	5
Industrial Psychology	6
Communication	7
Education	8
Languages	9
Philosophy	10

Social work	11
Journalism	12
Drama and Theatre Arts	13
Fine arts	14
Community Development	15
Business Management	16
Industrial Psychology and Sociology	17
Criminology and Psychology History	19
History	20
Music	21
Sociology and Criminology	22
Classical Studies and Art History	23
Psychology and German	24
Geography	25
Communication and Psychology	26
Classical Studies	27
African Studies	28

7. Are you one of the following?

Undergraduate student	1
Postgraduate student	2

8. Where do you live?

Campus hostel	1
Hostel off campus	2
Home with parents/grandparents/relatives	3
Flat in town/townhouse	4
Student house	5
Rental house/apartment/room	6
Own house	7

9. With what religion do you identify?

No religion	1
Christianity	2
Judaism	3
Islam	4
Buddhism	5
Hindu	6
Jehovah's Witness	7
African religion	8

African Spirituality	9
Agnosticism	10
Omnism	11
Methodist	12
Asatru	13
Taoism	14
Spiritual	15

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

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

11. What is the frequency of your religious practice (i.e., attending religious services, participating in rituals, reading scriptures, or following religious rules about clothing, eating or prayer)?

Never	1
Seldom	2
Regularly	3
Very regularly	4

12. What is your relationship status?

Single	1
In a relationship	2
Married	3
Widowed	4
Divorced	5
Separated	6
Engaged	7

13. From which South African province are you?

Eastern Cape	1
Free State	2
Gauteng	3
KwaZulu-Natal	4
Limpopo	5
Mpumalanga	6
Northern Cape	7
North West	8
Western Cape	9
Lesotho	10
Kingdom of Eswatini/Swaziland	11
Zimbabwe	12
Non-South African citizen	13

14. How much do you like being at university?

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

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

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

THANK YOU FOR YOUR PARTICIPATION IN THIS QUESTIONNAIRE – PLEASE

PAGE TO THE NEXT QUESTIONNAIRE

Appendix C: Coping Orientation to Problem Experience (COPE) Inventory

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress. Then respond to each of the following items by selecting one of the options for each, using the response choices listed below. Please try to respond to each item separately in your mind from each other item.

Choose your answers thoughtfully and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. **Indicate what YOU usually do when YOU experience a stressful event.**

1 = I usually don't do this at all

2 = I usually do this a little bit

3 = I usually do this a medium amount

4 = I usually do this a lot

1. I try to grow as a person as a result of the experience.	1	2	3	4
2. I turn to work or other substitute activities to take my mind off things.	1	2	3	4
3. I get upset and let my emotions out.	1	2	3	4
4. I try to get advice from someone about what to do.	1	2	3	4
5. I concentrate my efforts on doing something about it.	1	2	3	4

6. I say to myself "this isn't real."	1	2	3	4
7. I put my trust in God.	1	2	3	4
8. I laugh about the situation.	1	2	3	4
9. I admit to myself that I can't deal with it, and quit trying.	1	2	3	4
10. I restrain myself from doing anything too quickly.	1	2	3	4
11. I discuss my feelings with someone.	1	2	3	4
12. I use alcohol or drugs to make myself feel better.	1	2	3	4
13. I get used to the idea that it happened.	1	2	3	4
14. I talk to someone to find out more about the situation.	1	2	3	4
15. I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
16. I daydream about things other than this.	1	2	3	4
17. I get upset, and am really aware of it.	1	2	3	4
18. I seek God's help.	1	2	3	4
19. I make a plan of action.	1	2	3	4
20. I make jokes about it.	1	2	3	4
21. I accept that this has happened and that it can't be changed.	1	2	3	4
22. I hold off doing anything about it until the situation permits.	1	2	3	4
23. I try to get emotional support from friends or relatives.	1	2	3	4
24. I just give up trying to reach my goal.	1	2	3	4
25. I take additional action to try to get rid of the problem.	1	2	3	4

26. I try to lose myself for a while by drinking alcohol or taking drugs.	1	2	3	4
27. I refuse to believe that it has happened.	1	2	3	4
28. I let my feelings out.	1	2	3	4
29. I try to see it in a different light, to make it seem more positive.	1	2	3	4
30. I talk to someone who could do something concrete about the problem.	1	2	3	4
31. I sleep more than usual.	1	2	3	4
32. I try to come up with a strategy about what to do.	1	2	3	4
33. I focus on dealing with this problem, and if necessary let other things slide a little.	1	2	3	4
34. I get sympathy and understanding from someone.	1	2	3	4
35. I drink alcohol or take drugs, in order to think about it less.	1	2	3	4
36. I kid around about it.	1	2	3	4
37. I give up the attempt to get what I want.	1	2	3	4
38. I look for something good in what is happening.	1	2	3	4
39. I think about how I might best handle the problem.	1	2	3	4
40. I pretend that it hasn't really happened.	1	2	3	4
41. I make sure not to make matters worse by acting too soon.	1	2	3	4
42. I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4

43. I go to movies or watch TV, to think about it less.	1	2	3	4
44. I accept the reality of the fact that it happened.	1	2	3	4
45. I ask people who have had similar experiences what they did.	1	2	3	4
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.	1	2	3	4
47. I take direct action to get around the problem.	1	2	3	4
48. I try to find comfort in my religion.	1	2	3	4
49. I force myself to wait for the right time to do something.	1	2	3	4
50. I make fun of the situation.	1	2	3	4
51. I reduce the amount of effort I'm putting into solving the problem.	1	2	3	4
52. I talk to someone about how I feel.	1	2	3	4
53. I use alcohol or drugs to help me get through it.	1	2	3	4
54. I learn to live with it.	1	2	3	4
55. I put aside other activities in order to concentrate on this.	1	2	3	4
56. I think hard about what steps to take.	1	2	3	4
57. I act as though it hasn't even happened.	1	2	3	4
58. I do what has to be done, one step at a time.	1	2	3	4
59. I learn something from the experience.	1	2	3	4
60. I pray more than usual.	1	2	3	4

Appendix D: Self-Harm Information Form (SHIF)

Please select YES or NO for the following questions and answer the questions honestly.

NO = 1 YES = 2

Items	YES	NO
1. Punched or hit yourself to the point of bruising or more	YES	NO
2. Banged your head, arms, or legs on purpose to the point of bruising	YES	NO
3. Stuck yourself with pins, needles, etc. on purpose and drawn blood	YES	NO
4. Burned yourself on purpose	YES	NO
5. Carved words or symbols on your skin	YES	NO
6. Cut your wrists (not trying to die)	YES	NO
7. Cut other areas of your body (not trying to die)	YES	NO
8. Swallowed harmful objects (not drugs)	YES	NO
9. Taken drugs for the purpose of harming yourself (not trying to get high or die)	YES	NO
10. Broken your bones on purpose	YES	NO
11. Strangled yourself (not trying to die)	YES	NO

Appendix E: Impulsive Behaviour Scale (IBS)

Please answer the following questions for any time in the past. For each question select one answer.

		Never	Once	On occasion (2-3 times)	Sometimes (4-20 times)	Regularly (+20 times)
1	Have you ever overdosed on prescription or illegal drugs?	1	2	3	4	5
2	Have you been sexually “promiscuous”?	1	2	3	4	5
3	Have you had any self-mutilation thoughts or impulses (without taking action)?	1	2	3	4	5
4	Have you had times when you’ve consumed too much alcohol for your own good?	1	2	3	4	5
5	Have you had sex with someone who you did not necessarily want to have sex with?	1	2	3	4	5

		Never	Once	On occasion (2-3 times)	Sometimes (4-20 times)	Regularly (+20 times)
6	Have people told you that you're the daredevil type and or that you take too many risks?	1	2	3	4	5
7	Have you had any suicide gestures (non-lethal)?	1	2	3	4	5
8	Have you been to the doctor or hospital as a result of a self-harm incident?	1	2	3	4	5
9	Have you abused laxatives, diuretics or diet pills?	1	2	3	4	5
10	Have you stolen personal items or money from acquaintances, family or friends?	1	2	3	4	5
11	Have you driven under the influence of alcohol and/or drugs?	1	2	3	4	5
12	Have you made any suicidal attempts?	1	2	3	4	5
13	Have you engaged in unsafe sex?	1	2	3	4	5

		Never	Once	On occasion (2-3 times)	Sometimes (4-20 times)	Regularly (+20 times)
14	Have you been accident prone, that is, been in accidents frequently?	1	2	3	4	5
15	Have you had any suicidal thoughts and impulses (without taking action)?	1	2	3	4	5
16	Have you eaten food in a grocery market before having the chance to pay for it?	1	2	3	4	5
17	Have there been times when you have taken too many recreational drugs?	1	2	3	4	5
18	Have you been known to physically push yourself to the limit?	1	2	3	4	5
19	Have you driven recklessly?	1	2	3	4	5
20	Have you stolen material goods (clothes and jewellery) from a store or vendor?	1	2	3	4	5

		Never	Once	On occasion (2-3 times)	Sometimes (4-20 times)	Regularly (+20 times)
21	Have you hurt yourself regularly, even if you didn't mean to (e.g. falling, bruising)	1	2	3	4	5
22	Have you impulsively spent money on clothes and jewellery or other items?	1	2	3	4	5
23	Have you self-mutilated before? (e.g., cutting, pinching, burning)	1	2	3	4	5
24	Have you enjoyed taking risks or engaging in somewhat dangerous activities?	1	2	3	4	5
25	Have you stolen food?	1	2	3	4	5

WHAT IS THE AIM / PURPOSE OF THE STUDY?

This study aims to determine whether individual predictors, namely self-harm, impulsive risk behaviour, or demographic variables or the set of these variables, will predict the highest variance in coping amongst university students.

WHO IS DOING THE RESEARCH?

The researcher, Prianca Harichand, is a Masters in Counselling Psychology student at the University of the Free State. As part of the Master's programme, she is required to conduct a research study that contributes to her academic credits.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

Approval number: UFS-HSD2020/0202/1208

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

The target population of this study is university students, as there is an increase in mental health concerns globally amongst this population. Students are in a transitional period known as emerging adulthood and thus struggle with various issues affecting their overall mental health. They tend to struggle with high academic expectations, poor social support, and inadequate coping mechanisms, as well as an increase in mental health problems such as anxiety and depression. The sample population will include a minimum of 500 university students from the University of the Free State from all genders and ethnic groups, aged between 18 and 29, enrolled for any major and on any

educational level (i.e., undergraduate and postgraduate) from various departments within the Faculty of the Humanities (e.g., Psychology, Criminology, Anthropology, Communication Science, Sociology and Political Science). As you form part of this target population, you have been approached to participate in this study.

WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?

The study uses a quantitative approach and questionnaires will be used to obtain data. You will be required to click the link to the questionnaire provided by email which is equivalent to a signed consent in order to complete the following questionnaires:

- A biographical questionnaire indicating age, gender, ethnicity, major and academic level;
- The COPE Inventory, which will be used to measure the different coping responses to stressors which comprises of 60 items;
- The Impulsive Behaviour Scale which measures impulsive behaviour and comprises of 25 items; and
- The Self-Harm Information Form which comprises of 22 items and measures different self-harm behaviours and their extent.

The expected duration for the completion of the above questionnaires will be approximately 30 to 40 minutes.

CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?

Participation in this study is voluntary and participants are under no obligation to consent to participation. If a participant decides to take part, they will be asked to provide informed consent

by clicking on the link provided via email to continue with the questionnaire on Google Forms. Participants are free to withdraw at any time, without providing a reason. However, it will not be possible to withdraw once they have submitted the questionnaire with non-identifiable details. All information gathered during the research process will be kept strictly confidential. Should a participant experience any emotional distress (psychologically and/or emotionally) from participating in this study, they may contact Mr. Henry Taylor, coordinator of the Counselling division Adult Practice at the Department of Psychology at taylorhw@ufs.ac.za for counselling sessions.

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

The information obtained in this study will assist in identifying which variable(s) predict coping amongst university students at the University of the Free State. The counselling services of the university could utilise the results from this study to create interventions that will specifically focus on high-risk groups within the student population. Due to the lack of South African studies about the predictors of coping among university students in the emerging adulthood phase, the findings from this study will make a significant contribution to the body of knowledge. However, for participants, there is no direct benefit from participating in this study.

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

If there are unforeseen circumstances during the research process, participants have the right to withdraw from the study without explanation or fear of negative consequences. Furthermore, if a participant is distressed (psychologically and/or emotionally) or experienced personal or cultural

embarrassment, they may contact Mr. Henry Taylor (taylorhw@ufs.ac.za) at the Counselling division Adult Practice of the Department of Psychology for debriefing. The questionnaires will take approximately 30 to 40 minutes to complete.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

Confidentiality of information will be maintained (e.g., participants' names will not be recorded). The answers provided will be given a fictitious code number or pseudonym and this will be how they will be referred to in the data, any publications or other research reporting methods such as conference proceedings. An internal supervisor will have access to the data obtained from the study and this individual will also maintain confidentiality (e.g., by signing a confidentiality agreement). Records that identify participants will be available only to people working on the study unless a participant gives permission for other people to see the records. The anonymous data may be used for other purposes, such as a research report, journal articles and conference presentation. However, privacy will be protected in any publication of the information. A report of the study may be submitted for publication, but all participants' information will be unidentifiable in such a report.

HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?

The questionnaires (electronic information) will be stored on a password-protected computer. After five years, the electronic data will be destroyed.

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

There is no payment or incentive for completing the questionnaires in this study.

HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?

If a participant would like to be informed of the final research findings, they may contact the researcher, Ms. Prianca Harichand, on Harichandp@ufs.ac.za. For any further information or other details on any aspect of this study, please contact Dr Jacques Jordaan on JordaanJ1@ufs.ac.za. Should participants have concerns about how the research has been conducted, they may also contact Dr Jordaan. Furthermore, if there are any ethical queries, Mrs Charné Vercueil can be contacted on VercueilCC@UFS.ac.za.

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

CONSENT TO PARTICIPATE IN THIS STUDY

I have read and I understood the study as described in the information leaflet. I have had sufficient opportunity to ask questions (via email to the researcher at Harichandp@ufs.ac.za) and I am prepared and willing to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I understand that when **I click on the questionnaire link, this is equivalent to an informed consent to participate in the study**. I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

Appendix G: Plagiarism Report

Masters Dissertation - Final

ORIGINALITY REPORT

17%	13%	6%	12%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of the Free State Student Paper	9%
2	scholar.ufs.ac.za Internet Source	4%
3	Scholar.ufs.ac.za Internet Source	2%
4	"Encyclopedia of Adolescence", Springer Science and Business Media LLC, 2018 Publication	1%
5	www.frontiersin.org Internet Source	1%
6	ir.amu.ac.in Internet Source	1%