Interventions directed at reducing high risk-taking behaviour in adolescents. A RE-AIM framework review

RUMBIDZAI KANGIRA MATE

3608387

Full thesis submitted in fulfilment of the requirements for the degree MA (Child and Family Studies) in the Centre for Interdisciplinary Studies of Children,
Families and Society,
Faculty of Community and Health Sciences,
University of the Western Cape

Supervisor: Dr C. J. Erasmus
Supervisor: Dr Z. Yassin-Burns

2021

http://etd.uwc.ac.za

ABSTRACT

The stage of adolescence is a transitional stage in human development that can be confusing and stressful as it involves adjusting to adulthood which comes with independence and responsibilities. Adolescents solidify their journey towards self-identity as they gradually detach from being completely dependent on their parents. They form new bonds with peers and other people and are bound to be experimental as they embark on a life discovery journey. Studies reveal that adolescents are increasingly engaging in risk-taking behaviours such as risky sexual behaviour, substance use and violence, despite the implementation of numerous behavioural change interventions. Adolescents who engage in risky behaviours usually compromise their health, affect their academic progress, are prone to be incarcerated, have premature deaths, and negatively affect their future. This study aimed at identifying interventions directed at reducing high risk-taking behaviours in adolescents. To this end, a RE-AIM framework systematic review was employed. The study was guided by the following objectives: to identify interventions directed at reducing high risk-taking behaviours in adolescents (Objective 1); to identify the effectiveness of interventions directed at reducing high-risk behaviours in adolescents (Objective 2); and to appraise the methodological rigour of studies exploring interventions directed at reducing high risk-taking behaviours in adolescents (Objective 3).

The study results and findings showed that adolescents lacking positive life skills and support systems are susceptible to high risk-taking behaviours. This review study has shown that interventions promoting individual adolescent competencies and life skills such as self-confidence, self-efficacy, emotional regulation, anger management, and resilience help them transition to adulthood with minimum difficulties. The study also revealed that adolescents with positive functional support systems such as families, peers, schools, and communities

http://etd.uwc.ac.za

have a better chance of progressing into adulthood with less behavioural challenges. Adolescents, therefore, need support and skills during the transitioning period to assist them in positive decision making. Interventions directed at reducing high risk-taking behaviours should be designed to increase the effectiveness and sustainability of the programmes.

KEYWORDS

Adolescents

High risk-taking behaviours

Interventions

Substance use

Risky sexual behaviour

Violence

RE-AIM Framework Review

http://etd.uwc.ac.za

LIST OF ACRONYMS

ABBL	Anti-Bullying Programme
AIDS	Acquired Immune Deficiency Syndrome
APV/A	Adolescent to Parent Violence/ Aggression
BSFT	Brief Strategic Family Therapy
CDC	Centre for Disease Control Prevention
CDCPSA	Centre for Disease Control Prevention South Africa
CLFC	Creating Lasting Family Connections
CLFM	Creating Lasting Family Connections
CSRH	Comprehensive Sexual Reproductive Health
CTC	Communities That Care
CVI	Content Validity Index
DARE	Drug Abuse Resistant Education
HCT	HIV counselling and testing
HIV	Human Immunodeficiency Virus
HLM	Hierarchical linear Modelling
HSRC	Human Sciences Research Council
IMARA	Informed, Motivated, Aware and Responsible about AIDS
IPV	Intimate Partner Violence
LIFT	Linking the Interest of Families
NREPP	National Registry for Effective Preventive Programs
PHF	Promoting Healthy Futures
PICO	Population Intervention Comparison Outcome
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RE-AIM	Reach, Effectiveness, Adoption, Implementation, and Maintenance
RHRD	Reduce High-Risk Drinking
SAMRC	South African Medical Research Council
SAPS	South African Police Service
SCLT	Social Cognitive Learning Theory
SFP	Strengthening Families Programme
SIHLE	Sistering Informing Healing Living and Empowering
SISTA	Sister Informing Sister about Topics on AIDS

http://etd.uwc.ac.za

SLT	Social Learning Theory
SR	Systematic Review
SSA	Sub-Saharan Africa
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
STYLE	Strengthening the Youth Life Experiences
TORO	Teach One Reach One
TPB	Theory of Planned Behaviour
UN	United Nations
UNCHS	United Nations Centre for Human Settlements
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
US	United States
USA	United States of America
UWC	University of Western Cape
WHO	World Health Organisation
YWHC	Young Women Health CoOp

http://etd.uwc.ac.za

DECLARATION STATEMENT

I declare that the study entitled "Interventions directed at reducing high risk-taking behaviour in adolescents. A RE-AIM framework review" is a result of my research. All the sources used in this study have been indicated and fully acknowledged through complete references.

Name: RUMBIDZAI KANGIRA MATE

Date: 8 September 2021

Signed:

http://etd.uwc.ac.za

DEDICATION

This thesis is dedicated to my loving husband, Arthur Mate,

and to my two beautiful children Lusanda Mate and Lungile Mate,

for their patience, love and understanding while I wrote this thesis, which required many hours spent away from them.

It is also dedicated to my parents, Mr and Mrs Kangira, and my sisters Kudzai and Yeukai.

The late Mr. Jew Mate, you were my biggest cheerleader but, sadly, you rested just a few months before I completed this thesis, this is for you too.

http://etd.uwc.ac.za

ACKNOWLEDGEMENTS

I would like to thank to all those who in one way or another contributed to the fruition of this study:

- To God be the Glory, I would not have managed without the Lord God Almighty's favour and guidance, through whom all things are possible, no matter how difficult.
- Arthur Mate, my loving husband, I thank you for your support throughout the duration of my studies. You understood and always helped fill the gaps created by my studies, especially when taking care of the children and other general responsibilities. I can never thank you enough. My children Lusanda (7 years) and Lungile (4 years) were amazing and understanding when I could not do everything a mother should do because I was consumed by my studies. You would feel sorry for me when everyone else went to sleep, and I stayed awake after a long day at work. The hugs and kisses kept me going. Thank you, my angels.
- I acknowledge my father's support, Professor Jairos Kangira and my mother, Mrs Nomakando Kangira, who are both academics and full of encouragement. Your wise words, "kudzidza hakuperi", meaning “learning never ends”, motivated me to continue my educational journey. To my sisters Kudzai and Yeukai Kangira, you have been my greatest cheerleaders throughout my life, and I thank you for the support. My in-laws, the late Mr Jew Mate, Stewart, Lot, Sipho, Sibonile Musiyazviriyo, and Busi Maposa, for your constant encouragement and ongoing support.
- The most significant acknowledgement goes to my supervisors Dr Erasmus and Dr Yassin-Burns. Dr Erasmus has been there for me throughout my postgraduate educational journey. Dr E. became my educational partner when I enrolled for the postgraduate diploma and believed in me. She has worked tirelessly to mould me into

http://etd.uwc.ac.za

the academic I am now; I owe my growth to her patience and guidance. Thank you for never giving up on me; when I struggled, you supported and encouraged me to soldier on. Dr Yassin-Burns, thank you for your unwavering support and guidance. I would ask for extra support, and you were always ready to dedicate more time to help me push and balance the studies and work timeously.

- My editor, Dr Lee-Anne Roux, the most efficient and organised person I have worked with. Thank you for your thoroughness, words of encouragement and timely responses always. It was a pleasure working with you.

This was not an easy journey, but I am blessed to have had such a wonderful support system – you are all deeply appreciated.

http://etd.uwc.ac.za

TABLE OF CONTENTS

ABSTRACT .... **II**

LIST OF ABBREVIATIONS .... **IV**

DECLARATION STATEMENT .... **VI**

DEDICATION .... **VII**

ACKNOWLEDGEMENTS .... **VIII**

TABLE OF CONTENTS .... **X**

LIST OF APPENDICES .... **XIV**

LIST OF TABLES .... **XV**

LIST OF FIGURES .... **XVI**

CHAPTER ONE **1**

INTRODUCTION TO THE STUDY **1**

1.1 Background and Rationale 1

1.2 Theoretical Framework 6

1.3 Problem Statement 7

1.4 Research Questions 7

1.5 Aim and Objectives 8

1.5.1 Aim of the study 8

1.5.2 Objectives of the study 8

1.6 Research Design 8

1.7 Significance of the Study 9

1.8 Definition of Key Terms and Concepts 10

1.9 Structure of the Thesis 11

1.10 Conclusion 12

http://etd.uwc.ac.za

CHAPTER TWO **13**

THEORETICAL FRAMEWORK **13**

2.1 INTRODUCTION 13

2.2 ORIGIN OF THE SOCIAL COGNITIVE LEARNING THEORY 13

2.3 DESCRIPTION OF THE SOCIAL COGNITIVE LEARNING THEORY 16

2.4 APPLICABILITY OF THE THEORY TO THE STUDY 18

2.5 CONCLUSION 25

CHAPTER THREE **26**

LITERATURE REVIEW **26**

3.1 INTRODUCTION 26

3.2 ADOLESCENCE 26

3.2.1 Adolescents' susceptibility to engaging in risk-taking behaviours 28

3.2.2 Risk-taking behaviours during adolescence 30

3.2.2.1 Violence 31

3.2.2.2 Risky sexual behaviours 36

3.2.2.3 Substance abuse 39

3.3 INTERVENTIONS 43

3.3.1 Government laws and restrictions 43

3.3.2 Community-based interventions 45

3.3.3 Family-based interventions 48

3.3.4 School-based interventions 51

3.4 CONCLUSION 54

CHAPTER FOUR **55**

METHODOLOGY **55**

4.1 INTRODUCTION 55

4.2 AIM 55

4.3 OBJECTIVES 55

http://etd.uwc.ac.za

4.4 Review Question 56
4.5 Research Methodology 56
4.6 Inclusion Criteria 57
4.6.1 Time period 57
4.6.2 Participants 58
4.6.3 Types of studies 58
4.7 Exclusion Criteria 59
4.8 Method of Review 59
4.9 Search Strategy 60
4.9.1 Levels of review 62
4.9.2 Identification 62
4.9.3 Screening 66
4.9.4 Eligibility 67
4.9.4.1 Critical Appraisal Tool 68
4.9.4.2 Threshold Scoring 70
4.9.4.3 Inclusion 70
4.10 Data Extraction 71
4.11 Analysis 71
4.11.1 Descriptive meta-synthesis 73
4.12 Ethics Considerations 76
4.13 Conclusion 77
CHAPTER FIVE 78
RESULTS 78
5.1 Introduction 78
5.2 Process of Results 78
5.2.1 Identification 80
5.2.2 Screening 80
5.2.3 Eligibility 80

http://etd.uwc.ac.za

5.3 Findings and Analysis 81
5.3.1 General description of the studies........ 81
5.3.2 Methodological aspects 88
5.3.2.1 REACH 105
5.3.2.2 EFFECTIVENESS 106
5.3.2.2.1. Sexual behaviour........ 107
5.3.2.2.2 Substance use 111
5.3.2.2.3 Violence 113
5.3.2.3 ADOPTION........ 114
5.3.2.4 IMPLEMENTATION 115
5.4 MAINTENANCE 123
5.5 Conclusion........ 124
CHAPTER SIX 125
DISCUSSION 125
6.1 Introduction........ 125
6.2 Discussion of Findings 125
6.3 Conclusion........ 142
CHAPTER SEVEN........ 143
CONCLUSION 143
7.1 Introduction........ 143
7.2 Executive Summary........ 144
7.3. Significance of the Study 146
7.4 Limitations 146
7.5 Recommendations 147
7.6 Final Conclusion 152
REFERENCES........ 153

http://etd.uwc.ac.za

LIST OF APPENDICES

APPENDIX A: A-Z DATABASES 189

APPENDIX B: TITLE SHEET 190

APPENDIX C: ABSTRACT SHEET 191

APPENDIX D: RE-AIM FRAMEWORK APPRAISAL TOOL 192

APPENDIX E: SCORING SHEET FOR THE CRITICAL APPRAISAL TOOL 193

APPENDIX F: RE-AIM DATA EXTRACTION SHEETS 194

APPENDIX G: EDITOR'S LETTER 195

APPENDIX H: ETHICAL CLEARENCE FORM 196

http://etd.uwc.ac.za

LIST OF TABLES

TABLE 4.1: TABLE OF DISCIPLINE AND ASSOCIATED DATABASES

TABLE 5.1: GENERAL DESCRIPTION OF THE ARTICLES

TABLE 5.2: METHODOLOGICAL ASPECTS OF STUDIES

TABLE 5.3: RE-AIM

http://etd.uwc.ac.za

LIST OF FIGURES

FIGURE 4.1: PRISMA LEVELS OF REVIEW

FIGURE 5.1: PRISMA LEVELS OF REVIEW AND RESULTS

http://etd.uwc.ac.za

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background and Rationale

Adolescents engaging in high risk-taking behaviours continue to be a vexatious phenomenon worldwide, negatively influencing their families, communities, and nations (Jackson et al., 2012). The adolescent high-risk taking behaviours considered in this study affect most adolescents and include risky sexual behaviours, illicit substance use, and violence (United Nations Population Fund [UNFPA], 2015). The World Health Organisation (WHO) (2017) defines an adolescent as a person aged between 10–19 years. The period of adolescence is characterised by rapid physical and psychological transitions as experienced by children as they progress to adulthood (Grigsby et al., 2016; Jackson et al., 2012). Piaget's theory of cognitive development postulates that during adolescence, children shift from being dependent on their parents or caregivers, and stronger bonds are formed with peers and other significant people (Woolfolk, 2014). Many developmental psychologists have observed that peer influence, the desire to fit in, and peer loyalty often cause adolescents to replicate the behaviour of their peers (Grigsby et al., 2016). Therefore, this transitionary stage is crucial as the process is characterised by several issues affecting adolescents such as independence, decision-making skills, impulsivity, self-identity, self-efficacy, and life skills (Robert & Schumann, 2017). Vidourek et al., (2017) point out that behavioural traits – good and bad – acquired at this stage of development are often carried into adulthood. Adolescence is a transitional stage from childhood to adulthood, making it a vulnerable period for adolescents to engage in risk-taking behaviours (Vidourek et al., 2017).

http://etd.uwc.ac.za

Studies have shown that adolescents usually associate with undesirable peer groups when there is a lack of family or social support, resulting in low self-esteem and self-efficacy (Castillo-Arcos et al., 2016). Adolescents' engagement in risk-taking behaviours is most likely to cause harm, danger, and impact negatively on their lives as well as that of others (Centre for Disease Control [CDC], 2017a). Risk-taking behaviours include substance abuse, gangsterism, risky sexual behaviours and violence, among others, and previous research has shown that the behaviours usually occur concurrently or simultaneously (Jackson et al., 2012; Spirito et al., et al., 2015; Sieving et al., 2014; Coelho, 2012). The Population Reference Bureau (2017) in South Africa showed a close link between adolescent substance abuse and gangsterism. Cape Town is harbouring approximately 130 gangs with an estimated membership of 100,000 individuals. A study conducted by the UNFPA (2015) also reveals that a large proportion of adolescents have multiple sexual partners and engage in penetrative sex without using condoms. These risk-taking behaviours are likely to increase adolescent susceptibility to contracting sexually transmitted infections (STIs), HIV/AIDS, and unwanted teenage pregnancies (UNFPA, 2015).

Lishman et al., (2014) report that alcohol use is relatively high across Europe and the United States (US). Statistics show that excessive alcohol consumption contributes to more than 4,300 adolescent deaths annually (CDC, 2018). Surveillance research on youth risk behaviour carried out in the US in 2017 over 30 days revealed that 30% drank alcohol, 14% binge drank, 6% drove under the influence of alcohol, and 17% were driven by someone who had consumed alcohol (Kann et al., 2018).

In most African countries, alcohol and substance use remain a major problem affecting adolescents. In 2014, Namibia had approximately 80% of adolescents aged 14–15 years excessively consumed alcohol and other substances like marijuana (WHO, 2014b). Moultrie and

http://etd.uwc.ac.za

Timaeus (2015) alluded that alcohol and substance abuse continue to be rampant in South African schools and has resulted in many school dropouts or poor academic performance. A study carried out in Botswana with secondary school adolescents revealed that marijuana is a widely used substance by pupils (42.1%), followed by alcohol (22.4%) and other illicit drugs (16.7%) (Riva et al., et al., 2018).

Adolescents more susceptible to engaging in high-risk behaviours are generally those not performing well academically and are repeating grades than adolescents in mainstream school settings (Coyle et al., 2013). Conversely, Spirito et al., (2015) dispute these assertions and argue that adolescents with emotional and or mental health issues or behavioural disorders are most likely to engage in high risk-taking behaviours. Other scholars have shown that adolescents already involved in risk-taking behaviours, such as criminal activities, are more susceptible to other forms of high-risk behaviours, such as risky sexual behaviours, and alcohol and substance use (Daniels et al., 2011). Despite these findings, current statistics depicting the global trend indicate that in the absence of mental health and behavioural issues, criminal records and alternative schools, adolescents continue to engage in high risk-taking behaviours (Robert & Schumann, 2017). Common adolescent risk-taking behaviours include illicit substance use, excessive smoking and alcohol use, risky sexual behaviours, gangsterism, and violence (Robert & Schumann 2017; Grigsby et al., 2016; Moultrie & Timaeus, 2015). Nydegger et al., (2016) alluded that these behaviours often result in negative consequences. The implications include contracting sexually transmitted diseases (STDs) or STIs, drug addiction and dependency, school dropout or truancy, getting arrested, developing a terminal illness such as cancer, and sometimes even death resulting from increased violence or substance overdose. Social, economic, and health

http://etd.uwc.ac.za

implications are the result of perpetuated high risk-taking behaviours such as increased substance-use-related illnesses and deaths amongst adolescents (CDC, 2018).

Engagement in risk-taking behaviours places adolescents in harm's way. It also results in reduced development, as well as diminished psychological and physical health and academic achievements. These outcomes are likely to negatively affect the adolescent, their families, communities, and the nation at large (Grigsby et al., 2016). Family relationships are usually strained by such negative behaviours, causing stress among parents and caregivers (Gariepy et al., 2016). Communities become unsafe if youths engage in substance use, violent behaviours, and risky sexual behaviours (Daura et al., 2018). The health systems of most nations spend a lot of money trying to manage the effects of substance use, violence, and risky sexual behaviours (Cooper & Gosnell, 2015; Daura et al., 2018). Adolescent alcohol and substance use-related car accident injuries, brutal fights, homicides, and illnesses continue to burden most nations globally (CDC, 2018). Research shows that many youths continue to be infected with STDs, become addicted to substances, or are unemployed, which strains the finances and resources of nations (Robert & Schumann, 2017; Moultrie & Timaeus, 2015; Daura et al., 2018). Interventions to prevent and reduce risk-taking behaviours in adolescents are therefore vital.

Griffin and Botvin (2010) maintain that interventions in families, schools and communities were developed in response to high risk-taking behaviours by adolescents, focusing on risk and protective factors and their varying degrees of effectiveness (Griffin & Botvin, 2010). Moreover, these interventions have mostly been directed toward adolescents who are already involved in high risk-taking behaviours, including adolescents with behavioural problems or those who have been detained by law enforcement (Daura et al., 2018). Coelho (2012) highlights that interventions need to encourage effective communication, support, and understanding

http://etd.uwc.ac.za

between adolescents and their parents or caregivers. Similarly, Stice et al., (2010) suggest that depression is identified as a significant cause of high-risk behaviour in adolescents and cognitive behavioural interventions are vital in reducing such behaviours. Furthermore, Martin et al., (2018) opine that addressing socio-economic factors such as poverty and unemployment that usually drive adolescent engagement in high-risk behaviours is of paramount importance.

Various interventions such as the Family Matters, Creating Lasting Family Connections (CLFC), Brief Strategic Family Therapy (BSFT), Community Trials Interventions to Reduce High-Risk Drinking (RHRD), Teenagers against Drug Abuse and Promoting Healthy Futures (PHF) were developed to reduce different high risk-taking behaviours amongst adolescents (Johnson et al., 2016). Despite these interventions, a large proportion of adolescents remain susceptible to high risk-taking behaviours (Vidourek et al., 2017). Current interventions directed at reducing high risk-taking behaviours among adolescents fail to adopt a holistic approach. These interventions often target a single risk-taking behaviour and are delivered in a single setting such as school, family, or community for a limited period of time, with the sole focus on psychological or social aspects that influence adolescents' behaviour (Gariepy et al., 2018; Vidourek et al., 2017). The effectiveness of existing interventions is questionable, yielding only short-term outcomes (Griffin et al., 2010). The delivery methods also compromise the continuity and sustainability of the interventions; hence, the problem persists (Vidourek et al., 2017).

Conducting a RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) systematic review (SR) comprises the review of current interventions addressing high risk-taking behaviours among adolescents (Kessler et al., 2012.) It allows the unearthing of optional approaches that will deter the onset of high-risk behaviours in adolescents (Gaglio & Glasgow, 2012). The review is necessary as it will expose alternative strategies that can be

http://etd.uwc.ac.za

adopted to address adolescents' continued engagement in high risk-taking behaviours at the family, school, and community levels (Griffin et al., 2010). In addition to identifying and exhibiting the shortcomings of existing interventions, the results of the review will enable recommendations to be made for more effective approaches (Kessler et al., 2012). Curbing these vices of substance use, violence, and sexually related illnesses affecting the lives and futures of our youth should be a priority, as it puts a strain on families, schools, communities, and even nations (Vidourek et al., 2017).

1.2 Theoretical Framework

The social cognitive learning theory (SCLT) espoused by Albert Bandura (1963), which denotes that an individual, their behaviour and the environment mutually influence each other, underpins the theoretical framework of this study (Nabavi, 2012). Evidence shows that most adolescents engaging in high risk-taking behaviours, such as substance or alcohol abuse, learn these behaviours through observation, imitation, and modelling (Jackson et al., 2012). In light of the chosen theory, adolescents engaging in high-risk behaviours are often exposed to environments, such as familial environments or peer groups, in which such high-risk taking behaviours are present (Jackson et al., 2012). The theory also explains that positive behaviours can be learnt through observation, such as positive peer pressure, positive role models, right family and community coherence. In agreement with SCLT, research has shown that the environment can positively or negatively influence behaviour as adolescents also adopt behavioural traits that they learn from their families, peers, and communities (Lim et al., 2018).

Based on the social cognitive learning school of thought, it is evident that to reduce high risk-taking behaviour in adolescents, creating safe environments and promoting positive cognitive thinking assists in learning positive behaviours (Spirito et al., 2015; Stice et al., 2010).

http://etd.uwc.ac.za

1.3 Problem Statement

Increased engagement in high risk-taking behaviour negatively influences adolescents' healthy development and well-being (Moultrie et al., 2015). Prior studies (Sieving et al., 2012; WHO, 2014a) have identified various risk factors that influence adolescents to engage in risky behaviours. These include negative peer pressure, poor parenting skills and practices, depression, psychological and mental health issues, cultural practices, poverty, and unemployment. Most existing interventions do not adopt a holistic approach. They also tend to address multiple risk behaviours, focus on a single method, and target specific settings, such as family-based, school-based, or community-based interventions (Robert & Schumann, 2017; Grigsby et al., 2016; Jackson et al., 2012; Coyle et al., 2013; Nydegger et al., 2016). A large number of interventions do not consider multiple risk factors that influence adolescent risk-taking behaviours, resulting in the problem not being comprehensively addressed (Griffin & Botvin, 2010). Robert and Schumann (2017) revealed the need to identify the shortcomings of existing interventions since high-risk behaviours continue to persist and reoccur among adolescents. This study, therefore, explored existing literature and exposed deficiencies in current interventions directed at reducing high risk-taking behaviours in adolescents (Gariepy et al., 2018).

1.4 Research Questions

The study's main research question was:

> "What are the interventions directed at reducing risk-taking behaviours in adolescents?"

The sub-research questions were:

1) What interventions are directed at reducing high risk-taking behaviours among adolescents?

http://etd.uwc.ac.za

2) How effective are interventions directed at reducing high risk-taking behaviours among adolescents?
3) What is required for the reduction of high risk-taking behaviours amongst adolescents?

1.5 Aim and Objectives

1.5.1 Aim of the study

The study aimed to review existing literature focusing on interventions directed at reducing high risk-taking behaviour in adolescents.

1.5.2 Objectives of the study

The objectives of the study were to:

1) Identify interventions directed at reducing high risk-taking behaviours in adolescents.
2) Ascertain the effectiveness of interventions directed at reducing high-risk behaviours in adolescents.
3) Appraise the methodological rigour of studies exploring interventions directed at reducing high risk-taking behaviours in adolescents.

1.6 Research Design

This study implemented a SR methodology following a RE-AIM design. A SR methodology is regarded as a thorough and methodical way of assessing, appraising, and evaluating existing literature using reproducible steps (Frantz & Chandeu, 2011). The process has a minimum bias as a systematic approach is adopted to search, identify, select, appraise, and synthesise research evidence (Stewart, 2014; Gaglio et al., 2013). A SR methodology was ideal for this study as it sought to review existing literature focusing on interventions directed at reducing high risk-taking behaviour in adolescents. It is also regarded as the keystone of empirical research and allows

http://etd.uwc.ac.za

information from numerous literature sources from aligned studies to be rigorously examined to address the existing problem (Higgins & Green, 2011). The RE-AIM framework model was developed to improve the likelihood of translating health promotion interventions into practice (Estabrooks & Allen, 2012) and help evaluate the effectiveness of an intervention in a community or organisation (Jauregui, 2015). This framework is the most suitable for this study since its five components, namely: Reach, Effectiveness, Adoption, Implementation, and Maintenance gives the researcher the platform to thoroughly evaluate the interventions, as elaborated by Frantz and Chandeu (2011). A full description of the research methodology is presented in Chapter four.

1.7 Significance of the Study

The study highlights the adverse effects of adolescents' engagement in high risk-taking behaviours such as substance use, violence, and risky sexual behaviour. The current SR explored the existing interventions directed at reducing high risk-taking behaviours in adolescents. It reveals the possible causes of continuous engagement in adolescents' risk-taking behaviours, despite interventions having been developed to limit or eradicate this problem. The study exposes the current gaps in the existing literature and provides opportunities for policymakers to formulate effective future policies that will assist in the reduction of high risk-taking behaviours in adolescents. This study paves the way for the design and development of relevant interventions that efficiently address adolescents' risk-taking behaviours. The study reveals relevant support systems, safety nets, structures, and best practices that adolescents and their families, schools, and communities can adopt, which are essential in addressing adolescents' risk-taking behaviours. Therefore, this study is significant and beneficial in the mission to reduce high risk-taking behaviours in adolescents.

http://etd.uwc.ac.za

1.8 Definition of Key Terms and Concepts

This section defines the key terms and concepts used in this study:

Adolescents: People aged between 10 to 19 years (WHO, 2019).

High risk-taking behaviours: Behaviours that are most likely to cause harm, danger or impacts negatively on the life of an individual and of others (CDC, 2018). For the purpose of this study, the high risk-taking behaviours to be focused on include alcohol, smoking and illicit substance use, as well as risky sexual behaviours and violence.

Intervention: An action taken intentionally in a difficult situation to improve it or prevent it from getting worse. In relation to this study, these are strategies developed in an effort to reduce or limit high risk-taking behaviours in adolescents (Stockings, 2016).

Substance use: Harmful or hazardous use of psychoactive substances that may result in dependence syndrome, a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated intake (WHO, 2021a).

Risky sexual behaviour: Describes an activity that will increase the probability that a person is engaging in sexual activity with another person infected with a sexually transmitted infection will be infected or result in unintended pregnancy (Kann et al., 2018).

Violence: The intention of physical use or power, threatened or actual, against oneself, another person, or against a group or community, that either

http://etd.uwc.ac.za

	result in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation (WHO, 2021b).
RE-AIM Framework Review:	A model that provides practical means of evaluating health interventions by analysing the reach, effectiveness, adoption, implementation and maintenance of programmes. It was developed to encourage programme planners, evaluators, readers of journal articles, funders and policymakers to pay more attention to essential programme elements, including external validity that can improve the sustainable adoption and implementation of effective, generalisable, evidence-based interventions. (Kessler et al., 2012).

1.9 Structure of the Thesis

Chapter One introduces the topic under investigation of high risk-taking behaviours in adolescents, particularly substance use and risky sexual behaviour, and questions the effectiveness of current interventions directed at reducing these behaviours. This chapter also presented the background and rationale for conducting the research, along with the theoretical framework, problem statement, research questions, aim and objectives, research design, and explanation of the significance of the study. In addition to defining the key terms and concepts employed in this research, and the structure of the thesis was outlined, providing the reader with a 'roadmap' of what is to come.

http://etd.uwc.ac.za

Chapter Two presents the theoretical framework of the Social Cognitive Theory by Bandura to understand human behavioural patterns. This chapter explores the theoretical perspectives concerning adolescent behaviours.

Chapter Three presents the literature review of the study, focusing on concepts of adolescence, high risk-taking behaviours, and interventions directed at reducing high risk-taking behaviours in adolescents. The information extracted from the literature review informs the overall understanding of these concepts.

Chapter Four comprehensively outlines all the rigorous methodological steps taken in retrieving data systematically that address interventions directed at reducing substance use, risky sexual behaviour, and violence in adolescents. Findings from this chapter were used to deduce the study's conclusions and devise recommendations.

Chapter Five discusses the findings that emerged from the data analysis.

Chapter Six presents the conclusion and recommendations.

1.10 Conclusion

This chapter introduced the topic of the study. Sufficient attention was given to outlining the identified problem of high risk-taking behaviours in adolescents and the ineffectiveness of current approaches. In addition to describing the background and rationale for conducting the research, the chapter also explained the theoretical framework underpinning the study, along with the problem statement, research questions, aim and objectives, and research design. The significance of the study was also noted, and the key terms and concepts employed in this research were defined. The penultimate section outlined the forthcoming chapters, followed by a brief conclusion that wrapped up chapter. Attention now shifts the theoretical framework of the study in the next chapter.

http://etd.uwc.ac.za

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

The previous chapter introduced the study and topic under investigation. The current chapter presents the theoretical framework, namely social cognitive learning theory (SCLT), that underpins the study. The chapter begins with a brief introduction (section 2.1). It then gives an historical overview of the origin and development of the theory (section 2.2), followed by an extensive description of the theory (section 2.3) and its applicability to the current study (section 2.4). A brief conclusion sums up the chapter (section 2.5).

2.2 Origin of the Social Cognitive Learning Theory

The SCLT is a learning theory based on the notion that individuals learn by observing others and individual cognitive processes (Nabavi, 2012; Bandura, 2011; Ormrod, 2011). Albert Bandura, a Canadian psychologist, developed this theory in the 1960s to expand his social learning theory (SLT) (LaMorte, 2016; Bandura, 2011; Nabavi, 2012). The SCLT expands the SLT; hence, it is referred to as the link between the behaviourist learning theories and cognitive theories (Nabavi, 2012). Bandura conducted a series of experiments that led to expanding the SLT to the SCLT (LaMorte, 2016). He used the Bobo doll experiment to investigate various behavioural patterns, including finding out why children display aggressive behaviours (Nabavi, 2012; Mark et al., 2011).

The studies demonstrated the value of modelling, which is learning behaviour from observing models (Nabavi, 2012; Green & Peil, 2009; Ormrod, 2011). In his experiments,

http://etd.uwc.ac.za

Bandura had one group of children watch models perform a series of violent acts against a Bobo doll, and another group of children observe models who did not exert any violence (LaMorte, 2016; Nabavi, 2012). After the observations, the children were given a chance to play with the Bobo doll. Those who had observed the aggression replicated the behaviour, especially the boys, while those who did not see any violence played with the toy with no intensity (LaMorte, 2016; Nabavi, 2012). The same concept was carried out through the media by showing violent and non-violent behaviour. Similarly, the children who watched the brutal video reacted aggressively towards the doll compared to those who viewed the violence-free video (Nabavi, 2012). Bandura also noted that it is not only external environmental reinforcements that influence learning and behaviour (Bandura, 2011). SLT places much emphasis on observation, imitation, and modelling in moulding behaviour, and does not consider the role of the individual's cognitive processes in shaping behaviour (Gordon & Browne, 2017; Mark et al., 2011; Weeger & Pacis, 2012). Such observations led Bandura to refine the SLT and rename it SCLT after the discoveries from his experiments (Nabavi, 2012; Miller et al., 2007; Bandura, 2011). The recognition of the role cognition plays in influencing behaviour is fundamental (Bandura, 2011). The SCLT provides a framework for understanding, predicting, and changing human behaviour (Green & Peil, 2009; Ormrod, 2011).

The concept of SCLT is rooted in the book by Edwin Holt and Harold Chapman Brown (1931) that theorised that all animal action is based on fulfilling the psychological needs of emotion, desire, and feelings (Nabavi, 2012). This concept strongly suggests that copying a person helps them learn how to imitate (Santrock, 2012). This way of thought was challenged in 1941 by Neil Miller and John Dollard, who revised Holt's SLT and imitation theory, arguing that learning is driven by four factors, namely: cues, responses, drives, and rewards. Dollard and

http://etd.uwc.ac.za

Miller argued that an individual's behaviour is learned through observation and by imitating the observed actions; positive or negative consequences follow, and positive response is rewarded and reinforced (Nabavi, 2012; Santrock, 2012).

As SLT behaviour affirms, the environment is a powerful platform for learning (LaMorte, 2016; Bandura, 2011; Weeger & Pacis, 2012). The SLT where the SCLT stems from suggests that people learn from their interactions with others in a social context (Bandura, 2011; Vidourek et al., 2017). The SCLT claims that observation plays a vital role in learning as people assimilate and imitate the behaviour observed if there are rewards in the replication (Mark et al., 2011). The SCLT posits that the fundamental processes that enable people to learn behaviour from one another are observation, imitation, and modelling (LaMorte, 2016; Green & Peil, 2009). Theorists, such as Piaget, support the SLT, as he observed that children learn from observations, imitations, and assumes that conscious thinking is the basis for almost all behaviours and emotions (Hutchinson & Bodicoat, 2015; Woolfolk, 2014).

The SCLT theory is critiqued by behaviourists who believe that a behaviour change always shows learning. Social learning theorists, however, argue that knowledge does not always equate to a change of behaviour. They explain that a person can learn through observation, but this does not mean they change their behaviour (Bandura, 2011). Biological theorists also criticised the SCLT by highlighting that observational learning only works when all factors such as attention, retention, reproduction, and motivation are present (Barter & McCurry, 2013). Furthermore, they questioned the lack of recognition given to the influence of genes on learning in Bandura's SCLT (Rosenfield et al., 2012; Hutchinson & Bodicoat, 2015). Biological theorists maintain that some behaviours are inherited, and genes play a vital role in influencing learning

http://etd.uwc.ac.za

(Hutchinson & Bodicoat, 2015; Berk, 2014). Individuals differ in learning capabilities (Hutchinson & Bodicoat, 2015).

Constructivists criticised the theory because it underestimates the child's contribution to his/her development (Berk, 2014; Purwano, 2018; Weeger & Pacis, 2012). Constructivism argues that learners are active rather than passive participants in the learning process (Purwano, 2018; Korpershoek et al., 2014). Besides observing and mimicking others, children learn through play (Barker et al., 2014; Leflot et al., 2013). Despite these criticisms, the SCLT continues to be influential in understanding human behaviour in various sectors, such as health science, education, social policy, and psychology (LaMorte, 2016).

2.3 Description of the Social Cognitive Learning Theory

The SCLT is a theoretical perspective that focuses on learning by observing others and eventually assuming control over one's behaviour (Ormrod, 2011). The theory has an underlying assumption that humans are products of learning; they become who they are through learning (Ormrod, 2011; Berk, 2014). SCLT emphasises modelling behaviour, which is achieved when the observer pays attention to the model or teacher and replicates the behaviour (Mark et al., 2011). The person who demonstrates a behaviour for someone else is the learner's model (Ormrod, 2011; Gordon & Browne, 2017). Memory or retention of information is essential as the observer needs to remember the behaviour displayed by the model (Mark et al., 2011). The learner reproduces or replicates the behaviour observed; positive reinforcement motivates repetition of the desired action, while punishment deters unwanted behaviour (Nabavi, 2012; Berk, 2014; LaMorte, 2016).

SCLT is distinct from behavioural theories in that it emphasises the human being's ability to think. Hence, cognitive thought processes are essential in influencing behaviour (Ormrod, 2011; Harinie et al., 2017; Weeger & Pacis, 2012). Bandura acknowledges that cognitive thought

http://etd.uwc.ac.za

processes, the environment, and the individual's skills all influence each other in determining behaviour (Harinie et al., 2017). SCLT shows the fundamental principle that human behaviour becomes influenced by three interactive and reciprocal elements, namely: *behavioural, cognitive*, and *environmental* factors, which he terms “triadic reciprocity” (Nabavi, 2012; Harinie et al., 2017; Weeger & Pacis, 2012). These three elements work reciprocally, meaning they have the same influence on human behaviour, as illustrated in Figure 1 below. Thus, SCLT uniquely emphasises social influence as well as both external and internal factors in determining behaviour (Bandura, 2011; Kapadia, 2017).

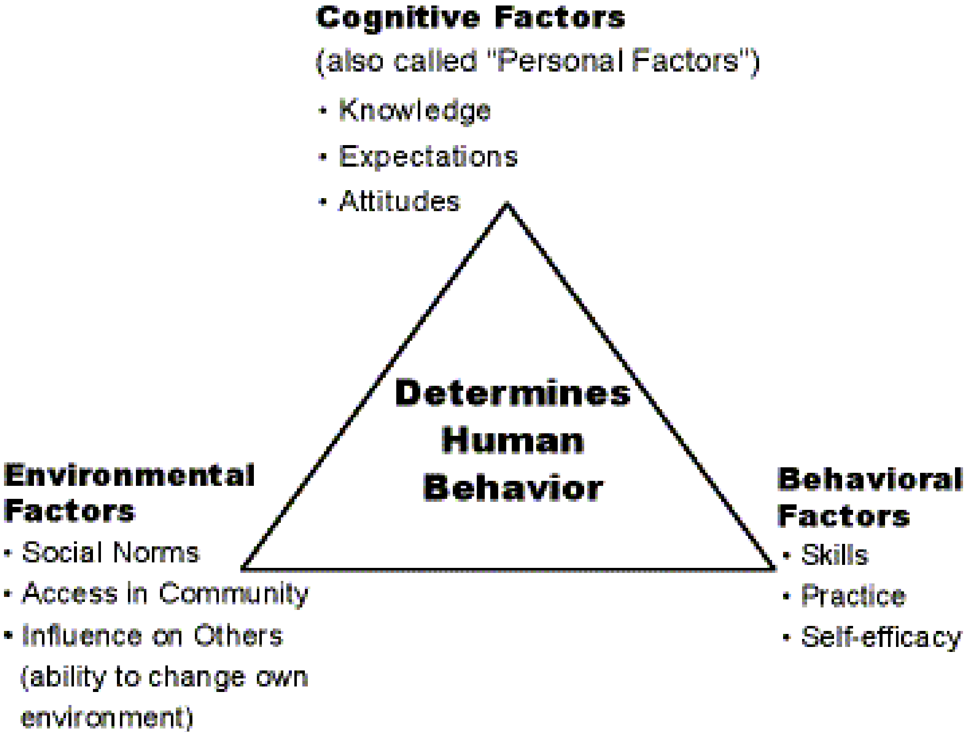


Figure 1.1: Internal principle of social cognitive learning theory

(Harinie et al., 2017)

http://etd.uwc.ac.za

Self-efficacy is another critical component of SCLT and represents the extent to which an individual believes that they can master a specific skill (LaMorte, 2016; Solomon et al., 2012). Bandura explains that self-efficacy plays a vital role in executing goals, tasks, and challenges. Individuals with high self-efficacy are more confident in taking up challenges than those with low self-efficacy (LaMorte, 2016; Boz & Ergeneli, 2013; Mark et al., 2011). Self-efficacy can be boosted when individuals believe they can accomplish the task, acquire relevant skills, or are encouraged by others (Nabavi, 2012; Ormid, 2011; Korpershoek et al., 2014).

Bandura's SCLT also highlights the importance of *self-regulation* in behaviour and explains that people regulate their thoughts, motivations, emotions, and actions (Mark et al., 2011; Bandura, 2011). It places much emphasis on the individual's ability to direct their efforts and is actively involved in developing functional patterns of thinking in response to the environmental conditions (Nabavi, 2012; Weeger & Pacis, 2012). Self-regulation teaches the individual to self-reward after accomplishing the needed behaviour (Bandura, 2011). The SCLT is shaped by past experiences, which create reinforcements, expectancies, and expectations that determine why certain behaviours are engaged in (Mark et al., 2011; Bodrova et al., 2013). Moreover, Bandura's SCLT is applauded and supported by many as it highlights the cognitive aspect that was lacking in the behaviourist and social learning theories; it has also remained influential in understanding human behaviour (LaMorte, 2016; Mark et al., 2011; Nabavi, 2012; Rhoades et al., 2011).

2.4 Applicability of the Theory to the Study

The SCLT is applicable in the study of interventions directed at reducing high risk-taking behaviours in adolescents since it explains human behaviour (Nabavi, 2012). Adolescence is a crucial period in human development, as it is a stage of self-discovery where teenagers adopt various behavioural traits (Robert & Schumann, 2017; Kapadia, 2017). This study is driven by

http://etd.uwc.ac.za

the alarming statistics showing the growing trend of adolescents engaging in risk-taking behaviours across time (Snipes & Benotsch, 2013; Gessner et al., 2016; Ling et al., 2011; Hibell et al., 2012). The SCLT has been useful in understanding, comprehending, and explaining the behaviour of adolescents (Mark et al., 2011), as the theory places much emphasis on learning through *observation* and *mimicking* behaviour (Santrock, 2012). Kapadia (2017) and Roman and Frantz (2013) indicated that most adolescents evidently pick behavioural traits they observe around them, including on social media sites.

The Bobo doll experiment confirmed that children who observe violent behaviour mimic the same kind of behaviour (Santrock, 2012). The same is true for the current study, as is evident by the increase in adolescents' acts of violence (Santrock, 2012). In that they witness the plethora of violence in their communities and then mimic these in their everyday lives (Cohen et al., 2018). Kaminer et al., (2013), reveal that South African adolescents are regularly exposed to multiple types of violence. Moreover, the WHO reported already in 2014 that the world is becoming increasingly violent and unsafe, and that most of these acts of violence are committed in front of children and adolescents. Cohen et al., (2018) contend that early childhood exposure to violence in the family results in adolescents becoming violent. As SCLT promulgates, when children and adolescents observe the behaviours of others, whether good or bad, they emulate what they see (Kaminer et al., 2013; Gessner et al., 2016; Solomon et al., 2012).

The SCLT underscores the *role of models* and the *modelling process* in influencing behaviour (Cruz et al., 2012). The theory postulates that the actions of models are usually adopted by the observer, especially if there is a close relationship between the former and the latter (Mark et al., 2011; Cruz et al., 2012; Boz & Ergeneli, 2013). This observation applies to the current study as most adolescents imitate the behaviours of significant others in their lives, including their

http://etd.uwc.ac.za

parents, teacher, peers, and other associates (September et al., 2015; Jackson et al., 2012; WHO, 2014a; Solomon et al., 2012; Leflot et al., 2013). Adolescents who witness their parents smoking, using alcohol, and other substances, are more likely to do the same (September et al., 2015; Vollebergh et al., 2014; Jackson et al., 2012). Moreover, those who have family members and peers who model the use of drugs and alcohol are prone to doing the same, more so than adolescents who have family members and peers who refrain from such behaviours (Riva et al., 2018; Jackson et al., 2012; Robert & Schumann, 2017). A study in Zimbabwe showed a positive correlation between family members and friends who use cannabis and adolescent cannabis use (Chivandire & January, 2016).

Similarly, a SR and meta-analysis on the effects of parental alcohol rules in 13 studies conducted in the USA, Sweden, and the Netherlands provided similar findings (Sharmin et al., 2017). The study revealed that adolescents of parents who did not abuse alcohol and set rules concerning alcohol consumption were less likely to develop drinking problems (Sharmin et al., 2017). While adolescents with close peers and associates who engage in risky sexual behaviours are more likely to do the same (Cohen et al., 2018; Leflot et al., 2013).

Bandura's SCLT applies to this study as it recognises the *environment's* role in moulding behaviour (Cruz et al., 2012; Boz & Ergeneli, 2013). The theory posits that the environment influences how a person behaves, and this is shown by the adolescents who are affected by the social contexts within which they exist (Nabavi, 2012; Vidourek et al., 2017). A study in Malaysia revealed the large percentage of the population that smokes tobacco. Smoking has infiltrated the lives of most adolescents, in that 80% of adult smokers indicated that they started smoking during adolescence (Lim et al., 2018). If an adolescent is surrounded by people who engage in a particular behaviour, he or she is most likely to follow suit (Lim et al., 2018; Vidourek et al.,

http://etd.uwc.ac.za

2017; Snipes & Benotsch, 2013). The socialisation process in the family or community environment that transfers values, cultures, perceptions, beliefs, and norms influences human behaviour (Spirito et al., 2012). A US study that sought to determine marijuana use amongst adolescents revealed that most African American adolescents used substances compared to Caucasians and Whites (Vidourek et al., 2017). The variances were attributed to environmental factors, showing that in most African American communities marijuana is consumed (Vidourek et al., 2017). In many schools, bullying and teen violence are on the increase. This is confirmed by the large numbers of students joining violent gangs in school just to conform with the trend (Warnke, 2014; Ncontsa & Shumba, 2013; Mavhandu-Mudzusi & Asgedom, 2016).

The SCLT further maintains that *past experiences* also influence behaviour, which applies to the current study as well as most adolescents' past experiences affect their behaviours (Boz & Ergeneli, 2013; Bandura, 2011). Adolescents who experienced rape, sexual molestation, violence, or any form of abuse in the past, tend to be perpetrators of such behaviours (WHO, 2014b). Parenting techniques either expose or protect the children from harm, and those with negative past experiences often misbehave compared to those who experienced a good childhood (September et al., 2015; Roman & Frantz, 2013; Solomon et al., 2012). Multiple types of adverse childhood experiences are risk factors for a spectrum of violence-related outcomes (Cohen, 2018).

Likewise, *self-efficacy*, another crucial component of the SCLT, also applies to the current study, as adolescent behaviour is affected by the level of efficacy the person has (LaMorte, 2016; Shook, 2012). As highlighted earlier in this chapter, a person with high self-efficacy believes they can accomplish tasks and goals and recover quickly from setbacks and disappointments, compared to those with low self-efficacy (Martin et al., 2018). This way of thinking explains why some adolescents overcome challenging situations in their lives better than others (Martin et al.,

http://etd.uwc.ac.za

2018). In rehabilitation and intervention programmes, to reduce risk-taking behaviours in adolescents, those with high self-efficacy respond better to treatment than those with low self-efficacy (Jackson et al., 2012; Shook, 2012). There is a need to boost self-efficacy in adolescents by encouraging them to believe more in themselves (Nabavi, 2012, Solomon et al., 2012; Rhoades et al., 2011; Shook, 2012; Bodrova et al., 2013). Parenting plays a vital role in building self-efficacy (September et al., 2015). Warm parents who use positive, encouraging words and actions with their adolescents are less likely to have their children engage in risk-taking behaviours, and such children respond positively to treatment programmes (September et al., 2015; Jackson et al., 2012; Calafat et al., 2014). Adolescent behaviours are shaped by positive verbal encouragements, allowing them to value their health by maintaining a good physical and emotional state (LaMorte, 2016; Bandura, 2011; Nabavi, 2012; Korpershoek et al., 2014).

Another essential component of the SCLT is *self-regulation* (Jackson et al., 2012; Bodrova et al., 2013). It applies to this study as most adolescents are easily lured by peers to engage in risk-taking behaviour because of a lack of self-regulation (Jackson et al., 2012; Bodrova et al., 2013). Other people play a significant role in regulating the behaviour of adolescents, especially friends, community members, and popular icons they watch or follow on various social media platforms (Vidourek et al., 2017; Grigsby et al., 2016). Most adolescents are aware that their risky behaviours are bad, but they continue to gain acceptance or approval from their peers and therefore show loyalty (Jackson et al., 2012; Vidourek et al., 2017). Many adolescents do not control their thoughts and actions, and little attention is given to self-behaviour, goals, values, beliefs, morals, and self-monitoring (Grigsby et al., 2016). Instead, adolescents neglect themselves and adopt the thought processes of their peers, entrenching the bond with peers (Grigsby et al., 2016; Jander et al., 2013). Adolescents need to be encouraged to have self-value,

http://etd.uwc.ac.za

set personal standards, and evaluate and monitor self-behaviour and reward themselves, instead of replicating negativity from their peers (Jackson et al., 2012; Jander et al., 2013).

The theory's *cognitive* component is the most important element as it distinguishes the SCLT from other SLTs by acknowledging the critical role a person's thinking capacity plays in determining behaviour (Nabavi, 2012; Martin et al., 2018). Adolescents with similar backgrounds can be presented with the same situation but react differently because of individual thought processes (Robert & Schumann, 2017). The importance of thinking in determining behaviour is evident in the study as risk-taking behaviours are not adopted by all adolescents, and others choose to refrain from such behaviours (UNFPA, 2015). In Africa, a large number of adolescent girls engage in risky sexual acts for a variety of reasons, including poverty, but many who face the same challenges choose to raise money differently, e.g., selling vegetables (UNFPA, 2015). The different actions show individuality and how personal thinking influences behaviour (Jackson et al., 2012). SCLT explains that we are what we think, and various studies have revealed that most adolescents who engage in destructive behaviours think negatively about themselves, their environment, or the future (Grigsby et al., 2016; Robert & Schumann, 2017; September et al., 2015; Radliff et al., 2012). Many adolescents who have experienced or witnessed various forms of abuse end up being abusers themselves (Kaminer et al., 2013; Vollebergh et al., 2014; Kapadia, 2017). Conversely, some end up condemning the act and become protective of others so that they do not experience the same trauma (Kaminer et al., 2013; Vollebergh et al., 2014). A study in Botswana, which investigated alcohol and substance use amongst school-going adolescents, revealed that many engage in the same behaviour out of peer pressure (Riva et al., 2018). However, in contrast, others had refusal skills and did not partake in such activities (Riva et al.,

http://etd.uwc.ac.za

2018). Therefore, individual cognitive processes play a substantial role in human behaviour (Bandura, 2011; Nabavi, 2012; Smart & Brent, 2010).

As depicted by the SCLT, *environment* plays a significant role in moulding behaviour; therefore, creating positive family, school, and community environments for children to develop in is crucial (LaMorte, 2016; Korpershoek et al., 2014; Rhoades et al., 2011; Snyder et al., 2011; Kapadia, 2017). Children exposed to constructive media programmes, play scenarios, and interactions yield more favourable behaviours, as shown by the SCLT (Spirito et al., 2015; Vannest et al., 2010; Smart & Brent, 2010; Leflot et al., 2013). The SCLT deduced that children observe and learn from parents, teachers, and caregivers; therefore, it applies that improving parenting styles and techniques and being good role models improve adolescents' behaviours (LaMorte, 2016; Spirito et al., 2015; Ling et al., 2011; Calafat et al., 2014). Adolescents should acquire refusal skills and adopt behaviours that foster positive responses rather than negative ones (Truco et al., 2011; Vannest et al., 2010; Smart & Brent, 2010). As Bandura clearly outlines, the more children get exposed to negative behaviours, the more they will replicate these and the behavioural problems will persist (Bandura, 2011; Snyder et al., 2011). Early parental involvement in children's lives by actively participating in their activities help build strong bonds and relationships (Cheung & McBride, 2016).

Parental attachments with adolescents boost their confidence and enable the children to uphold positive values and beliefs instilled by the parents, regardless of how peers will perceive them. This is a powerful tool in behavioural change interventions (Calafat et al., 2014; Spirito et al., 2015; Vannest et al., 2010; Boz & Ergeneli, 2013, Cheng & McBride, 2016).

http://etd.uwc.ac.za

2.5 Conclusion

This chapter introduced the theoretical framework underpinning this study. Significant attention was given to Bandura's SCLT. In light of the above discussions, it is proposed that the components of the SCLT that influence behaviour should be taken into consideration when endeavouring to impart positive behaviours in adolescents. Cognitive thought processes, the environment, and individual skills all influence human behaviour. Human beings are active participants in the learning process. The SCLT is a robust theoretical framework useful in understanding human behaviour. Behavioural intervention programmes should address and incorporate aspects of the theory to ensure a positive behavioural change in adolescents.

A review of relevant literature on the topic is presented next in Chapter three.

http://etd.uwc.ac.za

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

The theoretical framework underpinning this research was presented in the previous chapter. The current chapter explores the stage of adolescence in human development (section 3.2). In this exploration, attention is given to the behavioural characteristics most likely to be adopted by adolescents, the challenges faced by adolescents, and the high-risk taking behaviours mostly affecting them. The chapter also focuses on the negative effects of risk-taking behaviours on the lives of adolescents, their families, peers, community members, and even nations. Various types of interventions are then described (section 3.3), followed by a discussion of the outcomes produced by the interventions. The final section provides a few concluding remarks to bring the chapter to a close (section 3.4).

The stage of development particularly focused on in this study is adolescence. Therefore, more attention needs to be given to the distinguishing characteristics of this tumultuous developmental period. This forms the topic of the next section.

3.2 Adolescence

The WHO (2017) defines an adolescent as a person aged 10–19 years old. Adolescence is a period of transition characterised by rapid physical and psychological changes for children as they progress into adulthood from being dependent children, and stronger bonds are formed with peers and other people (Grigsby et al., 2016; Jackson et al., 2012; Anderson et al., 2017; Szkody et al., 2020). It is a human developmental stage characterised by biological changes and sexual and brain

http://etd.uwc.ac.za

development (Patton et al., 2016; Kazdouh et al., 2019; Anderson et al., 2017). Adolescence is a critical period of experimentation with a wide range of behaviour and lifestyle patterns (Lim et al., 2018; Kim-Spoon et al., 2015; Vermeulen-Smit et al., 2015). It is also a formative stage were adolescents form concrete foundational beliefs, as well as develop coping skills, capabilities, healthy lifestyles, and positive behaviours (Kohli et al., 2018; Obermeyer et al., 2015; Stigler et al., 2011).

Furthermore, adolescence is a crucial period in human development as behaviours, attitudes, emotional regulation skills, and perceptions acquired at this stage have immediate and long-lasting effects (Kohli et al., 2018; Robles et al., 2018; Scull et al., 2018; Kazdouh et al., 2019). Decision making during the adolescence stage is mostly characterised by impulsivity and favouring actions that bring immediate satisfaction, regardless of the long-term adverse outcomes; therefore, adolescents need to be equipped to make positive decisions (Viner et al., 2012; Kohli et al., 2018; Kim- Spoon et al., 2015; Anderson et al., 2017; Vermeulen-Smit et al., 2015; Scull et al., 2018).

Many health risk behaviours are established during adolescence. These are often perpetuated into adulthood, and thus affect the health and well-being of the individual in later life (Jackson et al., 2012; Phelphs-Tschang et al., 2014; Patton et al., 2016; Harris & Cheney, 2018; Beatriz et al., 2018, Robles et al., 2018; Chung et al., 2018; Wang et al., 2020). Various studies have shown that smoking, alcohol consumption, or substance use is learnt and begins during adolescence (Lim et al., 2018; Dembo et al., 2014; Robles et al., 2018; Vermeulen et al., 2015; Anyon et al., 2014). In Malaysia, studies have shown that over 80% of adult smokers began smoking before the age of 21 years (Lim et al., 2018). The UNFPA (2015) indicates that the high-risk taking behaviours affecting most adolescents include risky sexual behaviours, illicit

http://etd.uwc.ac.za

substance use, alcohol use, and violence. During this transitional period, it is the vulnerability of adolescents that makes them susceptible to engaging in risk-taking behaviours (Viner et al., 2012; Obermeyer et al., 2015; Patton et al., 2016; Kohli et al., 2018; Beatriz et al., 2018, Chung et al., 2018).

3.2.1 Adolescents' susceptibility to engaging in risk-taking behaviours

Adolescence is an important stage since it is the transitional period from childhood to adulthood, and is a time when adolescents are prone to engage in risk-taking behaviours (Chung et al., 2018). This transitional process is characterised by issues such as independence, decision-making skills, impulsivity, self-identity, and many behavioural traits – good or bad (Robert & Schumann, 2017; Anderson et al., 2017). The behavioural traits that are acquired during this stage are often carried into adulthood (Robert & Schumann, 2017; Anderson et al., 2017; Kohli et al., 2018; Viner et al., 2012; Szkody et al., 2020). Consistent good parenting from early childhood to adolescence is desired for continuous support through the transitional process (September et al., 2015; Nwabisa & Sikweyiya, 2015; Vermeulen-Smit et al., 2015; Ritchwood et al., 2016; Kumpfer et al., 2012; Szkody et al., 2020). Psychosocial development drives most adolescents to be experimental and try new things to gain popularity and acceptance from peers, as well as feel independent and mature (Robert & Schumann, 2017; Anderson et al., 2017; Timol et al., 2016; Wang et al., 2020). Peer influence, the desire to fit in, and peer loyalty are often the reasons why adolescents replicate the behaviours of their peers (Vidourek et al., 2017; Timol et al., 2016; Jennings et al., 2014; Anderson et al., 2017; Wang et al., 2020).

It is natural for adolescents to feel the need to separate from their parents and have the desire to relate more to their peers as a sign of maturity (Snipes & Benotsch., 2013; Timol et al., 2016; Kazdouh et al., 2019; Wang et al., 2020). The stage of adolescence is very crucial in a

http://etd.uwc.ac.za

child's development, and the choice of peers is critical since negative or positive peer pressure influences and defines most adolescents' behaviours (Robert & Schumann, 2017; De La Rue et al., 2017; Wang et al., 2020). Studies have shown that most adolescents equate gaining independence and maturity with deviant behaviours such as rebelling against authority, violence, engaging in alcohol, tobacco and substance abuse, as well as engaging in risky sexual behaviours (Radliff et al., 2012; Snipes & Benotsch, 2013; Dembo et al., 2014; De La Rue et al., 2017).

Adolescence is a vulnerable period for developing risk-taking behaviours, such as alcohol use and dependence, due to neurodevelopmental changes involving reduced impulse control (Robert & Schumann, 2017; Scull et al., 2018; Anyon et al., 2014). Protective factors such as strong family bonds, a supportive community, and positive peer engagements help reduce adolescents' risk-taking behaviours (Harris & Cheney, 2018; Ritchwood et al., 2016; Kumpfer et al., 2012; Volingis & Goodness, 2017). National policies such as mass media campaigns, school and community programmes, and strict regulations and laws that limit the risk-taking behaviours of adolescents are imperative (Ogenchuk, 2012; Lim et al., 2018; Volingis & Goodness, 2017; Hernandez-Serrano et al., 2013). Adolescents need to possess life skills, emotional regulation skills, resilience, and self-efficacy to avoid engaging in risk-taking behaviour (Scull et al., 2018; Szkody et al., 2020). Most adolescents who have no skills or ability to deal with life pressures that cause stress, depression, anxiety, low self-esteem, conflict, and so on, usually resort to risk-taking behaviours such as binge drinking, reckless driving, violence, gangsterism, and risky sexual behaviours (Grigsby et al., 2016; Kim-Spoon et al., 2015, Scull et al., 2018; Chung et al., 2018).

Adolescent health risk-taking behaviour has adverse negative consequences on society as they have huge cost implications (Kann et al., 2018; Stigler et al., 2011; Orgenchuk, 2012; Lim

http://etd.uwc.ac.za

et al., 2018). Surveillance research on youth risk behaviour carried out in America in 2017 over 30 days revealed that 30% drank alcohol, 14% binge drank, 6% drove under the influence of alcohol, and 17% were driven by someone who had consumed alcohol (Kann et al., 2018). Such behaviours usually result in injuries and property damage, which has adverse cost implications, putting a strain on the country's budget (Naeger, 2017).

The strongest risk factor contributing to the development of children's behavioural and emotional problems is the quality of parenting a child receives (September et al., 2015; Giannotta et al., 2013; Vermeulen-Smit et al., 2015; Szkody et al., 2020). Parenting styles play a pivotal role in moulding adolescents' behaviours, as shown in a SR and meta-analysis on the effects of parental alcohol rules conducted in the Netherlands, Sweden, and the USA (Sharmin et al., 2017). The study shows that effective parenting that involves setting rules is useful in reducing alcohol consumption in adolescents (Sharmin et al., 2017). Adolescents who have warm and receptive parents are less likely to engage in risk-taking behaviours (Lippold et al., 2018; Sharmin et al., 2017; Vermeulen-Smit et al., 2015; Ritchwood et al., 2016; Szkody et al., 2020). Parents who openly discourage alcohol consumption are more likely to reduce the likelihood of their adolescents consuming alcohol (Abdulraheem, Olalekan & Abasiekong, 2018). Adolescents are our future leaders; thus, the alarming statistics worldwide showing their increasing involvement in high risk-taking behaviours is of grave concern to all countries (UNESCO, 2017; Fetene & Mekonnen, 2018; Wang et al., 2020). Therefore, it is important to focus on enabling adolescents to lower their susceptibility to risk-taking behaviours (Abdulraheem et al., 2018).

3.2.2 Risk-taking behaviours during adolescence

The high risk-taking behaviours affecting most adolescents addressed in this study include risky sexual behaviours, illicit substance and alcohol use, and violence (UNFPA, 2015). Similarly,

http://etd.uwc.ac.za

other various scholars have identified the most common risk-taking behaviours amongst adolescents as illicit substance use, excessive smoking and alcohol use, risky sexual behaviours, gangsterism, and violence (Robert & Schumann, 2017; Grigsby et al., 2016; Moultrie & Timaeus, 2015). The risk-taking behaviours that adolescents engage in are more likely to cause harm, danger, or negatively impact their life or that of others (CDC, 2017b). High morbidity and mortality rates amongst youth result from engaging in risk-taking behaviours (Lim et al., 2018). Partaking in such behaviours places adolescents at risk and results in poor development, reduced scholastic achievements, and poor psychological and physical health, which negatively affects the individual, their families, communities, and nations (Grigsby et al., 2016). Problems of stress, depression, anxiety, suicidal ideation and suicides are often linked to risk-taking behaviours. They are increasing amongst adolescents worldwide, and these problems continue into adulthood if not resolved (Grigsby et al., 2016). There is a need to address prominent risk-taking behaviours by adolescents, such as violence, risky sexual behaviours, and substance use (Lim et al., 2018). These are discussed further under their respective headings below.

3.2.2.1 Violence

The problem of violence amongst both male and female adolescents is a rising phenomenon worldwide (Kaminer et al., 2013; Ncontsa & Shumba, 2013, Warnke, 2014; Wang et al., 2020; Sui et al., 2018). Violence harms adolescents as it decreases physical and mental health (De La Rue et al., 2017; Sui et al., 2018). The WHO (2014b) indicated that violence is a significant risk factor for adverse psychological functioning in adolescents. Reducing violence exposure is a global health priority to improve adolescents' health and well-being. Adolescent violence usually stems from early childhood adversities such as family or domestic violence, maltreatment, and

http://etd.uwc.ac.za

unstable romantic relationships (Cohen et al., 2018; Sui et al., 2018). A child who has experienced or witnessed violence usually uses violence to solve issues (Cohen et al., 2018).

Sui et al., (2018) maintain that adolescents in South Africa are at increased risk of psychological maladjustment due to the country's alarmingly high crime and violence rates. Statistics obtained from the South African Police Service (SAPS) (2016) show that an average of 51 cases of murder, 142 cases of sexual offences, and 452 cases of common assault are recorded daily. A study conducted in the Western Cape province of South Africa revealed that a large number of adolescents (98.9%) have witnessed violence in the community (Kaminer et al., 2013). Furthermore, Kaminer et al., (2013) indicated that 40.1% adolescents in South Africa were reported to be direct victims of violence; 76.9% had experienced community violence; 76.9% had witnessed home violence; 58.6% were a direct victim of home violence; and 75.8% had either direct or indirect exposure to violence at school. More recent statistics show the rise in violent cases in South Africa for the period of 2018 to 2019. It is reported that the number of cases increased from 20,336 in 2017 to 21,022 in 2018 and 2019, with an average of 58 people being murdered every day in South Africa in 2019 (Centre for Disease Control and Prevention South Africa, [CDCPSA], 2019). In addition, the number of reported sexual offences in South Africa increased from 50,108 in 2017 to 52,420 in 2019 (CDCPSA, 2019).

Peer pressure contributes immensely to group violence amongst adolescents (Cohen et al., 2018). Surveillance to determine youth risk behaviour and sexual orientation amongst students in Grades 9 to 12 in the US showed that nationwide 16.2% of all students were involved in violent acts, while 16.0% carried a weapon to school, such as a gun, knife, or club (Kann et al., 2016). In the USA, easy access to guns has contributed to the increase in adolescent violence in schools and communities, resulting in debates surrounding the firearms policy (Johnston et al., 2018). The

http://etd.uwc.ac.za

increase in instances of violence perpetrated by adolescents in various forms negatively impacts their future (United Nations Children's Fund [UNICEF], 2017).

Violence by adolescents is inflicted individually or via gangs, with the latter being on the rise (Mncube & Madikizela-Madiya, 2014; Notywala, 2012; De Wet, 2012; De La Rue et al., 2017; Sui et al., 2018). Adolescent gang members can be as young as nine years old (Notywala, 2012). Studies have shown that most of the violence exhibited by adolescents is directed towards siblings, parents, schoolmates, rival gang members, people from other races or cultures, and date partners in relationships (Warnke, 2014; Giannotta et al., 2013; De La Rue et al., 2017; Sui et al., 2018). Adolescents have become violent in relatively all settings including schools, homes, streets, and communities, hence reducing the safety of others (Warnke, 2014). Different types of violence are exerted by adolescents, such as rape, sexual harassment, physical assaults, homicides, and bullying (Warnke, 2014; De La Rue, 2017). Exposure to multiple types of violence is known as poly-victimisation, and is a common experience for South African victims of violence (Kaminer et al., 2013).

A study on school violence in the Eastern Cape province found that about 37.5% of the 80 participants identified gangsterism as a serious problem in their school (Ncontsa & Shumba, 2013). The research findings also reveal that violence in schools on the Cape Flats is predominantly gang related (Ncontsa & Shumba, 2013). Various forms of violence are a growing concern, such as teen dating violence (De La Rue et al., 2017) and emotional victimisation amongst adolescents (Wang et al., 2020). The most common form of violence is physical, which usually results in bodily harm (Wang et al., 2020; De La Rue et al., 2018; UNESCO, 2017). All forms of bullying, including physical, verbal, emotional, cyber, and mental bullying, are common during adolescence (UNESCO, 2017). Statistics obtained from an investigation on violence in

http://etd.uwc.ac.za

children and adolescents' lives show that worldwide, close to 130 million students aged between 13 and 15 have experienced bullying at school (UNESCO, 2017). In 2015, Jamaica embarked on a national study on bullying and peer abuse (UNICEF, 2017). The statistics revealed that a single peer had bullied six in ten adolescents; nine in ten students witnessed others being bullied, and almost 30% of the students feared attending school because of bullying (UNICEF, 2017).

School violence has a negative impact on children's lives as it discourages parents from sending their children to school, increases school dropouts, and contributes to learner and educator absenteeism (Mncube & Madikizela-Madiya, 2014; Sui et al., 2018; De La Rue et al., 2017). Schools are increasingly becoming unsafe for learners and educators (De La Rue et al., 2017). Educators are also victims of school violence perpetrated by learners in South Africa, and are often victims of verbal violence (52.1%), physical violence (12.4%), and sexual violence (3.3%) (Human Sciences Research Council [HSRC], 2017). Some adolescents have become violent at home too. To support the latter, data from Australia's Melbourne Children's Court revealed that from July 2011 to June 2016, 6,228 applications were lodged for a family violence intervention order, and the respondents were younger than 17 years old (Gibbon et al., 2017). The same study revealed that 4,379 violent cases involved male adolescents, with 1,849 being female adolescents (Gibbon et al., 2017). The findings further indicated that the violence relates to burglary, punching, kicking, scratching parents and or siblings, and use of insults. The research also showed that most cases are not reported because of parental shame, self-blame by the parents, and fear of the consequences for the adolescent (Gibbon et al., 2017).

On many of the streets in our communities, adolescent gangsterism is rife and violence is usually directed towards rival gang members and innocent civilians (Notywala, 2012). The National Annual Crime Statistics for 2017/2018 reveal that 83% of all gang-related murders in

http://etd.uwc.ac.za

South Africa took place in the Western Cape. In Namibia, 7.5% of adolescent girls aged between 15 to 19 have experienced sexual violence, a relatively high record compared to 4.8% of 20- to 24-year-olds (UNICEF, 2015). Students in Namibian schools are not exempt from violence from other learners, and the statistics reveal that 73% of the 380 adolescents surveyed in four regions of the country have been attacked (UNICEF, 2015). Violence is a worrying phenomenon in Namibia. Current research shows that homicides remain the leading cause of death amongst adolescents aged between 15 to 19 years (CDC, 2019). In South Africa, 61.2% of adolescent males are most likely to die from homicides due to violence (Mathews et al., 2019). The same study showed that the overall adolescent homicide rate per 100,000 (ages 10 to 17) was 8.2%, with males recording a higher homicide rate (12.6 %) than females (3.8%). Research has also shown that homicide is the major cause of death amongst African American adolescents (CDC, 2017a). Homicides are the second cause of death amongst Hispanic adolescents, and the third cause of death amongst American Indians and Alaska natives (CDC, 2017a).

Gender-based violence is also becoming a common occurrence in contemporary South Africa. Crimes against children and xenophobic attacks abound. Growing up in violence infested environments, and exposure to such violence, means that adolescents emulate these behaviours when dealing with life's issues (Sui et al., 2018). Data from a multi-country study in the Middle East and North Africa showed that young men who witnessed their fathers using violence against their mothers at home were significantly more likely to do the same to intimate partners in adolescents and adult relationships (UN Women, 2019). Education, guidance and counselling may help deter adolescents from using violence to show power, control and dominance (Jinlu & Liqun, 2021; Antoniadou, Kokkinos, & Fanti, 2019). A mental shift is required to change negative, misleading notions that perpetuates violence, and alternative healthy ways to solve

http://etd.uwc.ac.za

issues or compete can be instilled to prevent violent behaviours in adolescents (Antoniadou et al., 2019; Hellfeldt, Gill, & Johansson, 2018; Kokkinos, & Voulgaridou, 2017). Violence, however, is not the only worrying risk-taking behaviour of adolescents. Another equal concern is that they also engage in risky sexual behaviours. This is discussed next.

3.2.2.2 Risky sexual behaviours

Risky sexual behaviours are any sexual activities that put people at risk of contracting STIs (Chawla & Sarkar, 2019). Risky sexual behaviours adversely affect the health of adolescents, exposing them to STIs, such as HIV/AIDS, and unwanted pregnancy in females, resulting in poor health, as well as negative social and economic consequences (Fetene & Mekonnen, 2018; Menon, 2018; Woldeyohannes et al., 2017). Research also reveals that most adolescents are increasingly having multiple sexual partners and engaging in unsafe sexual activities. As a result, they are at risk of contracting and transmitting STIs, HIV/AIDS, and unwanted teenage pregnancies (UNFPA, 2015; Snipes & Benotsch, 2013; Kassa et al., 2019). Risky sexual behaviours by both male and female adolescents is worrisome, and the UNFPA's (2015) research findings show that the life of a girl who falls pregnant at an early age is usually adversely affected (Kassa et al., 2019). There are also usually health implications for the adolescent and the newborn baby, educational prospects are compromised, and future employment chances are reduced (UNFPA, 2015; Menon, 2018; Sandoy et al., 2016).

The sub-Saharan Africa (SSA) region is the hardest hit by HIV/AIDS pandemic. This region has high maternal and child morbidity and mortality worldwide amongst adolescents (Population Reference Bureau, 2017). STIs amongst most youths in Saudi Arabia result from engaging in risky sexual behaviour (El-Tholos et al., 2018). Research in Zambia has shown that illegal abortion practices contribute to the high death rate amongst adolescent girls (Sandoy et al.,

http://etd.uwc.ac.za

2016). A study in Ethiopia revealed an increase in early sexual initiation amongst adolescents (Turi et al., 2020). Risky sexual behaviour in this region is influenced by many factors, including poverty, lack of education, and cultural and religious practices that promote child marriages (UNFPA, 2015). Research shows that the adolescent birth rate in South Africa is mainly amongst Black and Coloured women than White and Asian women (Population Reference Bureau, 2017). Records reveal that 46% of adolescent girls under the age of 18 years are married in South Asia; 39% in SSA; 29% in Latin America and the Caribbean; and 18% in the Middle East and North Africa (Chirwa-Kambole et al., 2020). Similarly, in the USA, statistics show that more African American and Hispanic teens become mothers compared to Whites and Asians (CDC, 2017b). These trends suggest the influence of socio-economic backgrounds (Martin et al., 2018; Sandoy et al., 2016; Menon, 2018; Chirwa-Kambole et al., 2020).

Findings from research conducted in the USA with adolescents show that three months before the survey, 30% had engaged in sexual intercourse, and of the 30%, 46% did not use a condom during their last sexual encounter; 14% did not use any birth control method; 19% used either alcohol or drugs during their last sexual encounter; and approximately only 10% had gone for HIV testing (CDC, 2017a). The statistics show that some adolescents continue to expose themselves to risky sexual behaviours.

Unequal gender norms usually result in power imbalances resulting in sexual coercion, rape, and risky sexual behaviours amongst adolescents (Nydegger et al., 2016; El- Tholos et al., 2018). With many adolescents engaging in gangsterism, there is exposure to risky sexual behaviours such as gang rape, group sex, rape, and engaging in unprotected sexual intercourse (Nydegger et al., 2016). A Spanish study conducted with 567 adolescents revealed that 96.3% of the participants had perpetrated emotional or verbal violence in their dating relationships (Pires

http://etd.uwc.ac.za

et al., 2016). Adolescents exposed to physical and sexual forms of teen dating violence are at risk for many chronic health issues (Cohen et al., 2018). There is a rise in adolescent intimate partner violence (IPV), that is, violence perpetrated by an intimate partner, resulting in physical, sexual, or psychological damage. It includes acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviour (WHO, 2014a; De La Rue, 2017). Teen dating violence victims usually have no option to negotiate safer sexual interactions, such as condom use, which leaves them exposed to STIs (Fetene & Mekonnen, 2018). IPV is experienced by adolescents of all sexes (Pires et al., 2016).

It is important to note that studies have revealed that most adolescents who engage in risky sexual behaviours have been victims of sexual abuse in their childhood (UNICEF, 2017). In Germany, studies have shown that many cases of sexual violation of minors are hidden (Warnke, 2014; Kohli et al., 2018). Studies in this country show that sexual abuse occurs at homes, as well as at day and boarding schools, clubs, medical and higher learning institutions (Warnke, 2014). Most of the perpetrators are from the child's immediate social circle, such as stepparents, relatives, and family friends. Statistics in Germany show that adolescent perpetrators are approximately 18%, adults approximately 66%, and or young adults 16% (Warnke, 2014). A recent study in South Africa similarly showed that adolescent exposure to violence has a cumulative effect on psycho functioning (Sui et al., 2018). The UN Women (2019) indicated that approximately 15 million adolescent girls aged 15 to 19 worldwide have experienced forced sexual intercourse or other sexual acts at some point in their lives. Of these, 9 million adolescent girls were victimised within the past year (UN Women, 2019). In most countries, adolescent girls are particularly at risk of forced sex by a current or former husband, partner, or boyfriend. Furthermore, in most African countries, sexual abuse of adolescent girls is usually embedded in

http://etd.uwc.ac.za

cultural practices and often goes unreported and unpunished (UN Women, 2019). Based on data from 30 countries, only one percent ever sought professional help (UNICEF, 2018). Such an alarming statistic of adolescents' sexual rights violations makes them vulnerable and susceptible to risky sexual behaviour (Fetene & Mekonnen, 2018). The vulnerability of female adolescents and young women has influenced a global drive for sexual and reproductive health interventions that target explicitly the group (Olaoye & Agbede, 2019; Asrese & Mekonnen, 2018; Animasahun, Sholeye, & Oduwole, 2016). Promoting adolescent females' sexual and reproductive health has the potential to reduce risky sexual behaviours during this stage of development and beyond (Animasahun et al., 2016; Adimora, Akaneme & Aye 2018). Adolescents who engage in risky sexual behaviours are most likely to be involved in substance use (Lippold et al., 2018). This is discussed in more detail next.

3.2.2.3 Substance abuse

Substance use amongst adolescents continues to be an important public health problem that contributes greatly to morbidity, mortality, and health problems globally (Lim et al., 2018; Riva et al., 2018). The substances abused by adolescents differ, but the most commonly abused substances are alcohol, tobacco, marijuana, cocaine, cannabis, and cough medicines (CDC, 2018; Johnston et al., 2018). The substances are mostly consumed through inhaling, sniffing, injecting, and swallowing (UNESCO, 2017). Alcohol abuse is relatively high across Europe and the USA (UNESCO, 2017). The statistics show that excessive drinking is the cause of more than 4,300 deaths amongst adolescents yearly (CDC, 2018).

Substance use has adverse effects on the user's health and well-being, as well as those around him/her (Vidourek et al., 2017; Gutierrez & Sher, 2015). Diseases such as cancer, tuberculosis, lung problems, kidney problems, brain damage, etc., are usually associated with

http://etd.uwc.ac.za

alcohol, tobacco, and substance abuse (CDC, 2017; Vidourek et al., 2017; Stockings, 2016; Kann et al., 2017). Cancer, tuberculosis, and other respiratory diseases are relatively high among youth due to inhaling, swallowing, or injecting toxic substances into their bodies. Unnecessary loss of lives and injuries attributed to accidents caused by adolescents intoxicated by substances are on the rise (CDC, 2017a). Involvement of adolescents in such behaviours creates stress and depression to those around them (i.e., parents and family members) with subsequent strained relationships (Cohen et al., 2018).

In Malaysia, tobacco use amongst adolescents was noted as the most preventable cause of morbidity and mortality when a nationwide study revealed that about 20,000 deaths annually and most disability problems come from smoking tobacco (Lim et al., 2018). The same study revealed that over 80% of adult smokers began smoking when they were adolescents before they turned 21 years of age (Lim et al., 2018). Studies have shown that the earlier a young person begins smoking, drinking alcohol and using toxic substances, the higher their risk of getting addicted and perpetuating the behaviour into adulthood (UNESCO, 2017; Lim et al., 2018; Vidourek et al., 2017).

In the USA, marijuana is the most common illicit substance used amongst adolescents from all racial and ethnic groups between the ages of 12 and 17 (Vidourek et al., 2017; Wu et al., 2011). The USA PRIDE survey, a nationally recognised survey on substance use, was used to assess the frequency of marijuana use and the influence of psychosocial factors on marijuana use among African American students (Vidourek et al., 2017). A total of 7,488 adolescents in middle and high school from 133 public and private schools participated (Vidourek et al., 2017). The results indicated that 18.5% of the participants used marijuana in the past year, and males were more susceptible to marijuana use than females (Vidourek et al., 2017). African American

http://etd.uwc.ac.za

adolescents are also reported to have more substance abuse-related legal involvement than other races in the USA (Kakade et al., 2012).

Alcohol and illicit drug use have been recognised as a growing problem among adolescents in Botswana (Riva et al., 2018). A cross-sectional survey to determine the prevalence and predictors of alcohol and drug use amongst secondary school students in Botswana was done with 1,936 students from 17 public secondary schools in Gaborone, Lobatse, Molepole and Mochidi (Riva et al., 2018). This study revealed that 816 (42.1%) of the participants reported alcohol use; 434 (22.4%) met the criteria for hazardous alcohol use; 324 students reported illicit drug use (16.7%); and marijuana was found to be the most commonly used drug (Riva et al., 2018). The study furthermore revealed that the cause of such behaviours is the availability of drugs and alcohol, poor peer modelling, and individual and social vulnerability factors, such as poverty and seeing parents smoke (Riva et al., 2018; Vermeulen-Smit et al., 2015; Chivandire & January, 2016). The study of Vollebergh et al., (2015) indicated that adolescent cannabis use is strongly associated with parental use. Children learn some behavioural traits through observing their parents, and if parents use substances in the presence of their children, they tend to imitate the behaviour (Lippold et al., 2018). Research in South Africa showed that substance abuse is rampant among adolescents (Population Reference Bureau, 2017). The Western Cape was the most affected, and the research established a close link between adolescent substance abuse and gangsterism (Population Reference Bureau, 2017). Cape Town is harbouring approximately 130 gangs with an estimated membership of 100,000 individuals, and there is high substance abuse in the gangs (Population Reference Bureau, 2017). Other scholars (Daniels et al., 2011; Snipes & Benotsch, 2013) have also shown that criminally involved adolescents are more susceptible to high-risk behaviours, such as risky sexual behaviours, and alcohol and substance abuse.

http://etd.uwc.ac.za

The research furthermore indicated that high risk-taking behaviours usually occur concurrently or simultaneously (Jackson et al., 2012; Kann et al., 2018; Snipes & Benotsch, 2013). An adolescent who is a substance abuser is more likely to engage in risky sexual behaviour or be violent (Jackson et al., 2012; Kann et al., 2018; Nydegger et al., 2016). Several studies have demonstrated a strong relationship between bullying (Radliff et al., 2012), high levels of deviant behaviour (Brook et al., 2010), and risky sexual behaviour (Snipes & Benotsch, 2013) and substance abuse. Current research also reveals a close-knit relationship between violence, substance use and risky sexual behaviour amongst adolescents (Chirwa, 2020). Acts of violence and risky sexual behaviours are most likely committed when adolescents are under the influence of substances (Chirwa, 2020; Matthew et al., 2019; Kann et al., 2018). Nydegger et al., (2016) alluded that risk-taking behaviours result in problematic lifestyles, with many adolescents contracting STIs such as HIV/AIDS. The youth who engage in risky behaviours often end up getting addicted to substances; developing cancer and tuberculosis from smoking; dropping out of school; getting arrested; and losing their lives unnecessarily due to violence, diseases, and substance overdoses (Nydegger et al., 2016; Gutierrez & Sher, 2015; De Veld, Van Hoof, Ouwehand, & Van der Lely, 2020).

As supported by the literature discussed in the above sections, this study is not only important but also much needed as adolescent risk-taking behaviours remain a worldwide challenge that needs to be addressed to safeguard the health and well-being of our future generation (Cohen et al., 2018). This highlights the urgent need for interventions aimed at preventing and reducing risk-taking behaviours in adolescents (Cohen et al., 2018; Grigsby et al., 2016; Lim et al., 2018), and to this, attention will now be turned.

http://etd.uwc.ac.za

3.3 Interventions

Interventions are the strategies or ways adopted to reduce or eliminate a problem. They can be short- or long-term (Grigsby et al., 2016). Jackson et al., (2012) denote that interventions in families, schools, and communities were developed in response to adolescent high-risk taking behaviours, but mainly focus on risk and protective factors, with varying degrees of effectiveness. Universal preventative interventions are rolled out on a broader basis to many youths (Kohli et al., 2018). The advantage of such interventions is that many audiences receive them in a short period (Sieving et al., 2012; Anderson et al, 2017; Kohli et al, 2018). The limitation, however, is that the effectiveness is compromised when it comes to adolescents who are already engaging in risk-taking behaviours such as substance use (Jackson et al., 2012). Besides the universal interventions, indicative interventions focus on adolescents showing early signs of risk behaviours and the at-risk individual is offered help before the behaviours develop into persistent patterns (Griffin & Botvin, 2010; Ogenchuk, 2012; De La Rue, 2017). Selective interventions that address adolescents already identified as involved in risk-taking behaviour are available (Jackson et al., 2012). The governments of different countries are instrumental in reducing adolescents' risk-taking behaviours through developing, implementing, and monitoring preventative interventions at the national level. Attention will be given to this next.

3.3.1 Government laws and restrictions

Many countries have implemented comprehensive universal interventions to control risk-taking behaviour, as exemplified by the Malaysian government and non-governmental organisations in the country in addressing the adverse effects of smoking (Lim et al., 2018). Similarly, Canada embarks on media campaigns that disseminate information to youth, highlighting the dangers of engaging in risky behaviours (Ogenchuk, 2012). In Ethiopia, the government encourages

http://etd.uwc.ac.za

intensive dissemination of information to educate adolescents on risk-taking behaviours (Turi et al., 2020). Strengthening information distribution, education, and communication were noted as useful strategies for reducing risk-taking behaviours in Ethiopia (Turi et al., 2020). Ethiopia's government has increased supportive youth-friendly services in areas such as schools and universities (Woldeyohannes et al., 2017). Chirwa et al., (2020) state that in Zambia, Comprehensive Sexual Reproductive Health (CSRH) education is being offered to adolescents in urban settings but accessibility to rural communities remain limited. Through the Ministry of Basic Education, Sports and Culture, the South African government has incorporated Life Skills teaching in the curriculum as a compulsory non-promotional subject as a measure to reach out to all school-going pupils (Timol et al., 2016). Despite the interventions mentioned above, adolescents continue to engage in risky behaviours.

The study carried out in Malaysia with 1,348 children aged between 10 and 17 years old found that 54.3% of the smokers in the study obtained their cigarettes through purchases from commercial sources (Lim et al., 2018). The government focused on awareness campaigns and advertisements on television, radio, and print media to promote healthy lifestyles throughout the country, introducing smoke-free zones, raising the price of tobacco products by changing the tax structure of cigarettes, and engaging in advocacy (Lim et al., 2018). The study furthermore revealed that despite the abovementioned interventions, adolescents continue to smoke heavily, and this has been attributed to the absence of regulating laws in Malaysia regarding tobacco licences (Lim et al., 2018). The study also found that cigarette selling is open to Malaysia's business, even unlicensed outlets such as service stations, sundry shops, and restaurants where there are no restrictions (Lim et al., 2018). Strict monitoring of purchasers through verification of buyer's age is mandatory, and any retailer caught violating the law should have the licence

http://etd.uwc.ac.za

revoked and face stiffer penalties (Lim et al., 2018). The Netherlands government has an alcohol policy that aims at postponing the age of alcohol use since research showed that early alcohol use causes adult alcohol use disorders (De Veld et al., 2020).

The USA, Europe and most African countries have also implemented strict regulatory laws, awareness campaigns, and advertisements prohibiting adolescents below the age of 18 from purchasing alcohol, cigarettes, and other intoxicating substances, but statistics continue to show high use amongst adolescents (Stockings, 2016). For such interventions to be effective, there is a need for strict regulatory mechanisms, adherence from the law enforcement agencies, education for retailers, and stiffer penalties for those who are caught selling to underage persons. Mass media's use to conscientise the people on health implications, such as increased vulnerability to diseases like lung cancer, tuberculosis, and liver complication, should also be implemented (Lim et al., 2018). Government restrictions and laws cannot work sufficiently in isolation; there is a need to support them by developing community-based interventions since community engagement in reducing risk-taking behaviours is important (Lanter et al., 2015; Green, Jason & Ganz, 2015; Fell, Scherer & Voas 2015). Additional strategies that may support the government laws include interventions efforts incorporating individual, communal and parental factors (Green et al., 2015; Fell et al., 2015). Community-based interventions is the focus of the next section.

3.3.2 Community-based interventions

Community-based interventions are preventive measures or steps taken at the community level to reduce or eliminate risk-taking behaviours amongst members (Lanter et al., 2015). Community-based interventions such as the Community Trials Intervention to Reduce High-Risk Drinking (RHRD) supports national policies and laws that govern and control the accessibility of substances such as alcohol, tobacco, and cigarettes in communities (Lanter et al., 2015).

http://etd.uwc.ac.za

Selective interventions in the community are developed for youth already coming from a risk population, such as parents, guardians, or communities that expose them to illicit substances or alcohol use, and are for adolescents who are juveniles (Johnston et al., 2018). An example is a video game risk reduction intervention to reduce the risk of HIV and STIs amongst adolescents aged between 15 and 17 years (Gariepy et al., 2018). These participants play the video game that presents different risky situations the adolescent could be faced with. They are to choose a behaviour from the good and bad options provided. The video game aims to enlighten adolescents on choices that increase condom use and reduce alcohol-related sexual risk behaviour (Gariepy et al., 2018). However, such an intervention may be effective for only a few in the community, and may not reach many facing the same challenges (Gariepy et al., 2018).

Close-knit communities with safe environments and communities that monitor their adolescents' behaviours and activities can easily identify, notice, and attend to those showing signs of risk-taking behaviour (Gariepy et al., 2018). Community engagements can be achieved by referrals from home and communities and screening at school when signs and symptoms are noticed (Griffin & Botvin, 2010; De La Rue et al., 2017). In Switzerland, productive community activities such as sporting activities help keep youth away from engaging in risky behaviours (Wicki et al., 2018). Sports club communities in Switzerland have reached more than 50,000 youths; they offer alternative leisure activities, as well as build team spirit and provide discipline, and thereby assist adolescents in making informed decisions and focusing on positive aspects of life (Wicki et al., 2018).

A Moroccan study showed that community interventions focused on reducing risky sexual behaviours amongst adolescents are influenced by the conservative nature of communities (Kazdouh et al., 2019). Community-based interventions in such environments focus on sexual

http://etd.uwc.ac.za

education and breaking communication barriers between youths and adults (Kazdouh et al., 2019). The study findings revealed that many teenagers lack knowledge of sexual health issues, and limited facilities where such information is readily available exists (Kazdouh et al., 2019). The Teach One Reach One (TORO) is another community-based intervention that encourages parents and their teens to have open communication on sex matters, which in turn increases the adolescents' self-efficacy (Ritchwood et al., 2016).

Adolescents from communities with support centres where young people can access information are less likely to engage in risk-taking behaviours (Woldeyohannes et al., 2017; Chirwa et al., 2020). Adolescents need to grow and develop in communities where support systems protect rather than expose them to risky behaviours (Chirwa, 2020; Turi et al., 2020; Sanci, Webb & Hocking, 2018). Community programs that dictate risk and protective factors early and provide effective adolescent healthcare positively impact adolescent behaviours (Sanci et al., 2018). A study in Zambia revealed that RISE, a community-based intervention that focuses on reducing risky sexual behaviour amongst adolescents, assisted in positive behaviour changes (Chirwa et al., 2020). The community interventions in Zambia need to be maintained and sustained to be more effective (Zulu et al., 2018). Continuity of intervention programmes is important to ensure consistency in positive behaviour (Zulu et al., 2018). Communities are very conservative in Saudi Arabia, and in this country it is a cultural taboo for elders and youths to openly discuss sexual matters. As a result, community interventions have limited impact (Mohammad & Basim, 2020). There are generally limited educational campaigns to teach sex education in the communities because of cultural connotations; hence, creating more culturally acceptable community interventions in Saudi Arabia is paramount (Mohammad & Basim, 2020). Community watch programmes assist in implementing interventions using various strategies

http://etd.uwc.ac.za

depending on the cause of the negative behaviour, such as encouraging the adolescent to discontinue with friendships that exert a negative influence, as well as change routines and get involved in more productive activities (Sharmin et al., 2017). The following section looks at family-based interventions.

3.3.3 Family-based interventions

The family environment is the primary setting in which a child's development will either thrive or be delayed (September et al., 2015). Parental socialisation during adolescence assists in the transition, hence making the family unit important in interventions (Szkody et al., 2020). Parenting plays a vital role in the development of the child. Parents who constantly monitor and supervise their adolescents are more likely to pick up changes in their behaviour as well as negative behaviours developing in their children compared to parents who are less involved in their children's day-to-day lives (Spirito et al., 2014; Sharmin et al., 2017; September et al., 2015; Hoque et al., 2012; Lippold et al., 2018; Szkody et al., 2020). Research has shown that the traditional approach to parenting contributes to healthy adolescent psychological development and reduces their engagement in risky behaviours such as delinquency and substance use (Jackson et al., 2012; Hoque et al., 2012; Piehler & Winters, 2015; Szkody et al., 2020). Similarly, a study conducted in Sweden, United Kingdom, Czech Republic, Slovenia, Portugal, and Spain with 7,718 adolescents aged 11 to 19 years old showed that parenting styles are influential in preventing adolescent substance abuse (Calafat et al., 2014). This study's findings revealed that in all the countries surveyed, the authoritative parenting style, which is characterised by warmth and strictness, and the indulgent parenting style, which is characterised by warmth and leniency, were associated with positive outcomes in preventing adolescent substance use compared to the authoritarian and neglectful parenting styles (Calafat et al., 2014).

http://etd.uwc.ac.za

Parental knowledge of child developmental stages, and their involvement from early on, is key in modelling behaviour (September et al., 2015; Piehler & Winters, 2015; Nwabisa et al., 2015). The Sinovuyo Caring Families Intervention in South Africa prevents the maltreatment of adolescents aged 10 to 17 years and improves caregiver-child relationships (Nwabisa et al., 2015). Family-based interventions that involve parents are also crucial in reducing risk-taking behaviour in adolescents since the family is the primary socialisation agent (Sharmin et al., 2017; Jackson et al., 2012). Family-based interventions are implemented with parents and adolescents per family or in groups (Akinsola, 2011; Piehler & Winters, 2015; Lippold et al., 2018). Parenting programmes targeted at parents of at-risk adolescents encourage parents to be supportive and involved, as well as improve communication skills and channels, and problem-solving skills related to the adolescent (Sharmin et al., 2017).

The Creating Lasting Family Connections (CLFC) intervention, another family-based intervention, focuses on preventing substance abuse and violence in teens coming from high-risk environments. This is done by strengthening communication skills between the adolescent and their parents, and by enforcing attitudes against violence. Such interventions are widely used in the USA, Australia and England amongst other countries (Strada et al., 2018; Sharmin et al., 2017).

The CLFC intervention targets adolescents between the ages of 9 and 17 years (Strada et al., 2018). In the study by Strada et al., (2018), those participating in the CLFC intervention had significantly reduced their consumption of alcohol and intake of other drugs at the 12-month assessment period.

Another family-based intervention is the Strengthening Families Programme (SFP), an intervention that involves parents and adolescents aged between 10 and 14 years. The results

http://etd.uwc.ac.za

show a significant reduction in smoking, alcohol, and illicit drug use after about 4 years (Jackson et al., 2012). The programme consists of weekly family sessions that focus on clarifying appropriate discipline, expectations, effective communication, managing strong emotions and peer skills, which are the most common underlying determinants of risk behaviour.

The Family Check-Up intervention programme that promotes behaviour management skills and strong parent-child relationships, including parental supervision and monitoring, has been efficacious at delaying and preventing the initiation of alcohol and substance use in adolescents (Spirito et al., 2015). Giving praises and rewards when the adolescent shows positive behaviour; involving the adolescents in decision making; engaging the adolescent in making family rules rather than dictating and forcing; and being consistent are important strategies in fostering good behaviour in adolescents (Jackson et al., 2012).

Family Matters, which is a universal intervention that originated in the USA, focuses on reducing alcohol and tobacco use in children aged 12 to 14 years. This intervention was implemented by parents in Bangkok, Thailand, where they received booklets with information, followed by periodic telephone calls from health workers for support and the monitoring of their progress (Rosati et al., 2012). This intervention produced some positive result in that most of the participants reported a decrease in daily cigarette smoking (Rosati et al., 2012).

Another intervention is the Brief Strategic Family Therapy (BSFT), which endeavours to reduce truancy, delinquent behaviour, and substance abuse in children aged 6–17 years by strengthening family relationships and skills building. Adolescents who participated in this intervention showed a reduction in marijuana use (Radohl, 2011).

Finally, e-mail based interventions involving parents and their adolescents also proved to be effective as adolescents spend most of their time on the Internet (Wudark et al., 2016; Doubova

http://etd.uwc.ac.za

et al., 2017). Research by Vannucci et al., (2020) shows that there is a positive link between social media and risky behaviours during adolescence; therefore, interventions that incorporate social media may significantly reduce substance abuse problems. The strategy of using Internet interventions is useful when broadcasting information to many people in different geographical locations (Doubova et al., 2017). Parents continue to be an important part of interventions as adolescents' transition to adulthood (Szkody et al., 2020; McLaughlin, Campbell, & McColgan 2016). Interventions with parenting programs promote nurturing attachments and improve family wellbeing (McLaughlin et al., 2016). In addition to family-based interventions, there are also school-based interventions aimed at assisting adolescents at the school level. These are focused on next.

3.3.4 School-based interventions

School-based interventions are important in reducing risk-taking behaviours in adolescents, such as substance abuse. Further research has shown that interventions derived from psychosocial theories were more effective than interventions based on simple cognitive conceptual models that lectured students on risk-taking behaviours and sought to instil fear in them (Sieving et al., 2015). Contemporary school-based interventions address social resistance skills training, competence enhancement skills training, and normative education such as Life Skills Training (Stockings, 2016). Studies conducted in the USA and Europe revealed that interventions in schools that focus only on increasing knowledge and awareness of risk-taking behaviours, such as substance use, are less effective amongst adolescents than interventions that focus on life skills and psychosocial development (Stockings, 2016). Mental health interventions directed towards high-risk teenagers significantly reduce their drinking behaviour compared to merely providing general information on the dangers of alcohol abuse (Stockings, 2016).

http://etd.uwc.ac.za

School interventions that include peer education have made positive strides in changing adolescents' behaviour (Timol et al., 2016; Woldeyohannes et al., 2017). In South Africa, the Listen UP school-based intervention uses peer education to address risky behaviours in adolescents (Timol et al., 2016). The study by Wang et al., (2020) on Chinese youth revealed that peer education is important since most adolescents choose to follow their peers. Similarly, a study in Ethiopia showed that youth engagement in risky sexual behaviour was reduced when interventions incorporated peer education (Woldeyohannes et al., 2017). Peer-led educational programmes can improve adolescents' self-efficacy and decision making. These intervention strategies are therefore preferred in the South African context (Timol et al., 2016). In the USA, a peer-led condom festival intervention that promoted safe sex and knowledge dissemination reduced unintended pregnancies among adolescents as well as STIs (Anderson et al., 2017). However, peer-led education interventions must be culturally tailored to suit the participants' beliefs and needs (Anderson et al., 2017).

The school is an important part of adolescents' interventions as they spend most of their time at the institutions (Anyon et al., 2014). In Switzerland, school sporting activities have been used as interventions to keep youths away from engaging in undesirable behaviours such as substance use (Wicki et al., 2018). The interventions implemented by school sports clubs not only provide mentorship to the youth but also positively influence their behaviours (Wicki et al., 2018). The interventions developed long ago are still maintained in some schools today, such as the Drug Abuse Resistant Education (D.A.R.E) programme, which is still positively impacting youth behavioural change (Stigler et al., 2011; De La Rue et al., 2017). The Keeping it REAL intervention is another school-based, culturally grounded alcohol prevention programme developed for and tested in Mexico on Mexican American middle school students (National

http://etd.uwc.ac.za

Registry for Effective Prevention Programs [NREPP], 2017). The participating youths responded positively to the programme as they were able to identify with the culturally relevant intervention (Basic, 2015; NREPP, 2017).

Communities That Care (CTC) is another school-based intervention programme that focuses on reducing early behavioural problems in youth (Rhew et al., 2016; Basic, 2015). Although originating in the USA, this intervention has been adopted by many European and African countries (Rhew et al., 2016; Kuklinski et al., 2015). Aftercare school interventions for aggression management reduced violent behaviour in adolescents (Staecker et al., 2016). The school-based interventions are useful as they can be used to reinforce what is taught in the curriculum (Anyon et al., 2014; Kuklinski et al., 2015; De La Rue, 2017).

In Canada, the Linking the Interest of Families (LIFT) intervention is a school-based programme that incorporates the parents. It seeks to reduce problem behaviours such as substance use and violence in the school, home, and communities (Best Practice Database, 2016). Teachers facilitate and play an important role in classrooms and during playtime (Staecker et al., 2016). Educators can participate as facilitators in school-based interventions with assistance from other relevant professionals such as nurses or counsellors (Studer & Mynatt, 2015). School rules and regulations can be protective factors in addressing the risk-taking behaviours of school-going youth (Studer & Mynatt, 2015). The school environment should be maintained as a safe place for both learners and staff (Studer et al., 2015; Staecker et al., 2016; De La Rue et al., 2016). School interventions facilitated by professionals such as nurses, psychologists, administrators, and counsellors have been useful in reducing high-risk behaviours (Basic, 2015). In Zambia, most interventions are not accessible to the rural populace, and they remain disadvantaged (Sandoy et

http://etd.uwc.ac.za

al., 2016; Chirwa et al., 2020). Despite the interventions at community, family, and school levels, adolescents still engage in risk-taking behaviours.

Some concluding remarks follow next to wrap up the chapter.

3.4 Conclusion

The above discussion clearly outlines adolescent risk-taking behaviours and the interventions and strategies that have been developed and implemented to curb the problem, which nonetheless persists. The continuous engagement of adolescents in risk-taking behaviours, despite the employment of various interventions, remains a worrying phenomenon. It results in problems such as depression, anxiety, poor academic performance, poor conflict resolution techniques, suicidal ideation, suicide, self-harm, poor health, criminal behaviour, and unemployable youth. The gap or problem identified is the absence of a holistic approach adopted by interventions to reduce high risk-taking behaviours in adolescents. Most interventions target a single risk-taking behaviour; are delivered in a single setting such as school, community, or family; and focus on either psychological or social aspects that could influence the behaviour.

The methodological steps followed in this study are described next in Chapter four.

http://etd.uwc.ac.za

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

Chapter four presents the systematic method adopted to find secondary sources focusing on the interventions directed at reducing high risk-taking behaviours among adolescents. The chapter illustrates the systematic method adopted to fulfil the aim of the current study. The chapter further discusses the SR methodology followed by the inclusion and exclusion criteria, levels of review, method of review, and data analysis. In addition to outlining the objectives of the study and review questions, the ethical considerations adhered to are also described in detail.

4.2 Aim

The study aimed to review existing literature focusing on interventions directed at reducing high risk-taking behaviour in adolescents.

4.3 Objectives

The objectives of the study were to:

1) Identify interventions directed at reducing high risk-taking behaviour in adolescents;
2) Identify the effectiveness of interventions directed at reducing high-risk behaviour in adolescents;
3) Appraise the methodological rigour of studies exploring interventions directed at reducing high risk-taking behaviour in adolescents.

http://etd.uwc.ac.za

4.4 Review Question

This review was guided by the research question:

> "What are the interventions directed at reducing risk-taking behaviours in adolescents?"

The PICO framework method, an approach for framing a leading research question, was applied for the development of the research question (Anju et al., 2016). PICO stands for:

P = population

I = intervention

C = comparison

O = outcomes

In this study, the "P" referred to relevant participants for the review, namely, adolescents aged between 9 and 19 years; "I" referred to the interventions directed at reducing risk-taking behaviours in adolescents; "C" referred to comparison through identification and capturing the different interventions; and "O" referred to the outcomes of the interventions in terms of effectiveness in reducing risk-taking behaviours.

4.5 Research Methodology

This study adopted a SR methodology following a RE-AIM framework design. The SR is a thorough and methodical way of assessing, appraising, and evaluating existing literature using reproducible steps (Stewart, 2014). The process has minimal bias since a systematic approach is adopted to search, identify, select, appraise, and synthesise research evidence (Stewart, 2014). The RE-AIM framework model was developed to improve the likelihood of translating health promotion interventions into practice (Estabrooks & Allen, 2012) and assist in evaluating the effectiveness of an intervention in a community or organisation (Jauregui, 2015). This framework

http://etd.uwc.ac.za

was the most suitable for this study as its five components, namely: *reach, effectiveness, adoption, implementation*, and *maintenance*, provided the researcher with the platform to thoroughly evaluate the interventions as elaborated by Frantz and Chandeu (2011). The RE-AIM systematic review provides the researcher with a systematic process for identifying, evaluating, and interpreting all the available research relevant to this particular research question: "What are the interventions directed at reducing high risk-taking behaviours in adolescents?" A SR was appropriate for this study design as it enabled the comparison of vast studies and provided answers with a much stronger evidence level than an individual study (Bowron, 2017).

4.6 Inclusion Criteria

The criteria for an article to be included in the SR were as follows:

- The publication period was restricted to the years 2010 to 2020;
- The focus had to be on adolescents aged between 9 and 19 years;
- Articles had to be peer-reviewed, full text, and in English;
- Articles had to be available on the University's online databases.

These criteria are elaborated on in more detail below.

4.6.1 Time period

The SR focused on studies published within 10 years from 2010 to 2020. Selecting the most current publications is sufficient since information is constantly changing and researchers need to produce admissible work (Anju et al., 2016). The choice of selecting current studies was made to capture recent and relevant studies addressing interventions directed at reducing high risk-taking behaviours in adolescents. Selecting a relevant timeframe is crucial to remain up to date

http://etd.uwc.ac.za

with current findings applicable to the study's environment. Information changes with time, and as a researcher, the outcomes need to be valid and relevant (Anju et al., 2016)

4.6.2 Participants

The SR included articles that focused on adolescents between the ages of 9 and 19 years, as defined by the WHO (2014). Articles that addressed adolescents in this age group and had sections that mentioned older youth were also considered, but information extracted from the articles remained for 9- to 19-year-olds. Both male and female adolescents were included in the study as they are susceptible to engage in risk-taking behaviours (Lim et al., 2018). Adolescents susceptible to risk-taking behaviours were included in this study. People going through the adolescence stage are vulnerable and prone to risk-taking behaviours as the transitional stage to adulthood can be complex. Participants therefore included anyone within the adolescence stage of development, as this age group is particularly at risk of engaging in risk-taking behaviours.

4.6.3 Types of studies

For an article to be included in the SR, they were required to be full text. Reviewing was done to enable the researcher to have all the author's information on the subject to enable in-depth critical analysis. Articles included in the SR were searched through online databases on the University of the Western Cape's (UWC) library website. Only articles that were retrievable and had open access were considered. This SR included articles that were peer-reviewed, full text, and written or documented in the English language only. Articles could be of qualitative, quantitative, and mixed method methodology, and were inclusive of all designs to ensure the inclusion of all available evidence. The latter was advantageous as it enabled the researcher to retrieve many relevant articles, broadening the selection base of relevant articles that reported on the topic

http://etd.uwc.ac.za

(Gaglio et al., 2013). Articles were required to focus on interventions directed at reducing high-risk behaviours in adolescents.

4.7 Exclusion Criteria

Articles were excluded from the SR if they:

- Were not written or published in the English language;
- Fell outside the stipulated timeframe of 2010 to 2020;
- Were not available on the University's online databases;
- Included participants above or below the adolescent age group (i.e., younger than 9 and older than 19 years);
- Were not full text or peer-reviewed;
- Did not relate to the research topic and did not report on interventions to reduce risk-taking behaviours, e.g., risky sexual behaviours, illicit substance use, and violence in adolescents; and
- Utilised designs such as literature reviews, scoping reviews, and systematic reviews, as these did not fit the design of the current review.

4.8 Method of Review

Databases searched by the main researcher included: Academic Search Complete, Medline, ERIC, African Journals Online, PSYCH Articles, JSTOR, and Sage Journals – as these were housed in UWCs online library. Databases that were identified as relevant for the SR are presented in Appendix A. The primary researcher (RKM) and her supervisors (CJE and ZY) acted as second and third reviewers, respectively, throughout the SR. The search was done by entering Boolean strings consisting of search terms and Boolean operators into preselected databases to identify potential titles. The primary researcher (RKM) screened each potential title for relevance to the SR, actively seeking the presence of pertinent keywords and search terms in the titles. The second

http://etd.uwc.ac.za

and third reviewers (CJE; ZY) verified the exercise. Potential titles deemed relevant to the SR progressed to the next level of review, namely, screening.

During the screening level, the abstracts of each potential title were screened independently by the primary researcher and the reviewers (CJE; ZY) for relevance to the review. Such an assessment was determined against the inclusion and exclusion criteria. The articles that passed the abstract screening stage were further analysed by downloading the full text and being subjected to critical appraisal to assess the methodological quality. The appraisal was done by the primary researcher and the second and third reviewers (CJE; ZY) to increase the validity of the SR.

4.9 Search Strategy

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) provided the retrieval strategy guidelines (Moher et al., 2009). The articles were reviewed by the primary researcher, as well as the second and third reviewers (CJE; ZY). The search strategy followed the four levels of review and the accompanying operational steps proposed by the PRISMA framework, namely: *Identification, Screening, Eligibility*, and *Inclusion*, as indicated in Figure 4.1 below.

http://etd.uwc.ac.za

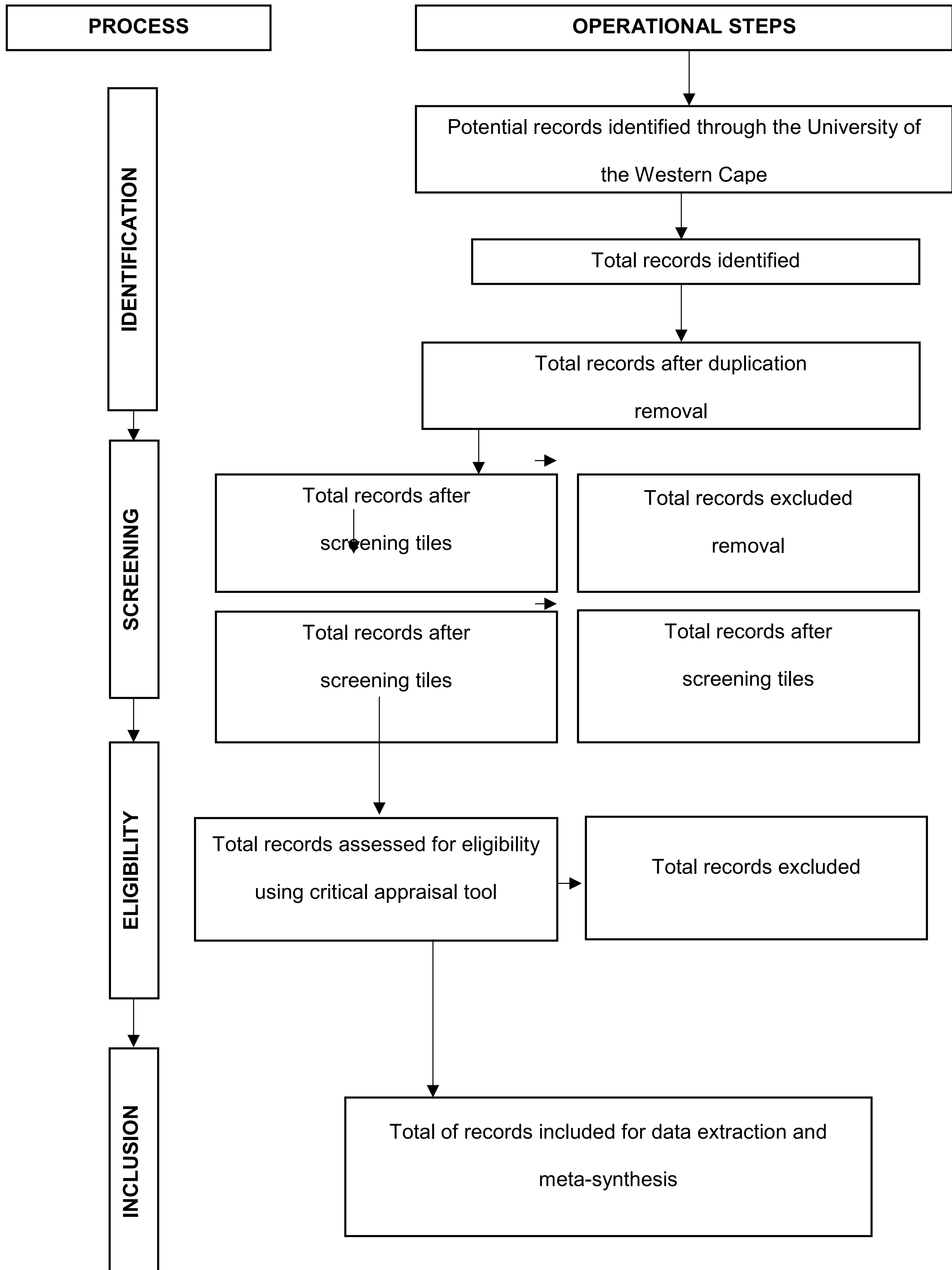


Figure 4.1. PRISMA Levels of Review (Smith & Devine, 2011)

http://etd.uwc.ac.za

4.9.1 Levels of review

The PRISMA flowchart (Figure 4.1) with the four levels of review, namely: *identification, screening, eligibility,* and *exclusion* are discussed in more detail below (Smith & Devane, 2011).

4.9.2 Identification

The key aim of the SR was to retrieve appropriate and relevant articles from the selected databases that report on the research question (Smith & Devane, 2011). Search terms and keywords should be clearly defined to enable the retrieval of relevant articles from the databases. The SR was guided by the research question: "What interventions reduce high risk-taking behaviours in adolescents?" The PICO framework assisted in dividing the question into key elements making the search process easier and manageable (Anju et al., 2016; Stern et al., 2014).

The four variables of the PICO method include: (1) participants targeted by the SR, namely, adolescents aged between 9 and 19 years; (2) interventions directed at reducing risk-taking behaviours in adolescents; (3) comparison through identification and capturing the different interventions; and (4) the outcomes of the interventions, i.e., in terms of their effectiveness in reducing risk-taking behaviours.

Using the PICO framework, the following search terms were identified: "adolescents risky behaviours", "interventions to reduce", and "adolescents' interventions" were used in the preliminary search. The terms were entered electronically into two databases: Academic Search Complete and ERIC. The effectiveness of the initial search terms was determined by data yielded from the databases (Long, 2014).

The retrieved data was insufficient and limited, but the exercise provided synonyms of the preliminary search terms, resulting in refined keywords. The keywords for this research were: "interventions", "high-risk behaviours", "adolescents", "risky sexual behaviours", "substance

http://etd.uwc.ac.za

use", and "violence". The keywords were combined using the "AND" and "OR" Boolean operators to create relevant search strings. The "AND" Boolean was also created to be reliable and effective (Anju et al., 2016). Combining two words using "AND" assisted in narrowing the search and retrieving articles that mention both words only (Anju et al., 2016). To widen the search and gather more articles that mention either words, the Boolean "OR" was applied (Anju et al., 2016). Using "OR" also assisted in retrieving articles containing each term separately and both terms together, hence broadening the search (Anju et al., 2016).

Additionally, Boolean search strings were created as an essential element in identifying relevant data and allowing for an exhaustive and broad search of the databases (Anju et al., 2016; Stern et al., 2014). Search strings were created using identified keywords and Boolean operators. The search strings were useful in directing searches, extracting possible matches, expanding the chances of obtaining relevant data, and removing irrelevant studies that fail to address the focus of the current study (Anju et al., 2016). In carrying out the searches, the researcher was cognisant of different spellings, synonyms, abbreviations, and lay terminology. Synonyms were identified by typing a word in a Google search where different words that mean the same were provided. For example, the word "adolescents" produced synonyms "teenagers" and "youths", which were useful in the identification process as these words are usually interchangeably used. Spelling variations were also considered in the identification process; for example, the word "behaviours" is also spelt "behaviors".

Listed below are the nine sets of search strings formed from the keywords and entered into the databases for the search exercise.

(1) "interventions" AND "high-risk behaviours" OR "high-risk behaviours" AND "adolescents".

http://etd.uwc.ac.za

(2) "substance use" AND "interventions" AND "adolescents".

(3) "risky sexual behaviours" AND "interventions" AND "teenagers".

(4) "programs" AND "high-risk behaviours" AND "adolescents".

(5) "programs" AND "high-risk behaviours" AND adolescents".

(6) "substance use" AND "programmes" AND "teenagers".

(7) "substance misuse" AND "interventions" AND "adolescents."

(8) "intervention" AND "risk-taking behaviour" AND "youths".

(9) "teenagers" AND "alcohol use" AND "interventions".

Databases housed by UWCs library are categorised according to disciplines, such as education, social sciences, natural sciences, and health. The databases used in this study were retrieved from the categories. Table 4.1. presents the disciplines and associated databases. Databases selected had academic publications that were useful in addressing the aim of the study.

http://etd.uwc.ac.za

Table 4.1: Table of disciplines and associated databases

Education	Social and Natural Sciences	Health
Education	Sociology	Medicine
	Anthropology	Occupational Therapy
	Psychology	School of Pharmacy
	Women & Gender Studies	School of Public Health
	Sport Science	Nursing
	Human Ecology	Dietetics
		Dentistry
	Databases	
Psych ARTICLES	JSTOR	Medline (EBSCOhost)
SAGE Journals	Academic Search Complete	
ERIC	African Journals Online	

The piloting of databases was undertaken using search strings through entering the identified keywords in the search engines of the databases to assess the yielded results (Stern et al., 2014). The search strings were typed in the search function and produced “hits”, which are the total retrieved articles in the particular database addressing the research area (Long, 2014). The effectiveness and relevance of the search string were ascertained by the number of “hits” the search string produced. The trial exercise eliminated search strings that did not yield adequate “hits” and search strings that limited the process of retrieving relevant articles. The number of hits had to be adequate, not too narrow and not too broad (Long, 2014). The relevance of search strings was also determined by the titles produced which had to be relevant to the review (Stern et al., 2014).

The nine effective search strings were applied in the final search exercise for the study. Boolean strings of search terms and keywords were used to search for articles in the selected

http://etd.uwc.ac.za

databases of the UWC library. This exercise carried out by the primary researcher produced hits and yielded potential titles. The titles retrieved were relevant to the study and matched the search terms and strings. Titles that failed to meet the inclusion criteria were excluded. Duplicate titles were screened and removed by the primary researcher in all selected databases. The primary researcher also removed irrelevant titles leaving those eligible to progress to the next level of the SR. The Title Sheet (Appendix A) shows the included titles and duplications as recorded by the primary researcher.

During the identification level, relevant titles were identified through pertinent keywords and search terms within respective titles. After removal of duplications, potential titles relevant to the review were included and progressed to the next level of review, while irrelevant titles were excluded from the next review level. The number of hits, titles, and duplications were recorded. Limiters, such as the year of publication, language, age, and full text were consistently applied to the databases' searches. The Boolean strings produced hits that availed many relevant studies addressing the topic effectively, and those titles not addressing the topic were excluded. The searches were carried out by the primary researcher (RKM) and two reviewers (CJE; ZY). The researcher then removed duplicate studies that were retrieved in two or more databases (see Appendix B – Title Sheet).

4.9.3 Screening

Abstracts of potentially relevant titles identified during the identification level were retrieved and reviewed during the level of screening. The process of screening is significant and entails further rigorous analysis of the selected articles to determine if they can proceed to the next level (Smith & Devine, 2011). The relevance of potential abstracts was considered through the application of the pre-determined inclusion and exclusion criteria. Abstracts deemed relevant for the review

http://etd.uwc.ac.za

were included and progressed to the next level of review, while abstracts failing to meet the predetermined inclusion and exclusion criteria were excluded.

The main reasons for exclusion were inappropriate sample population, inappropriate methodological design, not being available in the English medium, and not focusing on interventions directed at reducing adolescents' risk-taking behaviours. Studies that met the inclusion criteria progressed to the next level of review, namely, eligibility, while irrelevant articles were excluded. Information used to assess the abstracts and the outcomes were recorded on the Abstract Sheet (Appendix C), and the reasoning for exclusion was recorded.

4.9.4 Eligibility

Eligible articles should pass the initial screening stages and meet the required criteria for methodological assessment of final inclusion (Smith & Devine, 2011). During the eligibility level, articles are subjected to a process of methodological assessment to determine their eligibility for inclusion in the final review. The full texts of studies with abstracts that passed the abstract screening stage were further subjected to a methodological appraisal process to determine their eligibility for the final inclusion stage. The assessment of the full texts was done by using the critical appraisal tool to determine the eligibility of each article. The articles were subjected to scrutiny using the five components of the RE-AIM framework. Articles were independently verified by the second and third reviewer (CJ; ZY). The reviewers were responsible for eliminating the possibility of research bias (Stoll et al., 2019). They rigorously assessed the articles through screening the search results retrieved by the primary researcher against the critical appraisal tool's eligibility criteria. The reviewers scored the articles against the elements of the five dimensions of the RE-AIM critical appraisal tool. The exercise was done to reduce errors and improve accuracy (Stoll et al., 2019). Included studies had to pass the threshold score of 66% set

http://etd.uwc.ac.za

by the primary researcher and the two reviewers, which indicates that the methodological rigour of the reviewed study is of very good quality (Frantz & Chandeu, 2011). The articles that did not meet the threshold and did not report on the interventions directed at reducing high risk-taking behaviours in adolescents were excluded from the study. Disparities and differences regarding the eligibility of studies were discussed among the researchers until a consensus was reached. The critical appraisal tool and its threshold score for eligibility are presented below.

4.9.4.1 Critical Appraisal Tool

The RE-AIM appraisal tool (Appendix D) critically assesses the effectiveness of interventions on the intended beneficiaries at individual and community level (Frantz & Chandeu, 2011). The RE-AIM appraisal tool is ideal for all types of studies – qualitative, quantitative, and mixed methods (Boersma et al., 2014). The selected appraisal tools were chosen based on their ability to allow proper examination of interventions adopted by a community or organisation. The RE-AIM framework helps guide the programme's planning to ensure adoption, successful implementation, and evaluation (Jauregui, 2015). It is relevant as it also evaluates both the strengths and limitations of the intervention (Lakerveld et al., 2012). Each study's relevance was critically determined by rating through the **RE-AIM's five components** (Boersma et al., 2014), namely: *reach, effectiveness, adoption, implementation*, and *maintenance* (Lakerveld et al., 2012).

a) *Reach* refers to the intervention reaching or being used on the intended target population (Gaglio et al., 2013). The reach dimension has **three elements**, namely: (1) appraising whether the article indicates who the programme is intended for, thus clearly showing the inclusion and exclusion criteria (Gaglio et al., 2013; Kessler et al., 2012); (2) determining whether the article reports on the representativeness of the

http://etd.uwc.ac.za

target group; and (3) assessing whether the article reports on the participation rate (Gaglio et al., 2013).

b) *Effectiveness,* the second dimension, refers to the intervention achieving its objective or attaining positive outcomes (Gaglio et al., 2013). The **four elements** under the effectiveness dimension appraise whether (1) the programme achieved the intended objectives; (2) if the article reported on the limitations of the intervention; (3) if the outcomes of the interventions are reported on; and (4) if the article reports on attrition (Kessler et al., 2012; Gaglio et al., 2013).

c) The third dimension, *adoption*, refers to the staff, venues, settings, or organisations adopting the intervention (Gaglio et al., 2013). The **three elements** under adoption appraise whether (1) the setting for the programme was clearly described; (2) if the article reports on who delivered the programme; and (3) if the article reports on the adoption of the intervention by the participants or the organisation intended (Gaglio et al.., 2013; Kessler et al., 2012).

d) The fourth dimension, *implementation*, refers to the consistency and adaptation of the intervention protocol on practice (Gaglio et al., 2013). There are **three elements** under the implementation dimension, (1) with the first one appraising the duration and frequency of the intervention (Gaglio et al., 2013). (2) The second element appraises cost implications, assessing whether the staff or participants have been involved in delivering the programme. (3) The third element appraises if the article reports whether the intervention was delivered as intended or not (Gaglio et al., 2013).

e) The fifth dimension, *maintenance*, refers to the intervention effects on individuals or settings over time (Gaglio et al., 2013). There are **two elements** under the maintenance

http://etd.uwc.ac.za

dimension which appraise (1) whether the article reports on the effects of the interventions over time and (2) the indicators used for intervention follow-up (Gaglio et al., 2013).

The articles were then scored based on whether they reported on the elements under the RE-AIM dimensions. The researchers coded “yes”, which carried the number “1”, reflecting the presence of the RE-AIM element; or coded “no”, which carried the number “0”, reflecting the absence of the RE-AIM element. The numbers 1 or 0 were scored under each element, and the total was converted into a composite percentage score by dividing the total score for the article by the number of elements which is 15. After evaluation, articles were included in the final review if their threshold score was very good; they met most of the RE-AIM elements and obtained the highest percentages (Gaglio et al., 2013; Lakerveld et al., 2012). The same critical appraisal tool was used on all the articles for consistency, reliability, and validity (Lakerveld et al., 2012).

4.9.4.2 Threshold Scoring

The eligible studies were graded, and scores were recorded on the data scoring sheet (Appendix E) with a 0–33% poor representation, 33–66% satisfactory, and 66–100% very good (Frantz & Chandeu, 2011). The study’s threshold score for inclusion was set at 66%–100% to identify high-quality studies for the final review. This was done to ensure that relevant studies were included and poorly structured studies or those that lacked methodologies were excluded (Gaglio et al., 2013). The reliability and relevance of the current study was increased by including only top of the range studies using the high threshold score (Gaglio et al., 2013).

4.9.4.3 Inclusion

Articles meeting the predetermined threshold score progressed to the level of inclusion and were subjected to a process of data extraction.

http://etd.uwc.ac.za

4.10 Data Extraction

Data extraction is a process of obtaining information from the studies to enable a smooth synthesis of important facts logically (Boersma et al., 2014). The relevant information, namely: author, date of publication, country, population, sample size, age, gender, methodology, and the RE-AIM components – reach, effectiveness, adoption, implementation, and maintenance – were extracted (Appendix F). The data extraction process enables the designing of a data extraction tool that facilitates accurate recording of findings presented in the included studies (Hathorn et al., 2014). Data from the articles were extracted by the primary researcher by means of a self-constructed Data Extraction Sheet (Appendix F). Guidelines outlined in the Cochrane Data Extraction and Assessment Form were used to construct the data extraction sheet (Higgins & Green, 2011). Kaufman (2015) also provides a template with guidelines for a data extraction and assessment form. The sheet was segmented into three sections, namely: General Description, Methodology, Findings and Analysis. Extracted data were aligned with the various levels of analysis and the study objectives. The primary researcher piloted the data extraction sheet on a random sample before the actual data extraction process to reduce bias (Thurman et al., 2014). Chapter five will elaborate on the data extracted on the self-constructed data extraction sheet. The data extraction sheet is depicted in Appendix F.

4.11 Analysis

This stage involves deducing meaning from the study results and reporting in a meaningful and understandable manner (Frantz & Chandeu, 2011). The descriptive meta-synthesis analysis effectively analyses and chronologically synthesises the primary sources' findings (Jan, 2018). Meta-synthesis is defined as the compilation and interpretation of findings to promote an in-depth understanding or explanation of phenomena (Korhonen et al., 2012). Moreover, this approach

http://etd.uwc.ac.za

helps generate new information or facilitate a more distinct understanding of information (Korhonen et al., 2012). It was found to be an ideal method for this study as it would assist the researcher to understand existing knowledge (Jan, 2018). The researcher gained exhaustive knowledge on interventions to reduce high risk-taking behaviours in adolescence. Additionally, meta-synthesis goes beyond presenting statistical findings; it engages in descriptive analysis and provides a summation of the findings, making it relevant for this complex study (Lachal et al., 2017). Interpretation of findings from primary sources is made possible through meta-synthesis (Jan, 2018).

Meta-synthesis collaboratively deduces useful new information extracted from various studies contributing to future research, investigations, and policy design and implementation (Erwin et al., 2011). The information retrieved from the systematic gathering processes should be synthesised logically (Lachal et al., 2017). The meta-synthesis goes beyond mere gathering of information to more exhaustive synthesising processes and analysing information in an understandable manner (Jan, 2018; Korhonen et al., 2012). This method is appropriate as there is a need to analyse the interventions directed at reducing high-risk behaviours in adolescence.

Furthermore, meta-synthesis promotes the generalisation of information based on the findings across the selected studies (Lee et al., 2014). It also enables the researcher to find common themes in different studies (Ring, 2011). Practical tests, trials and interventions can be designed and implemented based on such generic findings (Lachal et al., 2017). There are three different types of meta-synthesis: descriptive meta synthesis, theory explication, and theory building (Erwin et al., 2011). A descriptive meta-synthesis and theory explication was adopted for this study to elaborate on the findings of interventions aimed at reducing the high-risk behaviours of adolescents.

http://etd.uwc.ac.za

4.11.1 Descriptive meta-synthesis

The recorded findings are subjected to descriptive meta-synthesis analysis by comparing phenomenology grouping results with the same themes, concepts, and objectives (Jan, 2018). The descriptive analysis is done through deconstructing and decontextualising the findings (Jan, 2018). In 2020 the researcher searched and retrieved the relevant articles from the UWC library databases during the identification stage. The identification stage retrieved several articles, and duplicates were removed. Thereafter, following a rigorous screening process, articles were assessed on the suitability of their titles and abstracts. Relevant articles were retained and assessed for eligibility using the critical appraisal tool. The identification, screening, eligibility, and inclusion process is illustrated in Figure 5.1 (in Chapter 5), showing the PRISMA levels of review which are described in the subsequent section.

The RE-AIM appraisal tool was identified as suitable for the current study and full-text reviews. The information was extracted and analysed from the articles according to the five RE-AIM components: reach, effectiveness, adoption, implementation, and maintenance. Articles were analysed according to the domain of reach by assessing the ability of interventions to reach the proportions of the target population that participated in the programme (Boersma et al., 2014). To establish if the programmes adequately covered the intended target population, the articles had to be appraised.

Analysis of effectiveness entailed an individual measure of positive and negative consequences of a programme for outcomes, behavioural, physiological, and participants' satisfaction (Frantz & Chandeu, 2011). Additionally, for the effectiveness domain, data was analysed measuring whether the intervention's success rate is implemented as in the guidelines (Boersma et al., 2014). Analysis was done on whether included articles reported positive

http://etd.uwc.ac.za

outcomes or negative outcomes regarding the participants' knowledge, skills, behaviours, and attitudes (Boersma et al., 2014). The appraisal was done to assess the efficacy of the interventions used.

Articles were further analysed under the adoption domain to determine whether they report on target staff, venue, or organisation adopting the intervention (Frantz & Chandeu, 2011). The appraisal was done to clearly describe who delivered the programme and whether the participants or organisations adopted the intervention. Under the implementation domain, articles were assessed on how the intervention was carried out on the ground (Frantz & Chandeu, 2011). Appraisal under adoption was done to picture whether all interventions planned had been delivered and how the people responsible engaged in the implementation process (Boersma et al., 2014). Under the maintenance domain, articles were analysed to show how a programme was sustained over time. Boersma et al., (2014) reiterate that maintenance should be reinforced by the programme implementers, who can be individuals or organisations, to ensure the sustainability of the intervention's positive effects. The eligible articles were appraised on the mentioned domains on the RE-AIM critical appraisal tool.

The articles were subjected to further analysis by scrutinising whether the interventions addressed the specific elements under each RE-AIM domain. The specific elements were fully identified and explained in section 4.9.4.1 on the critical appraisal tool. Rigorous reading and re-reading assisted in coding articles with similar patterns and clustering them together through descriptive synthesis, which were tabularised (Jan, 2018). Coding was done by listing and recording the elements in the five domains of the RE-AIM critical appraisal tool. The articles were scrutinised whether they reported on the elements. A "yes" representing "1" was coded if the article reported on an element of the domain, and a "no" representing "0" was coded if the

http://etd.uwc.ac.za

article did not report on a specific element. The final score was used to determine whether it can be included in the final SR, and only nine top scorers were selected for the final review. Addressing most of the elements of the critical appraisal tool, these nine articles were deemed suitable for the final inclusion.

The nine included articles had to be further analysed to deduce the findings and results of the SR. The process was done by documenting information retrieved from the articles on a self-constructed data extraction sheet. The articles were further subjected to analysis using the general description of the studies. During this process, information was allocated to five sub-divisions, namely: authors, country, theory, aim, and problem statement. The use of general descriptions helped to assesses the articles for analysis instead of relying on information obtained from the RE-AIM appraisal tool alone. The methodological appraisal was done by allocating data in the study design, population, sampling method, sample size, and data collection instruments. Information from the data extraction sheet and other relevant information, such as participants, geographic location, aims and objectives, implementers of the intervention, and study findings were used to categorise similar articles and deduce themes and sub-themes (Erwin et al., 2011). Articles with the same themes and sub-themes were categorised, and three groups were established. One group was for articles that addressed risky sexual behaviours, another for articles that addressed substance use, and the final group was for articles that addressed violence.

The articles were further scrutinised, checking similarities and best practices to enable information to be synthesised and presented logically. *Best practices* can be defined as initiatives and practices proven by research and experience to produce reliable results (The United Nations Centre for Human Settlements [UNCHS], 2018). The practices can be proposed as a standard suitable for widespread adoption (UNESCO, 2018). Best practices represent the most efficient or

http://etd.uwc.ac.za

prudent course of action by following guidelines, ethics, or ideas set by governing bodies, authorities, or institutions (UNESCO, 2018). Best practices keep evolving as new and better solutions are found, or advance from better awareness, new technology, or renewed perspectives (Kenton, 2019). The outlined steps in the data analysis process enabled information to be categorised, comprehensively assessed, and synthesised to address the research topic. A detailed account of the findings of the descriptive synthesis of the interventions to reduce high risk-taking behaviours in adolescents is provided in Chapter five.

4.12 Ethics Considerations

All research needs to be conducted in an ethical manner that will cause no harm to the participants or conflict with others. To adhere to the necessary requirements, the researcher was granted permission by UWCs Human and Social Sciences Research and Ethics Committee after complying with their rules, regulations, and guidelines for research. The researcher had access to and acquired information from authorised databases provided by UWC. The study is a SR, so the researcher had no direct interaction with participants; therefore, no consent forms were required. Information for this study was obtained from other scholars, and proper referencing was done to avoid plagiarism (Wager & Wiffen, 2011). Suri (2018) states that all systematic reviewers must identify an appropriate body of knowledge or theory aligned with their review purpose and research competence. This is evident in the current study as it is valid, reliable, and substantiated by theory. Systematic reviewers must ethically remain objective and not allow their contexts, personal beliefs, and personalities to influence how they interpret data (Suri, 2018). Ethical practice was adhered to in the current study as the researcher objectively reported the study's findings extracted from the included articles.

http://etd.uwc.ac.za

4.13 Conclusion

The methodology employed in the SR was extensively discussed and all stages taken to obtain the data were clearly explained. The steps outlined in this chapter assisted in fulfilling the aim of the current study. Ethical considerations were observed in gathering data. Based on the insights of the research process, the following chapter presents the study's findings.

http://etd.uwc.ac.za

CHAPTER FIVE

RESULTS

5.1 Introduction

The previous chapter described the methodology employed in this study and discussed in detail the steps of the SR that was used to collect the data. Attention now shifts to a discussion of the results of the SR. The current chapter offers the general description of the included studies, methodological appraisal of the studies, and the RE-AIM framework content analysis and results. Similarities, strengths, and limitations of the studies are discussed, and possible solutions are suggested.

5.2 Process of Results

PRISMA was used to process the results (Smith & Devane, 2011). The actual findings at each level of the PRISMA are recorded and presented diagrammatically in Figure 5.1.

http://etd.uwc.ac.za

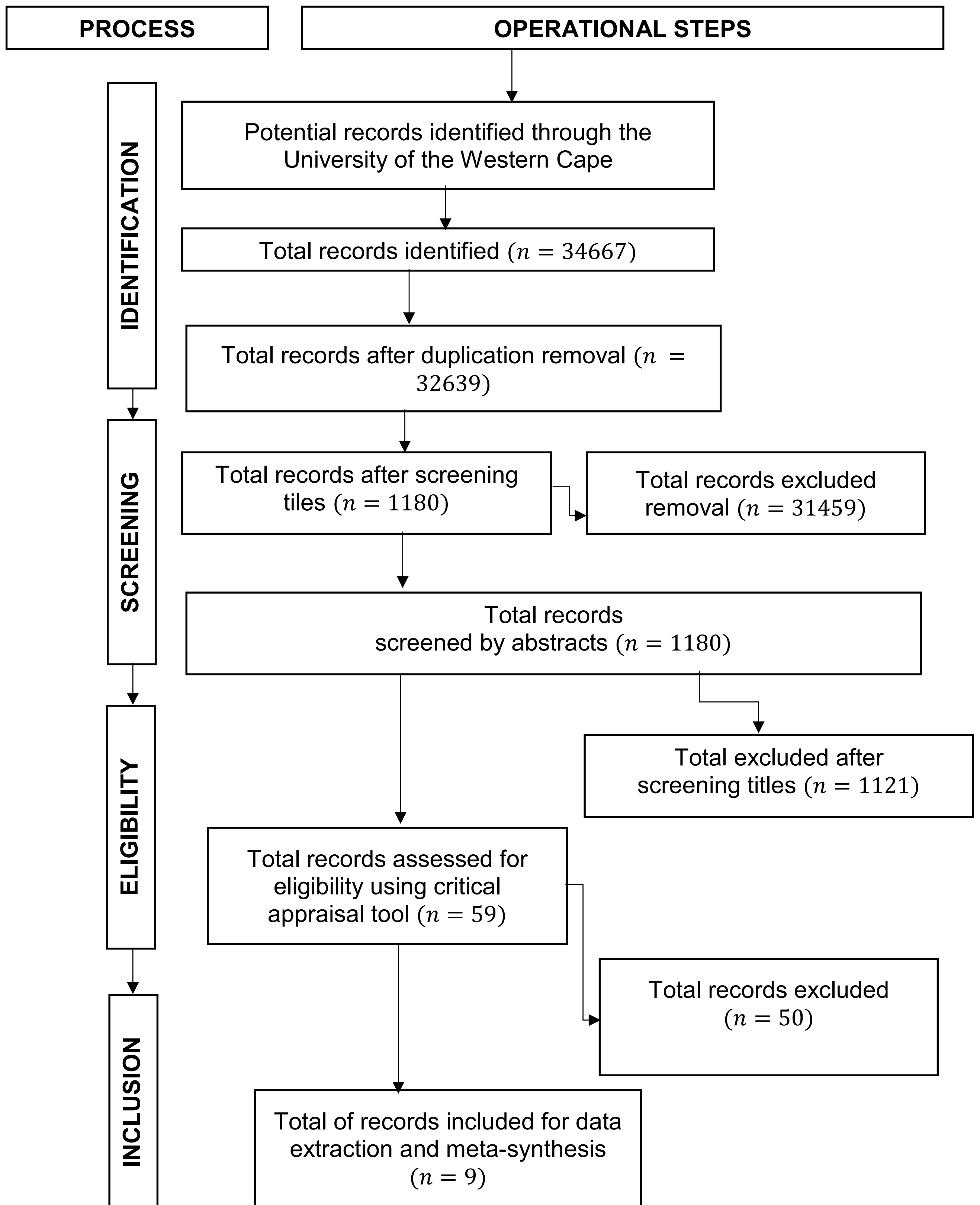


Figure 5.1: PRISMA levels of review and results

http://etd.uwc.ac.za

5.2.1 Identification

During the identification level, all relevant UWC library databases were rigorously searched using a title search. The search yielded a total of 34,667 hits. Of these, 2,028 duplicates were removed, resulting in 32,639 potential articles for review. Subsequently, a total of 1,180 titles were identified as relevant to the current review, excluding a further 31,459 titles from the next level of review. Thus, a total of 1,180 titles progressed to the next level of review, namely, screening.

5.2.2 Screening

During the screening level, the abstracts of the 1,180 articles were retrieved from the respective databases and screened for relevance to the current review using predefined inclusion and exclusion criteria. Of the potential abstracts, 59 were deemed relevant to the current review, excluding the remaining 1,121 articles. Reasons for exclusion included failure to address the research question (n=680); inappropriate target population (n=411); the study design was not suitable, it was either a systematic or literature review (n=10); and their interventions were targeted at the caregivers and parents of the at-risk adolescents, and not the adolescents themselves (n=8). Additionally, articles that targeted incarcerated adolescents in prisons were also excluded (n=13). A total of 59 potential articles were deemed eligible and progressed to the level of eligibility.

5.2.3 Eligibility

The full texts of the remaining 59 potential articles were retrieved and subjected to critical methodological appraisal. Eligibility for articles to be included in the final summation was determined after the appraisal process. After the appraisal, 50 articles were excluded, leaving nine articles to be included in the final review. The articles that scored a high threshold were included.

http://etd.uwc.ac.za

Articles that did not include interventions directed at reducing the specified risk-taking behaviours in adolescents were excluded (n=16).

Additionally, articles with inappropriate study designs were excluded (n= 13). The inability to meet the predetermined threshold score for inclusion led to excluding (n= 12) articles. Articles that did not report on the target population (n = 9) were also excluded; these articles targeted older or younger youths not falling within the prescribed age group for adolescents. A total of (n=9) articles recorded the highest scores, 66%, and were therefore included in the final review.

5.3 Findings and Analysis

5.3.1 General description of the studies

Table 5.1 below summarises the available details of the included studies such as the country or geographical location, theoretical underpinning, aim, and the problem statement.

http://etd.uwc.ac.za

Table 5.1: General description of the articles

Authors	General Description			
	Country/ Geographical Location	Theoretical Underpinning	Aim	Problem Statement
Bergman et al., **2019**	Los Angeles, California USA	Not specified	To test whether engaging parents by providing information about their child's academic performance and behaviour in school is an effective intervention to lower substance use.	Initiation of substance use is increasingly starting during the early stages of adolescence.
Bowes et al., **2019**	Sulawesi and Central Java, Indonesia	Not specified	To develop and assess the feasibility of an adolescent-led school intervention for reducing bullying in schools.	Bullying is a risk factor for poor mental health and poor academic performance. There is a lack of evidence-based interventions to address bullying amongst adolescents in low and middle-income settings.
Chou et al., **2020**	Southern, Taiwan	Not specified	To determine the effectiveness of the intervention to promote adolescent sexual health in junior school.	There is a lack of holistic sex education programmes that improve sex knowledge and enhance positive sexual attitudes amongst adolescents.
Farahani et al., **2020**	Tehran, Iran	Theory of Planned Behaviour (TPB)	To assess the effectiveness of an HIV/AIDS educational intervention among female adolescents	High-risk sexual behaviours are increasingly exposing adolescents to contracting HIV/ AIDS and other STIs.
Hussain et al., **2018**	Karachi, Pakistan	Not specified	To change adolescent's perception regarding the harmful effects of substance use and encouraging them to quit.	Substance use challenges continue to surge amongst adolescents necessitating behavioural change intervention.
Kendall et al., **2020**	Chicago, USA	Not specified	To test the effectiveness of a mother-daughter sexual health intervention	Disparities exist between African American female adolescents and their White peers as they continue to be highly

http://etd.uwc.ac.za

			(IMARA) on reducing STIs in African American adolescents.	infected by STIs and face mental health symptoms more than the White teenagers.
Wagner et al., **2019**	Virginia, USA	Not specified	To explore Down and Dirty's utility, a Social Branding tobacco education campaign in changing teens' substance use.	Substance use in peer crowds is rampant as the practice becomes part of the subcultures, shared preferences, behaviours and values. Public health research is yet to intensify research on substance use tendencies by peer crowds.
Wechsberg et al., **2018**	Cape Town, South Africa	Not specified	To test the efficacy of peer recruitment and facilitation in a gender-focused intervention to reduce high-risk sexual behaviours and substance use in out of school adolescent females.	Adolescent women in South Africa have the highest incidence of HIV in the country and are increasingly engaging in substance use. Poverty, gender inequality and other disparities increase sexual risk behaviour and poor educational attainment in adolescent women.
Wojcik & Helka, 2019	Silesian region, Poland	Not specified	To provide an anti-bullying intervention programme that assists teachers in helping students with anti-social and violent behavioural challenges by influencing peers to create supportive atmospheres, relationships, and personal attachments at school.	Causal risk factors and mechanisms that lead to bullying are often not identified nor addressed, resulting in teenagers' continuation of anti-social behaviour.

http://etd.uwc.ac.za

Of the included studies, four were conducted in Asia; the study by Bowes et al., (2019) in South Sulawesi and Central Java in Indonesia; Hussain et al., (2018) in Karachi, Pakistan; Chou et al., (2020) in Southern Taiwan; and Farahani et al., (2020) in Tehran, Iran. Three of the included studies were conducted in the USA – Wagner et al., (2019) in Virginia; Bergman et al., (2019) in Los Angeles, California, and Kendall et al., (2020) in Chicago. The study by Wojcik and Helka (2019) was conducted in Poland in Europe, and one study was conducted in Cape Town, South Africa (Wechsberg et al., 2019).

All nine studies aimed at reducing high risk-taking behaviours in adolescents, with three studies focusing mainly on adolescents' substance use (Wagner et al., 2019; Hussain et al., 2018; Wechsberg et al., 2019). The studies by Farahani et al., (2020), Kendall et al., (2020), Chou et al., (2020) and Wechsberg et al., (2018) focused on addressing risky sexual behaviours in adolescents, while Bowes et al., (2019), Wojcik and Helka (2019) and Hussain et al., (2018) focused on violent behaviours in adolescents.

http://etd.uwc.ac.za

Table 5.2 Methodological aspects of studies

Author	Methodological Appraisal				
	Study Design	**Participant/ population**	**Sampling Method**	**Sample size**	**Data collection /Instruments**
Bergman et al., **2019**	Randomised control trial	11-year-old adolescents in Grade 7 and parents	Baseline survey and random sampling	• 318 adolescents • 318 parents	• Interviews • Audio self-assisted interviews • Recorded information on iPads • Telephonic surveys of parents • Mixed Command in Strata version 14.0 (StataCorp LP, College Station TX) was used.
Bowes et al., **2019**	Formative research two pilot studies	Adolescents 14 years and older	Not specified	• 2,075 students in South Sulawesi. • 5,575 Central Java were reached	• Weekly Information sharing Meetings • Observations by "agents of change." • Forms of bullying Scale, 10 item scale measuring different types of victimization and perpetration • Teacher Handling Bullying Questionnaire • Beyond the Blue School Climate Scale

http://etd.uwc.ac.za

Chou et al., **2020**	One-group pre-test post-test design	13 to 14-year-old adolescents and their parents	Cluster random sampling	• 1,407 adolescents and their parents • 714 boys and 693 girls • Two representatives from each of the 24 schools attended the introductory meeting	• Questionnaire administered • Focus group interviews • Sexual Knowledge survey • SPSS version 20.0 was used for statistical analysis
Farahani et al., **2020**	Randomised control trial	12 to 16-year-old adolescents	Multistage random cluster sampling	• 578 adolescents	• Self-administered questionnaire • Focus group discussion • 5-point Likert Scale • Lawshe table an instrument used to determine the numeric value of content validity ratio. • An ordinal scale instrument was used to obtain the content validity index (CVI).
Hussain et al., **2018**	Randomised control trial	11 to 16-year-old adolescents	Cluster sampling	• 2,140 adolescents	• Administered Questionnaires • Chi-square analysis • SPSS version 21 and STATA version 14

http://etd.uwc.ac.za

Kendall et al., **2020**	Cross-sectional survey	14 to 18-year-old adolescents and their parents	Not specified	• 199 African Americas adolescents reached and their mothers	• Audio computer-assisted self-interviews • Hierarchical linear Modelling (HLM) instrument used to examine the effects of the intervention on changes in externalising and internalising symptoms over time.
Wagner et al., **2019**	Cross-sectional survey	13 to 18-year-old adolescents / crowd peer teens	Not specified	• 1,264 participants consisting of • 48% of females • 52% of males	• Digital social media feedback activities such as games, surveys • Online interactions Facebook, Instagram
Wechsberg et al., **2018**	Community-based cluster randomised trial	Adolescents 16 years old and older	Cluster random sampling	100 participants	• Interviews Data Safety and Monitoring Plan for the utmost protection of participants and their privacy
Wojcik & Helka, 2019	Cross-sectional survey	12 to 15-year-old adolescents	Random sampling after an online survey	• 96 middle school students • 45 girls • 51 boys	• Anonymous online survey on bullying • Online Questionnaires were administered during IT class. • Analysis of variance (ANOVA) and the non-parametric Wilcoxon–Mann-Whitney test instruments were used for bullying variable analysis.

http://etd.uwc.ac.za

5.3.2 Methodological aspects

Table 5.2 below encapsulates the methodological aspects of the included studies that focus on the study design, participants/population, sample method, sample size, and data collection instrument(s) used.

Different study designs were used in the nine final articles selected for this review. Four of the included studies used a randomised control trial design (Farahani et al., 2020; Bergman et al., 2019; Hussain et al., 2018; Wechsberg, et al., 2018). The studies by Wagner et al., (2019), Wojcik and Helka (2019), and Kendall et al., (2020) used a cross-sectional study. One study (Bowes, et al., 2019) made use of a formative research design through two pilot studies. The study by Chou et al., (2020) used one group pre-test design.

The representation of middle and older adolescents aged between 12 and 19 years was evident in most of the articles (Bowes et al., 2019; Wojcik & Helka, 2019; Chou et al., 2020; Kendall et al., 2020; Wagner et al., 2019; Farahani et al., 2020; Wechsberg et al., 2018). There was little representation of early adolescents in the included articles which targeted 11-year-olds (Hussain et al., 2018; Bergman et al., 2019).

Cluster sampling was most commonly used by the included studies (Farahani et al., 2020; Hussain et al., 2018; Chou et al., 2020; Wechsberg et al., 2018), followed by random sampling techniques (Bergman et al., 2019; Wojcik & Helka, 2019).

Various methods of data collection were used across the included articles, namely, interviews (Bergman et al., 2019; Kendall et al., 2020; Chou et al., 2019 and Wechsberg et al., 2018); questionnaires (Farahani et al., 2020; Bowes et al., 2019; Hussain et al., 2018; Chou et al., 2020); online surveys were mixed with other data collection methods in the articles by Wagner et al., (2019) and Wojcik and Helka (2019); focus group discussions were administered by

http://etd.uwc.ac.za

Farahani et al., (2020) and Chou et al., (2020); and observations by Bowes et al., (2019). All nine included articles utilised two or more data collection methods to gather as much information as possible. The population of nine articles is fully discussed under the reach domain of the RE-AIM framework.

http://etd.uwc.ac.za

5.3.3 RE-AIM Framework

Table 5.3 RE-AIM

Author	RE-AIM FRAMEWORK				
	Reach	**Effectiveness**	**Adoption**	**Implementation**	**Maintenance**
Bergman et al., **2019**	• Grade 7 adolescents • Intervention reaching 318 adolescents from 4 public schools in Los Angeles California • Parents of participants received the intervention.	Intervention Linking Information and Families Together (LIFT) showed positive effects as students reduced intentions to initiate alcohol and marijuana use between Grades 7 and 8. Parents improved on their monitoring and parents' self-efficacy. • The intervention increased parent monitoring of their adolescents as they checked where the child was, knew what the child was doing and with whom.	• School-based intervention • The intervention was administered in a school setting and home. • The programme facilitators delivered the intervention.	• LIFT intervention was implemented at school for students whose parents signed consent forms and agreed to participate. • Students and their parents participated. The intervention was implemented by sending parents weekly text messages, telephone calls or emails about the child's missing assignments, grades, and behaviour. • Participants were randomly allocated to control, or intervention group • Messages were sent in the participants preferred language. • Communication between the school and	• 1 year follow-ups

http://etd.uwc.ac.za

		• Parental monitoring improved students' grades and behaviour • Parenting styles of rewarding good behaviours such as completion of homework and good grade increased • The intervention reduced the students' intention to use substances Limitations: • small sample size • Follow-up period was limited. • Reporting of findings prone to bias.		participating parent involved sending online grade books, parent-teacher conferences, sending quarterly report cards. • Private interviews with students on intended substance use were done privately for confidentiality reasons. Responses were recorded on iPad and audio computer-assisted • $ 5 incentive was given to each student for completing the survey. • $ 20 incentive was given to parents for completing the survey • The participants' performance was assessed by reviewing performance from Grade 6 to Grade 8 when there was follow-up.	

http://etd.uwc.ac.za

Bowes et al., **2019**	• 14-year-olds • 2,075 students in 4 schools South Sulawesi and 5,575 in 8 schools Central Java were reached	• ROOTS Intervention address school-specific conflicts through peers • Behaviour change improved significantly • Peer influence for positive behaviour increased Limitations: • The agent of change had transport challenges to attend the weekly meetings • The timing of exams coincided with some intervention activities in other schools.	• Selected peers delivered ROOTS, and teachers and trained research assistants worked with the influential students. • Delivered at the institutions	• The intervention involved students that were most influential in the institutions. • Students nominate a highly influential, socially connected student to be the "Agents of Change." • ROOTS is an open access intervention, and no fees are paid for access. Weekly meetings between trained researchers and the agents of change help identify common conflict behaviours at their schools. • Agents of change developed hashtag slogans against conflict behaviours and posters with their photos posted next to the message for the association. Orange wrist bands reward students who act against conflict behaviours with the intervention logo. The intervention is 12 programme sessions delivered weekly.	• The programme embedded with existing extracurricular program OASIS in the schools for continuation

http://etd.uwc.ac.za

				• ROOTS was in cooperated with the positive discipline training programme for teachers. • Agents of Change organised a ROOTS day for all students to attend and fight against violence and conflict behaviour.	
Chou et al., **2020**	• 13 to 14-year-olds • 1,407 adolescents in 7th grade participated from Southern Taiwan. • 24 Junior High schools reached. 714 boys and 693 girls.	• Intervention Starting from Love Go! Go! Go! Social marketing, sex education programme was effective in changing sexual attitudes of participants. • Reported an increase in sexual knowledge • Increased the educational efficacy of sex education regarding sex-related concerns. • Participants had a better understanding of puberty, gender equality, STIs, HIV prevention and self-	• The intervention was delivered by a health education teacher and class teacher, and parents	• The class teacher explained the study goals and privacy policy through parent-teacher contact books. • Informed parent consent forms were filled in and submitted. The cluster-randomised sample was used to obtain participants • Online survey • Participants in the intervention group received text messages on sex education, gender relationships, STIs, AIDS, sexual harassment, assault, and diversity. Adolescent participants opted for interactive teaching methods as	• Six months follow-up after the intervention

http://etd.uwc.ac.za

		protection from sexual assault and harassment • Intervention motivated participants to learn and share sexual concerns with peers • Limitations: study evaluated 7th Grade students in Southern Taiwan; thus, the findings are not generalisable to junior high students of other ages and Taiwan regions. • The study design used was one-group pre-test–post-test which lack comparison • Sex education was limited to classroom teaching and lacked familial integration and social resources to strengthen child-parent learning.		opposed to traditional methods. • Health education teachers were trained 2 hrs on intervention course content and educational activities. • Consultation mailbox to ask sex issues anonymously was provided, • Intervention activities included creative poster competitions, prize-winning competition, and debates. • Sex education through role-plays, online competitions, and aminations. • The study was approved by the Institutional Review Board of Chang Gung Memorial Hospital in Southern Taiwan.	
Farahani et al., **2020**	• Adolescent girls aged 12-16 years • 578 adolescents	• The study is an educational intervention.	• The intervention offered in a school setting and home.	• The study is an educational intervention based on a theoretical framework.	• Months follow-up after intervention.

http://etd.uwc.ac.za

	• Tehran public schools, 4 schools per district reached • Parents of the adolescents	• Participants were educated on high-risk sexual practices and proved knowledgeable after the intervention • Increased awareness of HIV/AIDS • Creating a positive attitude towards learning about HIV/AIDS • Increased parental support and involvement in adolescents' lives • Parents increased behavioural control of their adolescents • Adolescents gained confidence in sexual matters • Adolescents gained knowledge on the prevention of risky sexual behaviours	• Female professionals in health promotion delivered the intervention.	• Offered in 6 different phases, each lasting 2 hrs and 20 min break • **Phase 1:** Focused on increasing awareness of risky sexual behaviour. Lectures using PowerPoint slides and small group discussions • **Phase 2:** Creating a positive attitude towards learning about HIV/AIDS ▪ Brainstorming ▪ Story-writing ▪ Question and answer sessions with feedback from the students • **Phase 3:** Integration with other teachers and students. Brainstorming - Story-writing - Question and answer sessions with feedback from the students • **Phase 4**: Parents participation in the intervention as supportive agents to the students. Workshop for parents' official invitation of parents to attend the	.

http://etd.uwc.ac.za

		• Limitations: Cultural background made it difficult to intensively dwell on sexual topics such as anal sex and oral sex.		school and participate in a workshop which took 4 hrs. • **Phase 5:** Self Efficacy. Discussion forums - Interactive discussion • **Phase 6:** Prevention of risky sexual behaviours. Lectures, questions, and answers, small group discussion	
Hussain et al., **2018**	• 11-16-year-olds • 2140 adolescents from 26 private and public schools in Karachi	• Behaviour Change Intervention (BCI) positively changed adolescents' perceptions regarding the harmful effects of substance use and encouraged quitting. • Intervention group substance use was reduced from 44% to 11%. • The control group also reduced substance use from 40% to 25% • 29% of users ceased their substance use after the intervention.	• Trained personnel delivered the intervention. • The programme was delivered in a school setting.	• Participants of BCI were randomly allocated to the intervention of 1,185 and 955 control groups. • School principals of participating schools did informed consent. • Parents permitted their adolescents to participate by signing consent forms. • Questionnaires were administered, and students were assisted in filling in when necessary. • Educational pamphlets were given. • Gift hampers given to participants (pencil,	• Follow-up 12 weeks after intervention

http://etd.uwc.ac.za

		• Knowledge and Awareness regarding the harmful effects of Smokeless Tobacco (SLT) on oral health improved. • Knowledge of cancerous effects of substance use increased Limitations: • Sixty participants had missing information; therefore, only 2,140 from 2,200 participated. • On follow-up, 169 were absent; therefore, retention rate was 92%		toothbrush, toothpaste, quit calendar) • Ethical permission was granted for the study	
Kendall et al., **2020**	• 14 to 18-year-old adolescents, 199 African Americas reached • Mother of the participating adolescents	Informed, Motivated, Aware, and Responsible about AIDS (IMARA) intervention assist daughters and mothers on risky sexual behaviour issues. • STI symptoms improved on adolescents that	• IMARA intervention was delivered at the research site. • It was facilitated by the research staff of African American women with	• Only participants who could speak and understand English were selected. • Participants and their parents provided consent and assent forms.	• 6 and 12 months follow-up

http://etd.uwc.ac.za

		participated in IMARA • IMARA participants improved on externalising and internalising symptoms of sexual risk-taking in the adolescents • Adolescents learnt about aggressive and passive communication in relationships. • IMARA improved on adolescent's assertive communication Limitations: • Only African American youths included in the study, restricting the generalisability of findings. • Smaller sample size	bachelors or master's degree and background and or experience coordinating groups with female adolescents. • Delivered at school setting and home	• 188 Participants were randomly assigned to IMARA and 81 participants to the health promotion control group. Baseline at 6 month and 12 month and completion of Youth self-report on externalising and internalising symptoms • Two sessions. Covered 14 hours, • facilitators received 30 hr training and practice from the programme director. • Two facilitators were assigned to the adolescents and 2 to the mother's group. The four facilitators worked together in the combined mothers -adolescents' sessions * STI prevention programme delivered to the adolescents and their mothers. • IMARA combined the strengths of 3 other interventions: SISTA, SIHLE and STYLE.	

http://etd.uwc.ac.za

				• Activities included the Feeling thermometer exercise, roleplays of aggressive, passive, and assertive communication. • The control group did not explicitly address STI prevention.	
Wagner et al., **2019**	• Adolescents in Virginia aged 13-18 years. 1,264 adolescents reached 48% males and 52% females.	• Positive attitudinal outcomes recorded against substance use • Positive behavioural outcomes recorded too. • Increased knowledge of the harmful effects of tobacco use • Intervention encourages teens to interact with the brand around tobacco-free messages, creating conversations around the value-focused benefits of tobacco-free living. Teens' behaviour and attitudes against tobacco use changed significantly in Wave 2 and 3.	• Intervention Down & Dirty was developed and adopted by the Virginia Foundation for Healthy Youth Rescue Agency. • Community awareness intervention. • Programme delivered at Community setting and online	• Intervention Down and Dirty was implemented through awareness campaigns in 3 Waves. • Social branding information was sent through value-focused messages through traditional ways, such as TV channels. • Digital ways such as websites, social media such as Facebook and Teens participate in interactive online games or activities that are advertised through digital media and involve a value-focused prevention message. • Local events- brand ambassadors organise community activities such	• 30 days follow-up after intervention.

http://etd.uwc.ac.za

		This implies that more engagement in the intervention improves positive outcomes. • The study contributed to the body of knowledge as documents on tobacco-related behavioural patterns were produced, contributing to substance use policy developments. Limitations: • the study focused on country peer teen crowds. • budget constraints • follow-up period limited		as competitions, fairs, exhibitions, and disseminating information against tobacco chewing. • Branded gear such as camouflage-printed hats and shirts are available for those who participate in interactive experiences.	
Wechsberg et al., **2018**	• 16 years+ • 100 participants in 8 economically underserved township	• Women-focused risk reduction intervention lessened substance use positive cases after the intervention. • Young Women Health CoOp (YWHC)	• Trained female interventionists delivered the intervention. • It was administered in the community	• Used a computer-generated randomised sequence to allocate participants to intervention and control groups. informed consent	• One month follow-up after the intervention

http://etd.uwc.ac.za

	communities in Cape Town. • School dropout female adolescents who use substances and engage in risky sexual behaviours were reached.	intervention improved participants knowledge about risky sexual behaviour and the dangers of contracting STIs / HIV /AIDS. • Participants were knowledgeable about correct condom use after the intervention. • Participants increased uptake of HIV counselling and testing (HCT) Limitations: • Small participation size, short follow-up period. • Participants dropped out due to relocation, pregnancy issues, hospitalisation, lost contacts or no longer interested		was obtained from 18-year-olds and older • The study was approved by the RTI International Committee for Protection of Human Subjects in the United States and the South African Medical Research Council (SAMRC) Ethical Committee in South Africa	
Wojcik & Helka,	• 12 to 15-year-olds • 96 middle school students.	• The ABBL Anti Bullying programme reduced aggressive behaviours in	• ABBL was delivered in class by the teachers.	• ABBL intervention lasted 11 weeks.	• 12 months follow-up

http://etd.uwc.ac.za

2019	• 45 girls and 51 boys in the Silesian region representing randomly selected six schools participated.	adolescents as observed by the teachers in the classrooms • Bullying is the most common violence behaviour in adolescents, and physical fights, pushing, kicking, and other forms of bullying decreased after the intervention. • Part 1 improved students' value of one another developing relationships • Part 2 increased collaborations and teamwork. It built supportive peer groups, and students knew what behaviours were regarded as unfavourable by others • Part 3 students had a better understanding that others might have a different perspective or opinions. This promoted acceptance		• Participants completed the online survey anonymously • Classes were randomly selected in the six randomly selected schools. Programme implementers designed its questionnaire. • ABBL intervention programme contains 11 original, short comprehensive lesson scenarios. • They are divided into three sections, i.e. mutual acquaintance, integration, team building, empathetic perceptions of excluded individuals. • Students work in pairs and groups, play games, role plays, discussions. • Lessons are divided into introduction, central and final elements. • Students were given homework and assignments named "Food	

http://etd.uwc.ac.za

		of others even if they are different. • Overall, the intervention reduced violence and other forms of bullying and aggressive behaviours at school and outside. Limitations: • Students were not comfortable sharing their experiences with teachers		for Thought" by the participants. • Physical fights, pushing, kicking, slapping, punching, name-calling, verbal abuse reported being forms of bullying in schools. • Part 1: "Getting to know you", teachers manage sitting arrangements and working groups making sure all students interact with one another—student share fact sheets about his or her life with everyone. • Part 2: Integration and Team building. • Group boundary and group cohesion were emphasised. Students work in groups and pairs. Students analyse factors and identify welcome and unwelcome behaviour to others. • Part 3: Cognitive and emotional empathy technique. Role-plays that help student understands other people's point of	

http://etd.uwc.ac.za

				views. Various behaviours have shown on the internet to participants.	

http://etd.uwc.ac.za

5.3.2.1 REACH

In terms of *reach*, all the articles reported the availability of interventions directed at reducing high-risk behaviours in adolescents. Additionally, they all targeted adolescents, and the studies by Farahani et al., (2020), Bergman et al., (2019), and Kendall et al., (2020) reached both adolescents and parents or guardians. Reaching out to adolescents made the included articles relevant for this review (Chou et al., 2020; Farahani et al., 2020).

Interventions were primarily administered at school (Farahani et al., 2020; Chou et al., 2020, Hussain et al., 2018; Wojcik & Helka, 2019; Bowes et al., 2019). Public schools were reached by Farahani et al., (2019), Hussain et al., (2018), and private schools by Chou et al., (2020) and Bowes et al., (2019). Of the nine included studies, three were adopted both at school and home, the theory-based intervention by Farahani et al., (2020), intervention LIFT by Bergman et al., (2019), and IMARA by Kendall et al., (2020). The study by Wagner et al., (2019) was delivered both in the community and online, while the study by Wechsberg et al., (2018) was administered within the community alone. The most common practice indicated by these articles is reaching out to adolescents in schools since only one article reached school dropouts.

All races were included in the interventions reported in eight articles by Farahani et al., (2020), Wojcik and Helka (2019), Hussain et al., (2018), Bergman et al., (2019), Wechsberg et al., (2018), Bowes et al., (2019), Wagner et al., (2019), and Chou et al., (2020). The articles targeted participants from any race as long as they met the age requirements. The article by Kendall et al., (2020) had ethnic specifications and specifically targeted African American adolescents only. Additionally, eight included articles targeted older adolescents mostly 13 years and above (Farahani et al., 2020; Wagner et al., 2019; Kendall et al., 2020; Wojcik & Helka, 2019; Bowes et al., 2019, Hussain et al., 2018; Chou et al., 2020; Wechsberg et al., 2018), and only one article by Bergman et al., (2019) also targeted younger adolescent

http://etd.uwc.ac.za

participants from 11 years of age. In addition to behavioural challenges initiated during early adolescence, most of the included articles engaged 13-year-olds and older youths in behaviour change programmes.

The most common range on the number of participants reached by all of the nine included interventions was a hundred youths, as shown in nine included articles (Farahani et al., 2020; Wagner et al., 2019; Bergman et al., 2019; Kendall et al., 2020; Wojcik & Helka, 2019; Bowes et al., 2019, Hussain et al., 2018; Chou et al., 2020; Wechsberg et al., 2018). Bowes et al., (2019) reached the most participants amongst the selected studies. Reaching numerous participants is beneficial as many adolescents benefit from the interventions instead of only a few (Bowes et al., 2019). Most interventions included both adolescent boys and girls and did not focus on one gender only, such as Wagner et al., (2019), Wojcik and Helka, (2019), Bowes et al., (2019), Hussain et al., 2018, and Chou et al., (2020). After looking at "reach", articles were scrutinised on their effectiveness to meet the stipulated and intended objectives.

5.3.2.2 EFFECTIVENESS

In terms of *effectiveness*, this SR focused on interventions that reduce risk-taking behaviours in adolescents, specifically risky sexual behaviour, violence, and substance abuse. The nine included articles either reported on one or more risk-taking behaviours. The included articles showed that high risk-taking behaviours are increased by factors such as negative peer pressure (Wagner et al., 2019; Bowes et al., 2019), inappropriate parenting (Kendall et al., 2020; Chou et al., 2020), lack of community awareness (Wagner et al., 2019; Bowes et al., 2019), lack of knowledge (Kendall et al., 2020; Farahani et al., 2020; Bowes et al., 2019; Wojcik & Helka, 2019; Chou et al., 2020), poverty (Wechsberg et al., 2018), and poor individual assertiveness, stress, and depression (Wagner et al., 2019; Bergman et al., 2019; Chou et al., 2020).

It is best practice for the goals of interventions to be clear and that progress towards the goals can be measured (UNESCO, 2018). The nine included studies showed the extent to which

http://etd.uwc.ac.za

the interventions were effective and produced results that were populated and measurable, as shown by Farahani et al., (2020), Wojcik and Helka (2019), Kendall et al., (2020), Hussain et al., (2018), Bergman et al., (2019) and Chou et al., (2020). The articles by Farahani et al., (2020), Kendall et al., (2020) and Chou et al., (2020) reported on interventions to reduce sexual behaviours in adolescents. Wagner et al., (2019), Bergman et al., (2019) and Hussain et al., (2018) described interventions to reduce substance use in adolescents. The articles of Wojcik and Helka (2019) and Bowes et al., (2019) focused on interventions to reduce violent behaviours in adolescents, while the article by Wechsberg et al., (2018) looked at an intervention to reduce both risky sexual behaviours and substance use in older adolescents.

The articles reviewed showed that girls were most likely to engage in risky sexual behaviours earlier than boys (Wechsberg et al., 2018; Kendall et al., 2020; Chou et al., 2020; Farahani et al., 2020). Girls were less likely to participate in violent behaviours that involved the use of weapons compared to boys but were more inclined to physical fights and bullying (Wojcik & Helka, 2019; Bowes et al., 2019). Both boys and girls were reported to be increasingly involved in substance use, with boys most likely to be fully involved and girls mainly in the initiation stages (Hussain et al., 2018; Bergman et al., 2019; Wagner et al., 2019). Both boys and girls were reported to consume substances through inhaling, chewing, swallowing, and injecting (Hussain et al., 2018; Bergman et al., 2019; Wagner et al., 2019). Including both boys and girls in interventions is advantageous as they both get assistance through interventions despite their gender, as shown by the eight articles. The findings of the articles were categorised and portrayed under sexual behaviour, substance use, and violence.

5.3.2.2.1. Sexual behaviour

The study by Farahani et al., (2020) offered a theory-based HIV/AIDS educational intervention to increase the knowledge of sexual practices in adolescent girls. After engaging in the intervention, the participants proved knowledgeable about the consequences of involvement in

http://etd.uwc.ac.za

risky sexual behaviours (Farahani et al., 2020). There was an increased awareness of HIV/AIDS knowledge in the experimental group, as shown by a positive change score of 31. 9% post-intervention. The intervention generated positive attitudes towards HIV with an improvement of 16.6 %. Behavioural control and behavioural intention to prevent HIV changed positively by 19.1% and 19%, respectively (Farahani et al., 2020). The intervention increased parental support and involvement in adolescents' lives by 17% post-intervention (Farahani et al., 2020). After the intervention, the parents were interested in understanding their adolescents' activities and increased behavioural control (Farahani et al., 2020). Participants proved to be more knowledgeable about the prevention of risky sexual behaviour after the intervention.

Despite the positive outcomes, the study by Farahani et al., (2020) exhibited some limitations. The study was carried out in Iran, and participants' cultural and religious background limited the extent to which sexual behaviour was discussed. Farahani et al., (2020) indicated that it was difficult for the programme facilitators, who were the participants' teachers, to dwell on important anal and oral sex topics, leading to HIV/AIDS transmission and risky sexual behaviours (Farahani et al., 2020).

Kendall et al., (2020) investigated the effectiveness of the intervention – Informed, Motivated, Aware and Responsible about AIDS (IMARA) – in reducing risky sexual behaviours in African American adolescents. The intervention involved the girls and their mothers, resulting in a decrease in STIs among the girls (Kendall et al., 2020). The adolescents reported an improvement in externalising and internalising symptoms of sexual risk behaviour (Kendall et al., 2020). The intervention IMARA further improved the adolescents' communication skills in relationships (Kendall et al., 2020). In terms of the limitations of the study, Kendall et al., (2020) reported that IMARA focused on African American adolescents only, which restricted the generalisation of the findings to adolescents of other racial backgrounds. In addition, the sample size of the subgroups were small.

http://etd.uwc.ac.za

The aim of the study by Chou et al., (2020) was to determine the effectiveness of an intervention named "Starting from Love – Go! Go! Go!" in providing a holistic sex education programme to improve sex knowledge and enhance positive sexual attitudes among adolescents in schools. This social marketing sex education programme was reported to effectively change the sexual attitudes of participating adolescents (Chou et al., 2020). The participants had a better understanding of puberty, gender equality, STIs, HIV prevention, and self-protection from sexual assault and harassment (Chou et al., 2020). The intervention improved sexual dialogue or communication between peers and increased knowledge of risky sexual behaviours resulting in 155 points higher after the intervention (Chou et al., 2020). A limitation of Chou et al.'s (2020) study was that it evaluated seventh-grade students in Southern Taiwan; thus, the findings are not generalisable to junior high school students of other ages and regions. The other limitation was that the one-group pre-test–post-test study design that was utilised lacks comparison (Chou et al., 2020). Sex education was limited to classroom teaching and lacked familial integration and social resources to strengthen child-parent learning (Chou et al., 2020).

Wechsberg et al., (2018) tested the efficacy of Young Women's Health CoOp (YWHC), a comprehensive gender-focused intervention directed at reducing risky sexual behaviours and substance use in out of school adolescent girls. The intervention YWHC improved participants' knowledge about risky sexual behaviours and possible consequences such as contracting STIs and HIV/AIDS (Wechsberg et al., 2018). Knowledge of preventive measures, such as correct and consistent condom use, increased in participants after the intervention (Wechsberg et al., 2018). HIV counselling and testing (HCT) improved, and alcohol and drug use reduction was reported (Wechsberg et al., 2018). Wechsberg et al., (2018) indicated that a limitation of the intervention (YWHC) was that some participants dropped out for various reasons, such as relocation, pregnancy issues, hospitalisation, untraceable contact details, and lack of interest to

http://etd.uwc.ac.za

continue with the intervention. Other limitations were a small sample size and short follow-up period (Wechsberg et al., 2018).

Included studies that focused on adolescent's risky sexual behaviour all noted the importance of education and knowledge for effective behaviour change (Wechsberg et al., 2018; Farahani et al., 2020; Kendall et al., 2020; Chou et al.; 2020). The aspect of culture is also highlighted in the studies by Farahani et al., (2020) and Chou et al., (2020) as significantly affecting the teaching of sex education to adolescents as other sexual aspects and topics are considered inappropriate in the Iranian and Asian cultures.

Effective communication with participants reduced their involvement in risky sexual behaviours, as depicted by all four studies that focused on sexual behaviours (Farahani et al., 2020; Kendall et al., 2020; Chou et al., 2020; Wechsberg et al., 2018). Improving communication on sexual matters with teens showed the potential to limit risky sexual behaviour as the adolescents adopted a better understanding of the dangers that accompany risky sexual behaviours (Farahani et al., 2020; Kendall et al., 2020; Chou et al., 2020; Wechsberg et al., 2018). The articles by Farahani et al., (2020) and Chou et al., (2020) that focused on increasing educational awareness of adolescents' reproductive health issues through 30-minute weekly sessions positively changed the adolescents' behaviours. Provision of education to increase the participants' knowledge in interventions is best practice (The United Nations Centre for Human Settlements, 2018). The interventions that increase support to adolescents showcase best practice. Farahani et al., (2020) and Kendall et al., (2020) both included parental involvement in the interventions to reduce risky sexual behaviours, which positively influenced the adolescents. Parents are recognised as an important part of adolescents' lives and interventions as family support is needed to mould childhood behaviour (UNCHS, 2018). The most common outcome amongst the interventions that addressed risky sexual behaviour was that awareness of sexual behaviours increased amongst participants who

http://etd.uwc.ac.za

had educational sessions and parental support. Other included studies reported on substance use.

5.3.2.2.2 Substance use

Across the programmes that address substance use, which included the studies by Wagner et al., (2019), Bergman et al., (2019), Hussain et al., (2018), and Wechsberg et al., (2018), there was a notable success in reducing substance intake by participating adolescents. The interventions managed to significantly achieve the intended objective of reducing substance use in adolescents (Wagner et al., 2019; Bergman et al., 2019; Hussain et al., 2018; Wechsberg et al., 2018). The interventions managed to raise awareness of the negative effects of substance use through educational campaigns, which effectively reduced the initiation of substance use and increased quitting (Wagner et al., 2019; Bergman et al., 2019; Hussain et al., 2018; Wechsberg et al., 2018). After the interventions, the teens proved to know the harmful effects of substance use and changed their attitudes and behaviours (Wagner et al., 2019, Bergman et al., 2019; Hussain et al., 2018; Wechsberg et al., 2018). Hussain et al., (2018) indicated that the intervention positively reduced smokeless tobacco and other illicit substances in adolescents. The articles that were focusing on substance use reported on the outcomes of the interventions. Another outcome reported across the interventions that focused on substance use is that the behaviour generally negatively affects academic performance in school-going adolescents (Bergman et al., 2019; Hussain et al., 2018; Wagner et al., 2019). Other reported outcomes of the interventions that focused on substance use are that parents' self-efficacy improved as they increased child monitoring and they were more knowledgeable of their children's activities and associates (Bergman et al., 2019). Parental styles improved as most parents started rewarding good behaviour such as completing homework and attaining good grades (Bergman et al., 2019). Reporting on outcomes of the interventions is good practice.

http://etd.uwc.ac.za

All of the articles that focused on substance use reported limitations, with Wagner et al., (2019) stating that the intervention focused on country peer teen crowds, with limited representation of other teens. Additionally, Wagner et al., (2019) reported that the study was faced with budget constraints. The follow-up period of the intervention was a further limitation. Bergman et al., (2019) highlighted that the major limitation of the LIFT intervention was the small sample size of only 318 adolescents. The other limitation noted was that the follow-up period was not extended to after middle school to discern whether the study's effects persisted after the intervention had concluded (Bergman et al., 2019). Moreover, the study relied on the adolescents' self-reported behaviours, making the responses more likely to be biased (Bergman et al., 2019).

Hussain et al., (2018) investigated the behaviour change intervention (BCI) in changing adolescents' perceptions of the harmful effects of illicit substances. The intervention group's substance use was reduced from 44% to 11% (Hussain et al., 2018). A reduction in substance use was also recorded in the control group from 40% to 25% (Hussain et al., 2018). The BCI intervention encouraged adolescents to desist from substance use, and a reported 29% of the participants quit their substance use (Hussain et al., 2018). The BCI intervention increased the participants' knowledge and awareness of the harmful effects of smoking on oral health (Hussain et al., 2018). It was influential in raising awareness about the cancerous effects of substance use in adolescents (Hussain et al., 2018). Hussain et al., (2018) reported the following limitation: of the 2,200 potential participants, 60 had missing information on their forms, resulting in only 2,140 participating in the intervention. Another challenge reported was that 169 participants were absent during the follow-up; therefore, the retention rate was 92% (Hussain et al., 2018).

In terms of similarity, a notable success in interventions also shows best practice as the programmes positively contribute to the participants, as shown by the studies. The most

http://etd.uwc.ac.za

reported outcome across the interventions was the significant reduction in substance use amongst the participants. Apart from substance use and risky sexual behaviour, the other risk-taking behaviour in the adolescents is violence.

5.3.2.2.3 Violence

Wojcik and Helka (2019) investigated the effectiveness of the Anti-Bullying programme (ABBL) in schools in helping teachers reduce bullying, which is regarded as the most common violent behaviour amongst adolescents in schools (Wojcik & Helka, 2019). The teachers observed a reduction in the adolescents' aggressive behaviours in the classroom (Wojcik & Helka, 2019). Intervention ABBL was implemented in stages: Part one was effective in improving student's value of one another in developing relationships (Wojcik & Helka, 2019); part two effectively increased collaborations, teamwork, and knowledge of behaviour regarded as unfavourable towards others. The teachers reported a reduction in kicking, beating, pushing, and physical fights (Wojcik & Helka, 2019). Part three helped the participants develop an understanding that other people are entitled to have different viewpoints or opinions to theirs (Wojcik & Helka, 2019). There was an improvement in the acceptance of others with their differences. The study reports that ABBL reduced violence and other forms of bullying and aggressive behaviours at school and in the community (Wojcik & Helka, 2019). Physical bullying was decreased by 5% after the intervention (Wojcik & Helka, 2019). The identified limitation of the ABBL intervention was that some students were not comfortable sharing their personal experiences with their teachers, who were also the programme facilitators (Wojcik & Helka, 2019).

Bowes et al., (2019) report that the ROOTS intervention addressed the cause of violence in adolescents, usually conflicts. Highly influential adolescents – called "agents of change" in the ROOTS intervention – were pivotal in reducing conflicts amongst others, and significant behavioural change was reported (Bowes et al., (2019). The intervention fostered positive and

http://etd.uwc.ac.za

friendly relationships amongst the youths and also reduced violence. The limitation of this intervention, however, was that the "agents of change" faced transport challenges to attend weekly meetings. Additionally, the timing of the intervention activities of some of the schools clashed with the student's exam timetable (Bowes et al., 2019), resulting in some of the ROOTS intervention activities being missed due to these clashes (Bowes et al., 2019).

A similarity between the studies is that they both identify the importance of peer education as an effective method to change behaviour amongst teens (Wojcik & Helka, 2019; Bowes et al., 2019). Establishing friendly relationships amongst teens was also considered important (Wojcik & Helka, 2019). Minimising violent behaviours was another similarity, as both studies showed that violence is less when teenagers understand and accept that others can be different and hold diverse opinions (Wojcik & Helka, 2019; Bowes et al., 2019). Furthermore, Wojcik and Helka (2019) and Bowes et al., (2019) both identified emotional regulation skills as important in limiting violent behaviours in adolescents. It is best practice for interventions to equip participants with life skills that improve their behaviour and well-being, as shown by the studies (Wojcik & Helka, 2019; Bowes et al., 2019).

5.3.2.3 ADOPTION

In terms of adoption, all nine included articles reported that professionals delivered the interventions. Professionals, such as teachers in the education sector, delivered most of the interventions, as shown in the articles by Bergman et al., (2019), Wojcik and Helka (2019), Hussain et al., (2018), and Chou et al., (2020). Teachers were present in most of the interventions as main facilitators or as assistants, where teachers assisted trained programme facilitators as shown in the articles by Bergman et al., (2019), Wojcik and Helka (2019), Hussain et al., (2018) and Chou et al., (2020). In Chou et al., (2020), health education teachers facilitated the programme together with class teachers and parents. Trained research personnel were involved in delivering the interventions (Wojcik & Helka, 2019; Hussain et al., 2018;

http://etd.uwc.ac.za

Kendall et al., 2020). Peers were also part of the programme implementers in the ROOTS intervention (Wojcik & Helka, 2019).

The included articles show that the interventions were carried out in group settings (Farahani et al., 2020; Wojcik & Helka, 2019; Kendall et al., 2020; Bowes et al., 2019; Chou et al., 2020; Wechsberg et al., 2018). The most common group setting in the included interventions was the classroom (Farahani et al., 2020; Kendall et al., 2020; Chou et al., 2020; Wojcik & Helka, 2019; Bergman et al., 2019), while for Wagner et al., (2019) and Wechsberg et al., (2018) it was in the community. The participants in the interventions by Farahani et al., (2020), Bergman et al., (2019;) and Kendall et al., (2020) had some components of the programmes delivered individually at home. Delivering interventions to participants in group settings is the main practice across the included interventions.

5.3.2.4 IMPLEMENTATION

In terms of *implementation*, Farahani et al., (2020) report that the educational intervention was implemented as a theoretical framework and offered in six phases. Each phase lasted 2 hours, and a 20-minute break time was given. Phase 1 focused on increasing awareness of risky sexual behaviour, and it was conveyed through lectures using PowerPoint slides and small group discussions (Farahani et al., 2020). Phase 2 focused on creating a positive attitude towards learning about HIV/AIDS, brainstorming, story-writing, and question and answer sessions with feedback from the students (Farahani et al., 2020). Phase 3 highlighted integration with other teachers and students, and emphasised Phase 2 activities. Phase 4 involved parents' participation in the intervention as supportive agents to the students' activities. There was an official invitation for parents to attend the school workshop and participate in the intervention for about 4 hours (Farahani et al., 2020). Phase 5 was implemented to promote self-efficacy through interactive discussion forums. Phase 6 was implemented through lectures, small group

http://etd.uwc.ac.za

discussions, question and answer segments focusing on preventing risky sexual behaviours (Farahani et al., 2020).

Wagner et al., (2019) report that the Down and Dirty intervention was implemented through awareness campaigns in three waves. The intervention recruited participants via different social media platforms, which were further screened, and parents or guardians signed consent forms (Wagner et al., 2019). The youth participating in the interventions indicated that they were tobacco users. The intervention was implemented in three waves, and the participants' substance use was investigated at the end of each wave (Wagner et al., 2019). The implementation strategy included constant dissemination of educational information and activities to deter substance use (Wagner et al., 2019). Social branding information was sent through value-focused messages through traditional ways, such as television channels (Wagner et al., 2019). The intervention was implemented electronically through online platforms such as websites, social media such as Facebook, and interactive online games in which the teens participated (Wagner et al., 2019). Down and Dirty was also implemented through digital media activities and involved a value-focused prevention message for tobacco use (Wagner et al., 2019). Brand ambassadors also organised community activities and local events such as competitions and exhibitions to disseminate information against tobacco chewing. Accessories such as branded gear camouflage-printed hats and shirts were available for those who participated in the interactive activities of the Down and Dirty intervention (Wagner et al., 2019). The teens who participated in the intervention were referred to as campaign engaged country teens. The intervention's efficacy was measured by investigating these participants' attitudes against substance use at the end of each of the three waves (Wagner et al., 2019).

The study by Bergman et al., (2019) shows that to reduce substance use in adolescents, intervention LIFT was implemented at school to students whose parents signed consent forms. The intervention was for adolescents, and it engaged parents or guardians in implementing the

http://etd.uwc.ac.za

programme (Bergman et al., 2019). Intervention LIFT involved interviewing participating students on intended substance use which was done privately for confidentiality reasons. The interviews and responses with the adolescents were recorded on iPads and audio assisted computers (Bergman et al., 2019). As part of the intervention, participating adolescents assessed parental monitoring of their academic work and parenting styles (Bergman et al., 2019). Adolescents' assessments were updated and recorded by the programme implementers at school. Intervention LIFT was delivered by teachers at school and the parents at home since it was implemented in both places. Parents of participating adolescents were engaged in their child's intervention at home. They would receive weekly text messages, telephone calls, or emails about the child's missing assignments, grades, and behaviour at school (Bergman et al., 2019). The research facilitators randomly allocated participants to either the control or intervention group. The intervention was implemented in the participants preferred language (Bergman et al., 2019). Messages and other communications between the school and parents of participating adolescents involved sending online grade books and quarterly report cards, as well as parent-teacher conferences (Bergman et al., 2019). An incentive of US $5 was given to each student for completing the survey and partaking in the intervention, and US $20 was given to each parent who consented for their child to participate in the intervention and who agreed to be engaged in the programme (Bergman et al., 2019). The performance of the participating adolescents was assessed by reviewing academic and behavioural performance from Grade 6 to Grade 8 (Bergman et al., 2019).

Intervention IMARA was implemented in the English language only, and participants who could speak and understand English were selected to reduce STIs and risky sexual behaviours (Kendall et al., 2020). Consent and assent forms were provided by participants and their mothers who participated. Kendall et al., (2020) reported that 188 participants were randomly assigned to IMARA and 81 participants were allocated to the health promotion

http://etd.uwc.ac.za

control group. The intervention was implemented in two sessions, covering 14 hours over two consecutive Saturdays. The length of the breaks was not indicated (Kendall et al., 2020). Intervention facilitators received 30 hours of training and practice from the programme director before implementation (Kendall et al., 2020). Two facilitators were assigned to the adolescents' group and two to the mothers' group, and the four facilitators worked together in the combined mother-adolescent sessions (Kendall et al., 2020). The strengths of three other interventions – SISTA, SIHLE and STYLE – were combined in intervention IMARA and activities included the feeling thermometer exercise, and roleplays of aggressive, passive, and assertive communication. The control group did not explicitly address STI prevention (Kendall et al., 2020).

The study by Wojcik and Helka (2019) reports that the ABBL intervention was implemented for 11 weeks. Each session's duration was aligned to one lesson since the teachers delivered the intervention during their weekly class lesson. The sessions lasted 30 minutes and involved role plays, discussions, and games. Implementation involved completing an online survey anonymously, and classes were arbitrarily selected in the six randomly picked schools (Wojcik & Helka, 2019). The programme implementers of the ABBL intervention designed their questionnaires, and the programme contained 11 short comprehensive lesson scenarios (Wojcik & Helka, 2019). The intervention was implemented in three sections.

Part 1 strengthened mutual acquittance through "Getting to know you", an activity involving teachers to manage sitting arrangements and working groups making sure all students interact with one another (Wojcik & Helka, 2019). Students shared fact sheets about their life with everyone.

In Part 2, integration and team building were reinforced by implementing group boundary and cohesion through activities that encourage students to work in groups and pairs (Wojcik & Helka, 2019). Students analysed factors and identified welcome and unwelcome

http://etd.uwc.ac.za

behaviour to others; in addition, physical fights, pushing, kicking, slapping, punching, name-calling, and verbal abuse were identified as forms of bullying in schools (Wojcik & Helka, 2019).

Implementation of Part 3 targeted the cognitive and emotional empathy technique of the participants. This segment was implemented through role-plays, which helped the students understand the viewpoints of other people, along with viewing various behaviours on the Internet (Wojcik & Helka, 2019). Activities for the ABBL intervention participants involved working in pairs and groups, playing games, role plays, and discussions. Homework and assignments named "Food for Thought" were given to the participants to encourage personal reflections on concepts taught (Wojcik & Helka, 2019).

Bowes et al., (2019) reported that implementation of the ROOTS intervention involved students that were most influential, named "Agents of Change" in the institutions, and were nominated by other students. ROOTS is an open access intervention, and no fees are paid for access (Bowes et al., 2019). Weekly meetings were conducted between trained researchers and the "agents of change" to help identify common conflict behaviours at their schools (Bowes et al., 2019). "Agents of change" developed hashtag slogans against conflict behaviours and posters with their photos posted next to the message for the association. Students who act against conflict behaviours were rewarded with orange wrist bands with the intervention logo (Bowes et al., 2019). The intervention programme was delivered weekly and covered 12 sessions, which included group work, role plays, and guided discussions about bullying (Bowes et al., 2019). ROOTS was incorporated with the positive discipline training programme for teachers (Bowes et al., 2019). "Agents of Change" organised ROOTS days for all students to attend and fight against violence and conflict behaviour (Bowes et al., 2019).

Behaviour Change Intervention (BCI) was implemented to change adolescents' perceptions of harmful substance use, and participants were randomly allocated to the

http://etd.uwc.ac.za

intervention. One thousand one hundred and eighty-five (1,185) adolescents were allocated to the BCI groups and 955 to the control groups (Hussain et al., 2018). Informed consent was done by school principals of participating schools (Hussain et al., 2018). Parents permitted their adolescents to participate by signing consent forms (Hussain et al., 2018). Questionnaires were administered to gather information about the teens' perceptions of substance use. The students were assisted in filling in the questions when necessary (Hussain et al., 2018). Educational pamphlets on substance use were provided. Gift hampers were given to the participants (pencil, toothbrush, toothpaste, and a quit calendar). The intervention was conducted for five months during weekly sessions that lasted 30 minutes (Hussain et al., 2018). The activities of the intervention group included group discussions, watching visual presentations and lectures on substance use, updating quit calendars, and revising pamphlets with oral cancer information (Hussain et al., 2018). Trained public health professionals facilitated the intervention with the assistance of teachers and principals from the participating schools. Ethical permission to conduct the study was obtained beforehand (Hussain et al., 2018).

Chou et al., (2020) reported that implementing the school-based social marketing intervention was done through health education teachers and class teachers. The class teacher explained the study goals and privacy policy through parent-teacher contact books (Chou et al., 2020). Parents were informed and filled in consent forms before implementation. The intervention was carried out by conducting online surveys on adolescents' sexual behaviours (Chou et al., 2020). Participants in the intervention group received text messages on sex education, gender relationships, STIs, AIDS, sexual harassment, assault, and diversity (Chou et al., 2020). Adolescent participants opted for interactive teaching methods as opposed to traditional methods. The health education teachers were trained for two hours on intervention course content and educational activities (Chou et al., 2020). For confidentiality purposes, consultation mailboxes were used to ask personal questions and get responses from the

http://etd.uwc.ac.za

participants on sex behaviours (Chou et al., 2020). Intervention activities were implemented through various methods, including creative poster competitions, prize-winning competitions, debates, sex education through role plays, online competitions, and aminations. The Institutional Review Board approved Chang Gung Memorial Hospital's study in Southern Taiwan (Chou et al., 2020).

Wechsberg et al., (2018) reported that (YWHC) project implementers used a computer-generated randomised sequence to allocate participants to intervention and control groups. Informed consent was obtained from 18-year-olds and older participants (Wechsberg et al., 2018). The research staff administered questionnaires to obtain information about the participants' recent alcohol and drug use and risky sexual behaviours (Wechsberg et al., 2018). Counselling, HIV/AIDS testing, and gender-focused educational information on substance use and sexual behaviours were offered to the participants as intervention activities (Wechsberg et al., 2018). The intervention was facilitated by adolescents' peer role models and trained research staff. The intervention was implemented for one month during two group workshop sessions that lasted two hours each (Wechsberg et al., 2018). The workshops were conducted 10 days apart. Intervention activities included storytelling, listening to recorded audios, group discussions, and creating personalised risk reduction action plans (Wechsberg et al., 2018). Activities for the first workshop covered developmental issues such as pregnancy, parenting, communication, violence, and communication (Wechsberg et al., 2018). Activities for the second workshop included practical demonstrations of female and male condom use, safer sex negotiation tactics, and completing exercises on STIs, HIV, and risky sexual conduct (Wechsberg et al., 2018). The study was approved by the RTI International Committee for Protection of Human Subjects in the United States and the South African Medical Research Council (SAMRC) Ethical Committee in South Africa (Wechsberg et al., 2018).

http://etd.uwc.ac.za

Consent, assent, or ethical permission was sought before conducting the interventions across all included articles (Farahani et al., 2020; Kendall et al., 2020; Bergman et al., 2019; Wagner et al., 2019; Hussain et al., 2018; Bowes et al., 2019; Wechsberg et al., 2018; Chou et al., 2020; Wojcik & Helka, 2019). Three included articles guaranteed the privacy and confidentiality of the participants' personal information as explicitly mentioned by Bergman et al., (2019), Wojcik and Helka (2019), and Wagner et al., (2019). Most of the adolescent participants were recruited in schools, and interventions were implemented in the schools, as shown by the studies (Farahani et al., 2020; Chou et al., 2020; Kendall et al., 2020; Wojcik & Helka, 2019). The studies by Wagner et al., (2019), Bergman et al., (2019), and Wechsberg et al., (2018) were conducted in the communities.

The included interventions reported on varying teaching methods and approaches, such as role plays, discussions, games, and debates to increase the effectiveness in disseminating knowledge through interventions, as shown by Chou et al., (2020), Farahani et al., (2020), Kendall et al., (2020) and Bergman et al., (2019). Interventions by Farahani et al., (2020), Kendall et al., (2020), Wagner et al., (2019), and Wojcik and Helka (2019) were structured and implemented in phases, parts, or waves, which allowed coverage of different aspects of the intervention in a manner that allows participants to comprehend without pressure. The interventions were also structured in sessions not exceeding 1 hour, and breaks were taken between sessions (Farahani et al., 2020; Kendall et al., 2020; Wojcik & Helka, 2019). Provision of incentives to participants was shown in the articles by Wagner et al., (2019), Bergman et al., (2019), Bowes et al., (2019), and Chou et al., (2020). All nine included interventions were administered by qualified professional such as health professionals, researchers, and teachers. Eight of the nine included articles used the recognised official language – English – in implementing the interventions. Only participants in the study by Bergman et al., (2019) chose the language they preferred to interact in the intervention.

http://etd.uwc.ac.za

Despite the interventions targeting adolescents, the interventions by Farahani et al., (2020), Chou et al., (2020), Kendall et al., (2020), and Bergman et al., (2019) involved their parents, and this is the best practice as it promotes parental support and involvement in children's lives. The most common practice used by the interventions to reduce substance use was disseminating information about the impact on oral health as reported by three of the included studies (Hussain et al., 2018; Bergman et al., 2019; Wagner et al., 2019). The use of peers in delivering behavioural change interventions for adolescents was common in the included studies, e.g., those by Wojcik and Helka (2019), Bowes et al., (2019), Wechsberg et al., (2018) and Wagner et al., (2019). Another common practice depicted in the included interventions was equipping the adolescents with some life skills intended to facilitate positive behaviours during the transitionary stage of adolescence (Farahani et al., 2020; Bergman et al., 2020; Kendall et al., 2020; Chou et al., 2020; Hussain et al., 2018; Wojcik & Helka, 2019).

5.4 MAINTENANCE

In terms of *maintenance*, three studies reported that follow-up to the intervention was done six months after the intervention (Farahani et al., 2020; Chou et al., 2020; Kendall et al., 2020). The study by Kendall et al., (2020) reported a second follow-up after 12 months. Wagner et al., (2019) stated that their intervention's follow-up period was done 30 days after the intervention. Bergman et al., (2019) and Wojcik and Helka (2019) indicated that the follow-up for their interventions was done after one year. Moreover, the study by Bowes et al., (2019) conveyed that follow-up is ongoing since the intervention is embedded with the existing extracurricular programme OASIS in the schools for continuation. Hussain et al., (2018) mentioned that follow-up was done 12 weeks after their intervention, and one month after the intervention for Wechsberg et al., (2018).

All of the included articles indicated conducting follow-ups. Intervention follow-up is good practice since there is a need to review the effectiveness of the intervention after the

http://etd.uwc.ac.za

implementation period, as shown by Farahani et al., (2020), Bergman et al., (2019), Wagner et al., (2019), Wojcik and Helka, (2019), Hussain et al., (2018), Bowes et al., (2019), Kendall et al., (2020), Chou et al., (2020) and Wechsberg et al., (2018).

The intervention's sustainability is the best practice, as is showcased in the study by Bowes et al., (2019), which is ongoing since it has been merged with the school extracurricular activities. All of the nine included studies show best practice since they are replicable. The study by Bowes et al., (2019) has already cooperated with the school activities since it is replicable. Adolescents continue to enjoy the benefits of the intervention. The preferable timeframe for intervention follow-up is six months, as shown in the studies by Chou et al., (2020), Kendall et al., (2020), and Farahani et al., (2020). Twelve-month follow-up was reported by Bergman et al., (2019) and Wojcik and Helka (2019), whereas Hussain et al., (2018) mentioned 12 weeks follow-up. One month follow-up was stated by Wagner et al., (2019), whereas Bowes et al., (2019) stated that the intervention should be embedded in the curriculum.

5.5 Conclusion

The results of the SR are explicitly discussed in the chapter under the domains of reach, effectiveness, adoption, implementation, and maintenance. The similarities and best practices shown in the interventions are highlighted. The results are discussed further in the following chapter.

http://etd.uwc.ac.za

Chapter Six

Discussion

6.1 Introduction

The previous chapter presented the results of the SR of the included articles. The interventions in the nine included studies exhibited some strengths that contributed to the effectiveness of the programmes. This chapter will discuss the limitations and weaknesses of the interventions, as well as propose possible solutions.

6.2 Discussion of Findings

The number of participants reached was a strength in the interventions of Bowes et al., (2019), Hussain et al., (2018), and Chou et al., (2020). The studies reached more than 1,000 participants, and Bowes et al., (2019) reached over 5,000 adolescents in two provinces. It is beneficial for interventions to reach as many participants as possible as countless adolescents are facing and struggling with behavioural challenges (Thurman et al., 2016). A large population of adolescents are in need of interventions; therefore, it is beneficial to addresses the problem on a larger scale, as it brings positive change to many beneficiaries (Thurman et al., 2016). Addressing numerous participants also brings about change in a short period, which is more beneficial than targeting smaller numbers at a time, where the effects of the intervention will take longer to benefit the masses (Patton et al., 2016). The number of adolescents needing interventions on various risk-taking behaviours such as violence, substance use, and risky sexual behaviours is huge, making it imperative to reach as many youths as possible (Centre for Disease Control [CDC], 2019). When a large number of adolescents are targeted at once, the problems associated with risky behaviours such as substance use addictions, STIs, and

http://etd.uwc.ac.za

violence are significantly reduced (CDC, 2019; Dick & Ferguson, 2015). Adolescents worldwide are in need of behavioural change interventions. This underscores the importance of large-scale interventions for adolescents (CDC, 2019). Investments in adolescent health and well-being not only have immediate benefits, but produce results that may manifest in decades to come, as well as future generations (Patton et al., 2016; Dick & Ferguson, 2015). The benefits include enhanced physical and mental health, improved decision making, and greater productivity (Patton et al., 2016; Dick & Ferguson, 2015). It is beneficial for youths to be employable and focused in life as this fosters their personal growth, as well as the development of the nation and world at large (UNICEF, 2018). When behavioural change interventions reach many adolescents, the positive outcomes significantly improve the lives of the participants. In addition to participants' numbers, the included interventions showed the importance of incorporating all genders in the adolescent interventions.

Male and female adolescents were included in the articles, as shown by Wagner et al., (2019), Wojcik and Helka (2019), Bowes et al., (2019), Hussain et al., (2018), and Chou et al., (2020). All-inclusive interventions are beneficial as they address challenges experienced by both male and female adolescents at once (Lee & Lee, 2019). Focusing on one gender may result in gaps being created, further perpetuating inequalities between the genders (Lee & Lee, 2019).

Other studies support and further advocate for the inclusion of transgender adolescents in interventions instead of focusing on male and females only (Shumer et al., 2016; McInroy & Craig, 2015). This adolescent group is often excluded from adolescent interventions, yet they face the same challenges as other teenagers and equally need the interventions (McInroy & Craig, 2015; Rosenthal., 2014). Disparities between the genders are also evident if all genders are included in the interventions (Divan et al., 2016). Moreover, including all genders enables researchers to see which risky behaviours affect males, females, or transgender

http://etd.uwc.ac.za

individuals the most, and solutions can be devised accordingly (Divan et al., 2016). Recognition and acceptance of gender diversity when reaching out to adolescents with interventions addresses the challenge of risk-taking behaviours (Shumer et al., 2016; McInroy & Craig, 2015). Equally, the importance of reaching out to adolescents from early stages was highlighted.

Behavioural interventions that reach out to all age groups – early, middle, and late adolescents – are beneficial since behavioural problems may start early. Bergman et al., (2019) included early adolescents, and the programme significantly delayed initiation of substance use. Reaching adolescents early with preventative interventions is a good measure to promote positive behaviours. The study by Dickerson et al., (2019) similarly shows the importance of early predictions of adolescents' circumstances that may influence them to behave negatively. It is easy for adolescents to engage in high risk-taking behaviours such as substance use, unsafe sexual encounters, and violent behaviours (Dickerson et al., 2019). It is important to discourage the behaviours from an early stage (Brittain et al., 2019). Attempting to remedy behavioural problems in adolescents can be more challenging and costlier; hence early preventive interventions are imperative (Brittain et al., 2019; Dickerson et al., 2019). Teaching and moulding early adolescents to adopt positive behaviours, and continuous reinforcement of these behaviours throughout the adolescence stage significantly reduces risk-taking behaviours (Kaufman et al., 2014).

A limitation on reach was that eight interventions targeted adolescents in schools, neglecting school dropouts and teenagers not enrolled in mainstream schools. The only study that reached adolescents in communities and specifically school dropouts was that of Wechsberg et al., (2018). Out of school youths are the most vulnerable (Wechsberg et al., 2018). They are susceptible to risk-taking behaviours as they often lack access to resources, programmes, and helpful information compared to their peers in schools. Interventions

http://etd.uwc.ac.za

targeting youths in schools only may limit the effectiveness of the programmes as the in-school youths interact with the excluded youths in the communities who may be engaging in risky behaviours (Wechsberg et al., 2018). Interventions that include both youths in schools and the communities become more effective as the same intervention information and activities will be available to all youths in the area, regardless of whether they are in schools or not (Boersma et al., 2014; Urben et al., 2015).

Interventions become more effective when they are implemented appropriately and are relevant. Interventions that identify the aspects that need to be addressed in adolescents' lives to ensure their effectiveness are more favourable (Boersma et al., 2014). The included studies showed that building resiliency in children is an important aspect in reducing high risk-taking behaviours in adolescents (Wechsberg et al., 2018; Farahani et al., 2020; Wagner et al., 2019). Difficult situations and circumstances such as poverty, lack of resources, and lack of support systems were identified in some youths' lives (Wechsberg et al., 2018). Through the interventions, adolescents became resilient and found positive ways to overcome behavioural challenges (Wechsberg et al., 2018; Wagner et al., 2019). Resilience is formed from external and internal factors, including self-esteem and self-efficacy (Wulandari & Istiani, 2021). Resilience is important as it enables humans to bounce back to positivity and adopt beneficial social and life skills despite prior situations or circumstances (Rojas, 2015). The included articles also identified that social and life skills were essential in assisting adolescents in making informed decisions about their own lives (Farahani et al., 2020; Kendall et al., 2020; Bowes et al., 2019). Resilient adolescents deal with difficult situations and take the right steps to improve their lives (Rojas, 2015). Individuals with self-efficacy and self-esteem are usually resilient, and there is a significant positive relationship (Hidayati, 2014).

The study by Kendall et al., (2020) identified that adolescents who have self-efficacy could negotiate safer sex and reduce the risk of contracting HIV/AIDS. Hidayati (2014)

http://etd.uwc.ac.za

reiterates that self-efficacy is important as it enables an individual to have the ability to believe that they have control over their functioning. In the interventions, the adolescents had confidence and persevered to achieve their goals and tasks (Kendall et al., 2020; Farahani et al., 2020; Chou et al., 2020).

Adolescents with high self-esteem prioritise their own beliefs; they are also not easily influenced by the crowds, and have refusal skills to resist negative peer pressure, thus reducing their involvement in high risk-taking behaviours (Hussain et al., 2018; Bowes et al., 2019; Kendall et al., 2020). Hidayati (2014) explains that high self-esteem is important as it is characterised by a feeling of self-pride, respect for others, and responsibility. Having high self-esteem is an important characteristic in reducing risk-taking behaviours as it assists adolescents to maintain their positive behaviours despite pressure and temptations they may face (Hidayati, 2014). Adolescents need to have characteristics that enable them to progress positively in life despite their circumstances. Interventions that empower the participants to make informed decisions about their lives are significantly effective in reducing high-risk behaviours in adolescents.

The nine interventions had significant effectiveness as they reduced unwanted behaviours. The study by Farahani et al., (2020) was particularly effective as it recorded a huge reduction in risky sexual behaviours. The participants adopted positive behaviours, such as personal confidence and communication skills (Farahani et al., 2020). Personal confidence is important as it enables adolescents to value themselves and make independent decisions free from the influence of other people's perceptions (Lee & Lee, 2019; Santa et al., 2015). Personal confidence is a protective factor. In that confident youths often stand up for their beliefs and rights, and are not usually easily manipulated (Lee & Lee., 2019; Puffer et al., 2016). Similarly, adolescents who acquire good communication skills can negotiate safer sex, avoid violent confrontations, and in many instances reject peer pressure (Santa et al., 2015). Good

http://etd.uwc.ac.za

communication skills enable adolescents to express their views articulately and understandably, minimising misperceptions (Lee & Lee, 2019; Santa et al., 2015). Moreover, their confidence is also dependent on the relationship with and the support they receive from their parents and guardians (Muliyadi et al., 2016).

Moreover, the studies that involved parents were remarkably effective (Farahani et al., 2020; Bergman et al., 2019; Kendall et al., 2020). Farahani et al., (2020), Bergman et al., (2019), and Kendall et al., (2020) emphasised the importance of parental support, inclusion, and participation in adolescents' interventions. Improving parent-child relationships is important in shaping adolescents' behaviours, as addressed earlier in the articles (September et al., 2015; Ritchwood et al., 2016; Lekaviciene & Antiniene, 2016). The studies by Perrino et al., (2016) and Boyd et al., (2021) also indicate the effectiveness of family involvement in adolescents' behavioural change interventions. The studies show that adolescents positively respond when they receive family support in their activities (Perrino et al., 2016; Boyd et al., 2021). It is essential to maximise support when rolling out interventions with adolescents through engaging parents and guardians since most adolescents still live at home and may acquire negative behaviourisms from the home environment (Jull & Chen, 2013; Lekaviciene & Antiniene, 2016). It is also evident that some negative behaviours demonstrated by the adolescents' stem from the experiences they have with their parents/guardians; therefore, including parents in the interventions is advantageous (Muliyadi et al., 2016; Jull & Chen, 2013; Boyd et al., 2021).

Additionally, interventions that involved peer education effectively reduced violent behaviours in youth, as shown by Bowes et al., (2019). Peer involvement in the interventions improved effectiveness as adolescents value their relationships with their peers and are also likely to emulate their behaviours. The study by Bowes et al., (2019) used popular youths at the institutions to be agents of change. The use of popular peers increased the intervention's

http://etd.uwc.ac.za

effectiveness as other adolescents adopted positive behaviours associated with popular figures at the schools (Bowes et al., 2019). This strategy yielded positive results, highlighting the necessity of considering peer education when implementing interventions for adolescents, since they learn more from one another and relate as age mates (Bowes et al., 2019; Wechsberg et al., 2018). Modelling of behaviour to role models remains a huge influencing factor in adolescents' behaviours and the strategy of associating positive behaviours with popular peers continues to be effective (UNICEF, 2018; Karokas, 2014). The study by Burnett (Heyes et al., 2015) shows that incorporating peer influence in adolescent behaviour change interventions promotes change. Peers are a powerful behaviour determinant, and the strategy of using youth ambassadors and advocates to reinforce positive behaviours and discourage negative ones have been adopted by many organisations (UNICEF, 2018). Teenagers who rise to fame amongst their peers due to different talents such as singing, acting, sports, etc., are often used as effective behaviour change agents to reduce risk behaviours among adolescents (UNICEF, 2018). Teenagers also want to take charge of their lives, which can be done by involving them in designing interventions meant to benefit them (UNICEF, 2018).

Involving the beneficiaries in the whole process from intervention design to implementation and maintenance improves effectiveness since they not only identify with the programme but also take ownership of it (Bowes et al., 2019; Wechsberg et al., 2018; Tollefsen et al., 2020). Adolescents usually want to feel involved and responsible for their lives, and not controlled by adults; therefore, allowing them to design interventions intended for them significantly increases acceptance and interest in the intervention activities (Tollefsen et al., 2020). Adolescents have their own way of speaking and preferred terminology which can be different from adults, so interventions that relate closely to adolescents' preferences are more likely to be accepted and perceived as exciting and relevant (Tollefsen et al., 2020). The intervention by Wagner et al., (2019) had teens involved in branding t-shirts and hats in the

http://etd.uwc.ac.za

styles adolescents preferred, which also increased participation in the intervention. Bowes et al., (2019) empowered the adolescents to develop their anti-bullying slogans, posters, and messages instead of imposing designs by the adult programme implementers. The empowerment improved the effectiveness of the interventions (Bowes et al., 2019). Allowing the adolescents to contribute and participate in developing the interventions shows that their ideas are valued. This facilitates a positive perception of the interventions, which improves its effectiveness (UNICEF, 2015). In designing interventions, it is also important to design interventions that address multiple risk-taking behaviours affecting adolescents.

Wechsberg et al.,'s (2018) article was effective since the intervention addressed multiple risk-taking behaviours of risky sexual activities and substance at once. Wechsberg et al., (2018) showed that risky behaviours are closely related; for example, teenagers who engage in substance use are more likely to be involved in risky sexual behaviours. Wagner et al., (2019) showed that teenagers who engage in substance use are likely to have violent tendencies. Kaufman et al., (2014) indicated that substance use compromises the cognitive processes of humans, and when adolescents are under the influence of substances, they are prone to behave irrationally. The study by Kaufman et al., (2014) revealed that most teens who use illicit substances act irresponsibly when intoxicated and engage in unsafe behaviours such as unprotected sexual encounters, fights, verbal insults, and other misdemeanours. It is important to simultaneously address the multiple risk behaviours so that all the issues are solved instead of leaving other closely related challenges unresolved (Jonas et al., 2016). A study by Mulwa et al., (2021) with adolescents in Kenya shows that it is effective for interventions to tackle more than one risk-taking behaviour in behavioural change interventions. This approach has the potential to reduce many adolescents' risk-taking behaviours and improve their well-being (Jonas et al., 2016).

http://etd.uwc.ac.za

Interventions that had activities carried out in more than one setting, such as school-based, family-based or home-based (Bergman et al., 2019; Kendall et al., 2020) were more effective. The finding is important as it promotes the extension of intervention activities to many settings, improving the sustainability and consistency of the programme outcomes (Perrino et al., 2016). The study by Wagner et al., (2019) was also carried out in the community and online. The intervention's effectiveness is increased by reinforcing programme content at school and home (Perrino et al., 2016). It is advantageous if behavioural intervention activities are extended to all settings from school to home for continuity and reinforcement of positive behaviours (Perrino et al., 2016; Bergman et al., 2019; Kendall et al., 2020). Adopting a holistic approach of designing a single intervention that is family-based, school-based, and community-based could be more effective as it safeguards adolescents in all the environments. It is also important to use various methods to facilitate the interventions.

All the included articles used varying methods in their interventions, such as lectures, role plays, discussions, workshops, campaigns, interviews, games, etc. For instance, Shields et al., (2015) used different facilitation methods such as focus group discussions, workshops, and presentations in their study on school violence among adolescents. Similarly, Lee and Lee (2019) used discussions, debates, storytelling, role plays, and brainstorming in their life skills-based intervention on adolescents' sexual behaviours. Disseminating information in diverse ways increases understanding (Shields et al., 2015; Lee & Lee, 2019). Using different facilitation methods such as lectures, role plays, and discussions usually helps in improving the effectiveness of interventions. Using varying methods in facilitating interventions for adolescents reduces boredom and monotony (Garvin, 2017). For interventions to remain effective, the participants need to concentrate; therefore, facilitation and activities should remain exciting and captivating (Garvin, 2017).

http://etd.uwc.ac.za

All the included interventions involved qualified professionals or trained personnel in delivering the interventions (Farahani et al., 2020; Bergman et al., 2019; Kendall et al., 2020; Chou et al., 2020; Wojcik & Helka, 2019; Bowes et al., 2019). Involving professionals in interventions is beneficial as they are trained and skilled in delivering the activities (Lee & Lee, 2019). Facilitating the interventions is an important aspect as this also determines whether the participants will understand what they learn (Lee & Lee, 2019). Poor facilitation and administration of interventions may result in high participant turnover and poor results (Lee & Lee, 2019). The interventions need to be delivered by individuals knowledgeable on the subject area (UNICEF, 2018). High levels of professionalism are required for confidentiality reasons since the interventions include the participants' personal information; therefore, engaging qualified professionals is important (UNICEF, 2018). Moreover, programme facilitators are to undergo training and mentorship before carrying out the interventions (UNICEF, 2018).

Intervention activities were successfully delivered to the participants in groups, pairs, and individuals, as shown by the included articles. Creating a conducive atmosphere helps put the participants at ease and enhances the outcomes of the intervention (Farahani et al., 2020; Puffer et al., 2016). Interventions need to be conducted in conducive, safe, and friendly settings for the participants. Some activities need to be delivered in group settings, such as general discussions, question and answer segments, and role plays as shown by Farahani et al., (2020), Kendall et al., (2020), Wojcik and Helka (2018), and Bowes et al., (2019). Interventions that use group activities improve teamwork, coordination, and increase tolerance of others (Espelage et al., 2013). Other intervention activities may require individual participation, such as interviews on confidential matters, as shown by Bergman et al., (2019). Or they can be delivered in pairs if they aim to promote empathy for another person and tolerance of individual differences (Espelage et al., 2013). It is important to provide the correct setting that enables the objectives of the intervention to be effectively delivered (Espelage et al., 2013).

http://etd.uwc.ac.za

A limitation on adoption was highlighted by Chou et al., (2020) who found that some participants were not comfortable having their teachers facilitate the interventions as it seemed too invasive to discuss personal issues with them. Segalo and Rambunda (2018) indicated that student participants may find it difficult to open up to their teachers on negative personal behaviours. Teachers take the parental role during school periods and are often viewed as parents, making it uncomfortable for students to disclose personal information (Segalo & Rambunda, 2018). Student participants are often afraid of having teachers change their demeanours towards them if they share their negative behaviours (Segalo & Rambunda, 2018). In some instances, students are afraid that teachers will disclose their personal experiences to others, so they are reluctant to open up to them (Mwania & Muola, 2013). Students spend most of their time at school and might not be comfortable revealing personal truths that may cause their teachers to judge or label them (Mwania & Muola, 2013). The fear of being judged, labelled, or discriminated against by teachers often causes students to feel uncomfortable discussing personal issues with them (Mwania & Muola, 2013). The judgements teachers make can have pervasive effects (Mwania & Muola, 2013). Thorough pre-assessment of intervention content may help determine appropriate professionals to deliver the programme, who in turn will employ information gathering techniques that will ensure the privacy of the participants (Puffer et al., 2016; Boersma et al., 2014). The environment interventions are delivered, and the personnel are important in the delivery of the programme (Boersma et al., 2014). Building trust between the teachers and the participants is important for the interventions to be successful and yield positive outcomes (Mwania & Muola, 2013). In addition to that, this review notes that how interventions are implemented also influences their success and outcomes.

Adopting varying teaching methods as shown by Chou et al., (2020), Farahani et al., (2020), Kendall et al., (2020), Bergman et al., (2019), and Wojcik and Helka (2019) was a good implementation strategy as it reduces monotony. The strategy also enables participants who

http://etd.uwc.ac.za

might not understand one teaching method to benefit from an alternative method used during programme implementation. This shows that flexibility in programme implementation methods is beneficial to the participants.

Farahani et al., (2020), Kendall et al., (2020), Wojcik and Helka (2019), and Wagner et al., (2019) implemented their intervention activities in segments or parts. This method is advantageous as it enables programme implementers to structure activities in phases. It is also easier for implementers to assess which phase or segment was understood better by the participants and make improvements where necessary to facilitate comprehension. Boersma et al., (2014) also indicated using multiple implementation strategies involving two or more segments, such as training with a follow-up exercise segment, and an interdisciplinary conference with a follow-up exercise segment. Such implementation methods are significant in bringing about change in adolescents' risk-taking behaviours since progress assessments can be done in segments, and facilitators can determine segments that need reinforcement (Puffer et al., 2016).

Most included interventions were conducted in sessions not exceeding an hour, as shown by Farahani et al., (2020), Chou et al., (2020), and Kendall et al., (2020). Lee and Lee (2019) reiterate the importance of not having lengthy implementation sessions as they often result in burnout, fatigue, boredom, and lack of concentration. Garvin (2017) and Public Agenda (2017) articulate that programme implementers should have the flexibility of varying time slots if they observe that their participants are tired or distracted. The programme developers should have room for time adjustments during interventions to be made since unforeseen circumstances may cause the allotted time to either be extended or shortened depending on the circumstances on the ground during the implementation period (Public Agenda, 2017). A discussion can be longer than expected, in that the facilitator may decide to let the discussion continue and run over time, thus exceeding the proposed session time, or it

http://etd.uwc.ac.za

may be shorter than anticipated (Public Agenda, 2017). Interventions not exceeding one hour are generally favourable (Public Agenda, 2017). The communication in the interventions should be suitable to enable the participants and facilitators to understand one another (Garvin, 2016; Public Agenda, 2017).

The included interventions used English which is recognised as an official language in many countries worldwide. Communication is an important element in the implementation of interventions, as both the participants and programme implementers should understand each other (Puffer et al., 2016; Thurman et al., 2016). Challenges in communication may compromise the intervention's effectiveness; therefore, it is important to ensure that communication channels and methods are appropriate (Thurman et al., 2016; Lee & Lee, 2019). The level of education of the intended beneficiaries should determine the level of language and terminology used throughout the intervention (Bartolata, 2014). Simple and understandable phrases and terms should be used in interventions so that the participants clearly understand the activities and what is required from them (Bartolata, 2014). Technical jargon and complicated communication prohibits information sharing during the implementation of the intervention (Bartolata, 2014). Many people can understand the interventions that are conducted in English. The article by Bergman et al., (2019) provided participants with an opportunity to choose the language to engage in during the intervention. It allows easy communication, and the information was presented in English. Using the world's official language, or even translating into English, enables the study's findings to be read and understood by a larger populace (Knight, 2015). Many people around the world can learn from the intervention. Besides the language, appropriate technological methods when addressing different groups of adolescents are important (Knight, 2015).

Using technological methods and platforms to implement programmes with adolescents is also beneficial when targeting youths who have access to devices as well as Internet

http://etd.uwc.ac.za

connection (Wagner et al., 2019). Most adolescents in the developed world and from privileged backgrounds are easily accessible since they usually have access to various technologies such as cell phones/smartphones and the Internet, making it easy to reach out to them (Best & Taylor, 2014; George et al., 2020). It becomes a challenge when the intended beneficiaries do not have access to these devices, the Internet, and social media platforms (Best et al., 2014). Adolescents from disadvantaged backgrounds may not have access to technological devices (George et al., 2020). Programme implementers need to use traditional methods when implementing interventions to avoid excluding youths who might need the interventions the most. Closing the digital divide requires prioritising equity in experiences and opportunities, as well as in access (George et al., 2020). Therefore, programme implementers need to engage in pre-intervention assessment activities and evaluate the circumstances of the potential beneficiaries, so as to use relevant and practical methods.

It is also noble to implement an intervention with enough resources needed for the proper implementation, as shown by Kendall et al., (2020) and Chou et al., (2020). The study by Bowes et al., (2019) indicated that several agents of change or peer educators could not attend some of the intervention activities and meetings due to financial constraints as they lacked transportation. Financial constraints affect the interventions; therefore, it is important to have sufficient funds (Wagner et al., 2019; Bowes et al., 2019). Starting interventions with insufficient funds may result in delayed or interrupted interventions, with abandoned interventions becoming a waste of time for the participants (Puffer et al., 2016). Puffer et al., (2016) indicate that in a church-based intervention in rural Kenya to reduce risky sexual behaviours, only two churches out of the four ended up participating in the post-intervention survey due to financial constraints and lack of resources. An accurate budget is always needed when planning interventions to avoid serious financial constraints (Puffer et al., 2016). When

http://etd.uwc.ac.za

designing interventions, the planning stage is crucial and should be done effectively to ensure that activities are conducted smoothly (Puffer et al., 2016).

Providing participants with incentives or tokens of appreciation boosts morale and encourages participation, as shown by Wagner et al., (2019), Bowes et al., (2019), Hussain et al., (2018) and Chou et al., (2020). Participants' involvement in the interventions contributes to the body of knowledge and research. They sacrifice their time and other commitments to be part of the interventions; therefore, providing incentives as a sign of appreciation is good practice.

Limitations in implementing the interventions were experienced. For instance, in the study by Bowes et al., (2019), the timing of the activities of the ROOTS intervention clashed with the participants' school programmes, i.e., exams. Time clashes in programmes, as seen above, impacts on the success of interventions and disturbs other programmes, and hence, should be avoided (Bowes et al., 2019). The planning and scheduling of interventions should be done effectively and properly (Puffer et al., 2016). It is important to have good administration when implementing interventions to avoid such challenges. There is a need for proper coordination between programme implementers and the schools where the interventions are to be carried out to ensure efficiency (Chou et al., 2020; Hussain et al., 2018). The study by Lee and Lee (2019) reiterates the need for proper coordination in interventions.

Cultural connotations posed challenges in obtaining information from participants regarding personal sexual matters, as shown by some of the studies (Farahani et al., 2020; Chou et al., 2020). The conservative nature of the Iranian and Asian cultures regarding intimate issues made it difficult for the participants to openly discuss sexual issues (Farahani et al., 2020; Chou et al., 2020). The study by Puffer et al., (2016) highlighted how culture was a major determinant of the activities and procedures in an intervention addressing adolescents' sexual issues in rural Kenya. Therefore, programme implementers need to design interventions that fit with the

http://etd.uwc.ac.za

community (UNESCO, 2018). Involving the grassroots people in intervention development and design may offer solutions on how the interventions should be structured, aligning with the people's way of living. Other strategies to gather personal information can be employed, such as administering anonymous questionnaires.

A limiting factor was also posed by programmes that recruited small samples to participate in the interventions; thus, it could not be generalisable to a broader population, as shown by Chou et al., (2020), Kendall et al., (2020), Wojcik and Helka (2019) and Wechsberg et al., (2018). The study by Chou et al., (2020) was carried out with grade sevens only; it was therefore difficult to generalise the results of the intervention to other age groups, e.g., junior school adolescents. Puffer et al.,'s (2016) study was done with adolescents who only attended church services at the four selected churches. The small frames excluded adolescents who might be vulnerable and needing the intervention. It is important to select a sample with a clear and proper representation of the intended population. Intervention IMARA by Kendall et al., (2020) involved African American adolescents only. The limitation posed was that other adolescents from different races facing sexual behavioural challenges in that community were excluded because of their race (Kendall et al., 2020). Perrino et al.,'s (2016) article involved Hispanic and Latino youths only to reduce substance use and risky sexual behaviours, and other races were left out. Interventions need to be as all-inclusive as possible with minimum limitations that may unnecessarily exclude adolescents in dire need of interventions (UNESCO, 2018).

All nine included articles reported follow-up of the interventions under the maintenance domain, with most reporting at least a 6-month follow-up. This follow-up period is advantageous as it is not too long after the implementation of the intervention (Hailemariam Bustos, & Montgomery, 2019). Six-month follow-ups encourage sustainability of the intervention outcomes (Hailemariam et al., 2019). Intervention OASIS by Bowes et al., (2019)

http://etd.uwc.ac.za

has the most appealing follow-up, which is continuous since the intervention was included in the extra-curricular activities of the schools. It is advantageous to develop sustainable interventions and be continuously evaluated (Bowes et al., 2019). Hodgson et al., (2014) opine that sustainable interventions tend to yield lasting positive outcomes. Once-off interventions usually have minimum effectiveness in the future if they are not re-administered and revised. Lack of intervention continuity makes it easy for the adolescents to revert back to their prior negative behaviours as soon as they leave the intervention setting or after the programme (Farahani et al., 2020; Bergman et al., 2019; Hussain et al., 2018). It is important to develop sustainable interventions and be continuously re-assessed and improved (Thurman et al., 2016). Articles with short follow-up periods may not reflect the effectiveness of the intervention after it has been implemented (Eriksen, Nielsen, & Simonsen (2014). The effectiveness may be eroded as the period after the intervention extends; therefore, it is important to have regular follow-ups to strengthen the intervention (Eriksen et al., 2014; Puffer et al., 2016). Evaluation of intervention effectiveness after the implementation period should be prioritised (Eriksen et al., 2014).

The study reveals the lack of interventions for adolescents in Africa and youths in low-income settings. It is a cause of concern as it is projected that low and medium-income settings will be home to the largest cohort of young people by 2030 (WHO, 2019). The youths from disadvantaged backgrounds are the most vulnerable and susceptible to risk-taking behaviours (Green et al., 2015; Gutierrez et al., 2015). Therefore, there is a need for interventions that cater for youths in the locations mentioned above. The interventions should be easily accessible to the adolescents in low resourced settings for increased effectiveness.

http://etd.uwc.ac.za

6.3 Conclusion

Interventions need to be designed, planned, implemented, monitored, and evaluated to reduce high risk-taking behaviours in adolescents. This chapter has shown that all stages and aspects of interventions are important and should be critically assessed to increase positive outcomes.

The final chapter that follows next presents a summary, the limitations of the study, and recommendations for future research based on the insights of the study.

http://etd.uwc.ac.za

CHAPTER SEVEN

CONCLUSION

7.1 Introduction

The study reviewed literature focusing on existing interventions directed at reducing high risk-taking behaviours in adolescents. A SR methodology was employed to assess available literature reporting on the interventions directed at reducing the high-risk behaviours of adolescents. A SR allows the merging of existing information. It provides the opportunity for information to be gathered on a particular phenomenon which will be consolidated and merged to provide an overview of the interventions directed at reducing high risk-taking behaviours in adolescents.

The present SR set out to answer the following research questions:

1) What interventions are directed at reducing high risk-taking behaviour among adolescents?
2) How effective are interventions directed at reducing high risk-taking behaviours among adolescents?
3) What is required for the reduction of high risk-taking behaviours amongst adolescents?

The objectives of the study were to:

1) Identify interventions directed at reducing high risk-taking behaviour in adolescents.
2) Identify the effectiveness of interventions directed at reducing high-risk behaviours in adolescents.
3) Appraise the methodological rigour of studies exploring interventions directed at reducing high risk-taking behaviour in adolescents.

http://etd.uwc.ac.za

A meta-synthesis was used to analyse the findings of the study. A description of the findings of the study was provided. The theoretical framework of Bandura's SLT and relevant literature were used to offer an in-depth understanding and explanation of the study's findings. In this chapter, an executive summary that outlines how the study's aims and objectives were achieved through a SR methodology is clearly outlined. The significance of the study is mentioned and recommendations for future research are made. The study has proven to be beneficial, but some limitations were also encountered. These are acknowledged further below.

7.2 Executive Summary

Adolescents are prone to engaging in high-risk behaviours such as risky sexual behaviours, substance use, and violence. These behaviours adversely affect the lives of adolescents, as well as their families and communities, as is depicted by various scholars. There are disparities in the causes of the behavioural problems, which raises the need for tailor-made interventions to address the specific situation presented.

This study appraised relevant literature reporting on the interventions directed at reducing adolescents' high risk-taking behaviours. Information was retrieved from the nine selected articles. The studies that were eligible for methodological appraisal were published between 2010 and 2020. The four systematic steps in the PRISMA levels of review, namely: identifying relevant studies for inclusion, abstract screening of potential studies for eligibility, evaluation of the methodological quality of eligible studies, and subjecting included studies to a process of data extraction, were used to produce a realistic body of knowledge.

This study showed that high-quality articles reported interventions directed at reducing high risk-taking behaviours in adolescents. Nine studies were included in the final review after meeting the (65%-100%) score threshold. Data was extracted methodically from the selected articles, and then tabulated, described, and synthesised.

Based on the research findings, the following objectives were achieved:

http://etd.uwc.ac.za

1. The first objective sought to *identify interventions directed at reducing high risk-taking behaviours in adolescents*. The evidence retrieved from various databases on the UWC library shows that a plethora of material is available on the research topic. However, the study's findings highlight a discrepancy, in that most of the studies are conducted in and written from a Western perspective, with few focusing on African adolescents. The study's findings show that there could be no equal representation of adolescents in most documented interventions. The other explanation for the lack of Afrocentric interventions in the study may be that the studies failed to meet the criteria used for eligibility and selection.
2. The second objective was to *identify the effectiveness of interventions directed at reducing high risk-taking behaviour in adolescents*. The study's findings show that interventions effectively reduced high risk-taking behaviour in adolescents, but there were a number of challenges. In some studies, it was observed that the effectiveness of the interventions fades with time, depending on the follow-up and reinforcement strategies maintained after the implementation of the intervention. The intervention setting also determined the effectiveness of the interventions. In this regard, it was found that interventions that were implemented in two or more settings, such as home and school, were more effective than interventions administered in single settings, such as the school only.

The study showed that interventions that increased adolescent's assertiveness by reinforcing protective factors through education and teaching life skills were effective. Interventions that boosted adolescents' self-efficacy, confidence, refusal skills, and resilience were effective in behavioural challenges. Interventions that improved safety nets such as parental skills, positive community engagements, positive peer relationships, and supportive school systems were also effective.

http://etd.uwc.ac.za

3. The third objective was to *appraise the methodological rigour of studies exploring interventions directed at reducing high risk-taking behaviour in adolescents*. This objective was achieved in Chapter four on the third level of the review, referred to as *eligibility*. In this section, three researchers independently appraised articles identified as eligible for methodical inclusion in the current study using a critical appraisal tool. The nine studies that were finally included in the SR were systematically appraised and regarded as suitable.

7.3. Significance of the Study

The current study provides an overview of interventions directed at reducing high risk-taking behaviours. The study was conducted using high-quality current studies, and limitations and gaps in the existing literature were deduced. Knowledge acquired from this study can be indicative of the direction future studies should take. It may further assist in guiding future researchers and policy developers on the topic. The study can also review, improve, and develop interventions to reduce adolescents' high risk-taking behaviours. This SR has outlined the strategies adopted to reduce high risk-taking behaviours in adolescents by highlighting and investigating the major behavioural challenges, such as risky sexual behaviours, substance use, and violence. These behaviours are detrimental to the adolescents' futures and affect their families, communities and nations, and this study informs these and future interventions. The findings may also be useful in programmes, workshops, seminars, conferences, or other knowledge-sharing platforms and events to address high risk-taking behaviours in adolescents.

7.4 Limitations

This section acknowledges the limitations of this study.

First, only articles written in English were included in the SR, eliminating eligible articles written in other languages. Thus, language bias was the first limitation of this study.

http://etd.uwc.ac.za

The latter limited the sample frame, in that some of the excluded articles may have been more relevant than the English articles, but these were not considered due to not meeting the selected language criterion.

Second, sole reliance on the UWC database for articles instead of considering grey literature was another limitation. Focusing only on the UWC library databases limited the sample frame of eligible articles for inclusion.

Third, publication bias was also present in the study. Articles that did not present information methodically were not included, despite having relevant information.

Fourth, MeSH terms were not used in the search, and only keywords were used. Omitting MeSH terms limited the search in yielding additional sources.

In light of the study's findings, the following recommendations are made for future research.

7.5 Recommendations

- The evidence in this study indicated the need for further research on interventions directed at the youth of different sexual orientations and gender identities, such as youth engaging in same-sex romantic relationships and transgender youths, since most interventions are focused on heterosexual youths. There seems to be little literature and studies on these specific youths' interventions to reduce risk-taking behaviours. Further research could investigate the experiences of adolescents falling into this group as well as explore interventions to reduce their risk-taking behaviours.
- The study also indicated that most risky sexual behaviour interventions were for girls; therefore, more interventions should be developed for boys and girls. Balancing interventions for everyone may promote equality. There is a need for increased sexual and reproductive health interventions that focus on adolescent girls and young women.

http://etd.uwc.ac.za

Young women need to be empowered to make informed decisions and choices on sexual matters.

- Another recommendation is that more interventions should be designed and developed for African youths since the study showed that most interventions were designed for youths in Western contexts. More Afrocentric interventions are needed that relate to the African adolescents' experiences, values, cultures, religion, norms, ethos, and practices. Such interventions may increase effectiveness if they are designed for specific beneficiaries instead of modified or adapted for all occasions. Aligning the interventions to the intended beneficiaries' cultures may increase adolescents' acceptance and attitudes towards the intervention activities as well as enhance their effectiveness. The study shows that culture plays an important role in the success of interventions. Most traditional cultures conservatively address sexual issues as opposed to the liberal approach adopted in most Western countries.
- Policies that promote the development of interventions for the medium and low-income settings are needed. The study shows dominance of interventions for high-income settings perpetuating the gap and disparities between adolescents in the different settings. Most young people are from medium and lower settings, and the numbers are projected to rise, increasing the need for interventions.
- The study shows that males are mostly involved in violent behaviours. There is need for interventions that reflect and take into consideration gender roles and norms in perpetuating violence.
- The study's findings show that financial constraints and lack of resources are major risk factors making adolescents susceptible to engaging in high risk-taking behaviours. Therefore, it is recommended that more interventions be developed for adolescents

http://etd.uwc.ac.za

from low-income communities since they are highly vulnerable and at risk of engaging in risky behaviours because of the challenges they already face in life.

- The findings suggest that adolescents respond positively when their peers are included in the delivery of interventions. Involving the adolescents in all stages of the intervention – designing, implementing, and evaluating – may positively influence them to take ownership as well as increase participation. The evidence shows that peer influence and peer-led interventions are effective in behavioural change strategies. Interventions planned and designed by adults for adolescents without their input may have limited success due to the generational gap.
- The study's findings show that risk-taking behaviours are usually closely related, and adolescents who struggle with substance use are prone to engaging in violent behaviours or risky sexual behaviours. Therefore, interventions should address a broad spectrum of related risk-taking behaviours instead of just one problem, as adolescents are at risk of engaging in other negative behaviours. The multi-dimensional approach of interventions may be an effective way of reducing risk-taking behaviours in adolescents.
- The study shows that interventions are mostly implemented in a single setting, leaving gaps to reduce adolescents' risk-taking behaviours. Programmes can be implemented holistically in multiple settings, thus covering the family, school, and community. This will reinforce the programme objectives in all settings, increasing the effectiveness, sustainability, and continuity of the interventions. The multiple setting approach promotes the continuity of the values of the intervention in different adolescent environments. It defeats the goals of the intervention if adolescents engage in positive intervention activities at school, but the moment they leave school, they are exposed to negative influences in the family and or community. This gap usually causes a relapse

http://etd.uwc.ac.za

in the behaviours of the adolescents as there may be a lack of consistency in environmental settings. Future interventions directed at reducing high risk-taking behaviours in adolescents may be administered in multiple settings to maintain intervention goals and increase effectiveness. Although this strategy may be costly, it is most likely to result in positive outcomes and sustainable behaviour change.

Additionally, the study's findings show that most interventions are administered for a short period and are once-off events. The findings show that adolescent behavioural change interventions may be more effective if they are long term and ongoing. Continuous reinforcement of positive behaviours during the adolescence stage may be useful in building positive habitual behaviours. The study revealed that young people in this developmental stage are inclined to impulsivity in behaviour choices. Prolonged guidance and nurturing may improve adolescents' behaviour compared to more immediate remedies that usually have short-term positive effects. Embedding some of the interventions in school curriculums may be a positive step towards consistency and sustainability.

- Moreover, follow-up periods may be increased to monitor and evaluate the intervention outcomes effectively. Future research may be useful to include refresher courses and activities during follow-up periods that act as reminders of lessons learnt in the programmes. The study also shows that most interventions target small numbers of adolescents, yet many youths are being influenced by their peers and thereby remain at risk. Implementing large scale interventions may be useful in reaching a greater number of adolescents. In addition, monitoring and evaluating interventions should be done to increase the sustainability and continuity of positive intervention results. Proper monitoring and evaluation pave the way for the refinement of interventions for future improvements.

http://etd.uwc.ac.za

- The study also shows a need for more interventions that prevent the onset of negative behaviours as early as possible, i.e., from early adolescence, instead of reactive and correctional interventions in late adolescence. If many young adolescents are prevented from engaging in risk-taking behaviours, the adopted positive behaviours are most likely to persist into late adolescence and adulthood. It is more difficult to rectify habitual negative behaviours; therefore, more emphasis should be on preventive measures. Future research may boost and refine preventive interventions to reduce the number of adolescents engaging in risk-taking behaviours. There is a need for more skilled behavioural specialists in schools and communities for early identification of negative behavioural cues so that children can be helped earlier.
- There is a need for creating youth-friendly environments in our communities. Youth community centres that offer entertainment and safe fun for teenagers may help keep them from engaging in destructive behaviours. Facilities such as youth sports clubs, social clubs, and cinemas may deter and limit youth involvement in risky behaviours if available in communities. Community youth health care centres and youth mental health care centres where teenagers can readily receive information on various issues such as sex education, coping with depression, etc., may help build healthier communities.
- The study's finding also showed that some participants are not comfortable having their teachers facilitate the interventions as they are uncomfortable discussing personal issues with their teachers. To prioritise the participants' comfortability in intervention delivery, it is important to assess the nature of the intervention and allocate the appropriate programme implementers that will make the participants most comfortable. Openly explaining and reinforcing confidentiality and the consequences for lack of adherence may reassure the participants. Building trust between the teachers and their

http://etd.uwc.ac.za

students may eradicate some of the fears and reservations the participants may have in opening up to their teachers during the interventions.

- The study shows that the availability and access of illicit substances in communities, families and institutions continues to expose the adolescents to high-risk behaviours which in turn derails any efforts to curb and reduce substance use problems. Interventions that included strict monitoring and stringent laws prohibiting adolescents from having access to substances were more effective in reducing substance intake. The continuous acts of violence and risky sexual behaviours observed by the adolescents from the adults also hinders efforts to reduce the behaviours. Governments need to impose strict rules and regulations and huge penalties for anyone or any business making illicit substances accessible to underage persons. Monitoring mechanisms can be put in place to make sure retailers adhere to imposed regulations. There is a need for collaborative efforts from all sectors such as families, communities, government, law enforcement agencies, policymakers, legislators, non-governmental organisations, businesses, private entities, etc., to create positive environments and behaviours that can be passed on to the youths. Future research may investigate how this can be promoted and envisaged in interventions.

7.6 Final Conclusion

This final chapter presented an overview of the study's findings in relation to the research questions and study's objectives. The contribution of this study is that it seeks to build on the strengths of previous research and offer guidelines in the form of recommendations to address the gaps identified in the SR. Aristotle (n.d.) once said, "Good habits formed at youth make all the difference". With the best interest of our youth at heart, it is this very goal that this study seeks to achieve.

http://etd.uwc.ac.za

REFERENCES

Abdulraheem, A. F. O., Olalekan, R. M. & Abasiekong, E. M. (2018). Mother and father adolescent relationships and substance use in the Niger Delta. A case study of 25 communities in Yenagoa local government of Bayelsa State Nigeria. *Sociology International Journal,* 2(6), 541-548. doi 10.1546/sij.2018.02.00097

Adimora, D. E., Akaneme, I. N., & Aye, E. N. (2018). Peer pressure and home environment as predictors of disruptive and risky sexual behaviours of secondary school adolescents. *African Health Sciences*, *18*(2), 18–226. https://doi.org/10.4314/ahs.v18i2.4

Akinsola, E. F. (2011). Relationship between parenting styles, family type, personality disposition and academic achievement of young people in Nigeria. *Psychology Journals*, *19*(4), 246–267. https://doi.org/10.4314/ifep.v19i2.69539

Anderson, M. B., Okwumabua, T. M. & Thurston, I. B. (2017). Condom carnival: feasibility of a novel group intervention for decreasing sexual risk. *Sex Education*, *17*(2), 135–148. https://doi.org/10.1080/14681811.2016.1252741

Animasahun, V. J., Sholeye, O. O., & Oduwole, A. D. (2016). Promoting the sexual and reproductive health of adolescent females in Ijebu-Ode, southwest, Nigeria: a study of sexual risk-taking. *International journal of adolescent medicine and health*, *29*(6), /j/ijamh.2017.29.issue-6/ijamh-2016-0021/ijamh-2016-0021.xml. https://doi.org/10.1515/ijamh-2016-0021

Anju, G., Hanish, K., & Ira, D. (2016). Literature search for research planning and identification of research problem. *Indian Journal of Anaesthesia*, *60*(9), 635–639. https://doi.org/10.4103/0019-5049.190618

Antoniadou, N., Kokkinos, C. M., & Fanti, K. A. (2019). Traditional and cyber bullying/victimization among adolescents: Examining their psychosocial profile

http://etd.uwc.ac.za

through latent profile analysis. *International Journal of Bullying Prevention*, *1*(2), 85–98. https://doi.org/10.1007/s42380-019-00010-0

Anyon, Y., Ong, S. L. & Whitaker, K. (2014). School-Based Mental Health Prevention for Asian American Adolescents: Risk Behaviors, Protective Factors, and Service Use. *Asian American Journal of Psychology*, *5*(2), 134–144. https://doi.org/10.1037/a0035300

Asrese, K., & Mekonnen, A. (2018). Social network correlates of risky sexual behavior among adolescents in Bahir Dar and Mecha Districts, North West Ethiopia: an institution-based study. *Reproductive health*, *15*(1), 61. https://doi.org/10.1186/s12978-018-0505-8

Bandura, A. (2011). Social and policy impact of social cognitive theory. In M. M. Mark, S. I. Donaldson & B. Campell (Eds.), *Social psychology and evaluation* (pp. 33–70). Guilford.

Bandura, A. (1963). Principles of behaviour modification. Holt Company Publishers. New York.

Barker, J. E., Semenov, A. D., Michaelson, L., Provan, L. S., Snyder, H. R., & Munakata, Y. (2014). Less-structured time in children's daily lives predicts self-directed executive functioning. *Frontiers in Psychology, 5(*593), 1–16. doi:http://dx.doi.org/10.3389/fpsyg .

Barter C, McCarry M. (2013). Love, power and control: girl’s experiences of relationship exploitation and violence. In: Lombard N, McMillan L (editors). Violence against women: current theory and practice in domestic abuse, sexual violence and exploitation. London: Jessica Kingsley Publishers. p. 103-24.

Bartolata, J. L. (2014). *Levels of Diction.* Bicol University.

http://etd.uwc.ac.za

Basic, J. (2015). Community mobilization and readiness: planning flaws which challenge effective implementation of "Communities that care" prevention system. *Substance Use & Misuse*, *50*(8), 1083–1088. https://doi.org/10.3109/10826084.2015.1007655

Beatriz, E. D., Lincoln, A. K., Alder, J., Daley, N., Simmons, F., Ibeh, K., Figueroa, C. & Molnar, B. E. (2018). Evaluation of a teen dating violence prevention intervention among urban middle-school youth using youth participatory action research: Lessons learned from Start Strong Boston. *Journal of Family Violence*, *33*(1), 563–578. https://doi.org/10.1007/s10896-018-9981-4

Bergman, P., Dudovitz, R. N., Kulwant, K., Dolsangh, M. A. & Wong, M. D. (2019). Engaging parents to prevent adolescent substance use, a randomised controlled trial. *AJPH Open Themed Research, 109*(10), 1455–1461. https://doi.org/10.2105/AJPH.2019.305240

Berk, L. (2014). *Development through the lifespan* (7th ed.). Pearson.

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review, 41*, 27–36.

Best Practices Database.UNCHS (Habitat) and the Together Foundation. (2016). A catalogue of good and best practices in a number of health, human service, and development areas. United Nations Press.

Bodrova, E., Germeroth, C., & Leong, D. J. (2013). Play and self-regulation: Lessons from Vygotsky. *American Journal of Play*, *6*(1), 111–115.

Boersma, P., Van Weert, J. C. M., Lakerveld, J., Dröes, R-M. (2014). The art of successful implementation of psychosocial interventions in residential dementia care: a systematic review of the literature based on the RE-AIM framework. *International Psychogeriatrics, 27*(1), 19–35. https://doi.org/10.1017/S1041610214001409

http://etd.uwc.ac.za

Bowes, L., Aryani, F., Ohan, F., Haryanti, R. H., Winarna, S., Arsianto, Y., Budiyawati, H., Widowati, E., Saraswati, R., Kristianto, Y., Suryani, Y. E., Ulum, D. F., & Minnick, E. (2019). The development and pilot testing of an adolescent bullying intervention in Indonesia- the ROOTS Indonesia program. *Global Health*, *12*(16), 1–13. https://doi.org/10.1080/16549716.2019.1656905

Bowron, R. (2017). What is a Systematic Review? https://libguides.apsu.edu/systematic-reviews.

Boyd, D. T., Opara I., Quinn, C. R., Waller, B., Ramos, S. R., Duncan, D. T. (2021). Associations between parent-child communication on sexual health and drug use and use of drugs during sex among urban black youth. *International Journal of Environment Res Public Health*, *18*(10), 5170. https://doi.org/10.3390/ijerph18105170

Boz, A. & Ergeneli, A. (2013). A Descriptive analysis of parents and women entrepreneurs in Turkey. *Journal Intellectual Economics*, *7*(15), 63–73. https://doi.org/10.1016/j.sbspro.2013.12.425

Brook, R. D., Rajagopalan, S., Pope, C. A., Brook, J. R., Bhatnagar, A., Diez, R., A., V., Holguin, F., Hong, Y., Luepker, R.V., Mittleman, M.A., Peters, A., Siscovick. D., Smith, S. C., Whitsel, L. & Kaufman J., D. (2010). Physical Activity and Metabolism. Particulate matter air pollution and cardiovascular disease. *Journal of Circulation*.121(21), 2,331–2,378.

Brittain, K., Myer, L., Phillips, N., Cluver, L. D., Zar, H. J., Stein, D. J., & Hoare, J. (2019). Behavioural health risks during early adolescence among perinatally HIV-infected South African adolescents and same-age, HIV-uninfected peers. *AIDS Care*, *31*(1), 131–140. https://doi.org/10.1080/09540121.2018.1533233

http://etd.uwc.ac.za

Burnett Heyes, S., Jih, Y. R., Block, P., Hiu, C. F., Holmes, E.A., & Lau, J. Y. (2015). Relationship reciprocation modulates resource allocation in adolescent social networks: Developmental effects. *Child Development, 86*(1), 1489–1506.

Calafat, A., Garcia, F., Juan, M., Becona, E., Fernandez-Hermina, J. R. (2014). Which parenting style is more protective against adolescent substance use? Evidence within the European context. *Drug Alcohol Depend*, *138*(1), 185–192. https://doi.org/10.1016/j.drugalcdep.2014.02.705

Castillo-Arcos, L. C., Benavides- Torres, R. A., Lopez- Rosales, F., Ornfre-Rodriguez, D. J., Valdez- Montero, C. & Maas-Gongora, L. (2016). The effect of an Internet-based intervention designed to reduce HIV/AIDS sexual risk among Mexican adolescents. *Aids Care, 28*(2), 191–196. http://orcid.org/0000-0002-4368-4735.

Centre for Disease Control (CDC). (2017a). Diagnoses of HIV Infection in the United States and Dependent Areas, *HIV Surveillance Report 2016, 28.*

Centre for Disease Control (CDC). (2017b). *Sexually Transmitted Disease Surveillance 2016Cdc-pdf.* Department of Health and Human Services. https://www.cdc.gov/std/SyphSurvReco.pdf.

Centre for Disease Control (CDC). (2018). Youth Risk Behaviour Surveillance—United States, 2017. *MMWR Surveillance Summary*, *67*(8), 1–33. https://doi.org/10.15585/***mmwr***

Centre for Disease Control and Prevention South Africa. (2019). *Global Health South Africa*.

Chawla, N., & Sarkar, S. (2019). Defining "High-risk Sexual Behavior" in the Context of Substance Use. *Journal of Psychosexual Health*, 1(1), 26–31. https://doi.org/10.1177/2631831818822015

Cheung, S. K., & McBride, C. (2016). Effectiveness of parent-child number board game playing in promoting chinese kindergarteners' numeracy skills and mathematics

http://etd.uwc.ac.za

interest. *Early Education and Development, 1*(1), 1–18. https://doi.org/10.1080/10409289.2016.1258932

Chirwa-Kambole, E., Svanemyr, J., Sandøy, I., Hangoma, P., & Zulu, J. M. (2020). Acceptability of youth clubs focusing on comprehensive sexual and reproductive health education in rural Zambian schools: a case of Central Province. *Health Service Research*, *20*(1), 20–42. https://doi.org/10.1186/s12913-020-4889-0

Chivandire, C. T., & January, J. (2016). Correlates of cannabis use among high school students in Shamva District Zimbabwe. A descriptive cross-sectional study. *Malawi Medical Journals*, *28*(2), 53–56. https://doi.org/10.4314/mmj.***v28i2***.5

Chou, L., Shen, I. C., Chu, T. P., & Chen, M. (2020). Effectiveness of a school-based social marketing intervention to promote adolescent sexual health. *Health Education Journal 79*(1), 34–45 https://doi.org/10.1177/0017896919862597

Chung, T., Creswell, K. G, Bachrach, R., Clark, D. B, & Martin, C. S. (2018). Adolescent Binge Drinking. *Alcohol Research Current Reviews*, *39*(1), 5–15.

Coelho, K. R. (2012). Emotional intelligence*: An untapped resource for alcohol and other drug related prevention among adolescents and adults*. California University. https://doi.org/10.1155/2012/281019

Cohen, J. R., Shorey, R. C., & Menon, S. V. (2018). Predicting teen dating violence perpetration. *Pediatrics*, *141*(4), 2017–2790. https://doi.org/10.1542/peds.2017-2790

Cooper, K., & Gosnell, K. (2015). *Foundations and Adult Health Nursing*. (7th ed.). Canada.

Coyle, K. K., Glassman, J. R., Franks H. M., Campe, S., Denner, J., & Lepore, G. (2013). Interventions to reduce sexual risk behaviours in youth in alternative schools: *A Randomised Control Trial*, *13*(6), 1–14. DOI: 10.1016/j.jadohealth.2012.12.012

http://etd.uwc.ac.za

Cruz, A. D., Hamilton, E., & Jack, S. I. (2012). Understanding entrepreneurial cultures in family business: A study of family entrepreneurial teams in Honduras. *Journal of Family Business Strategy*, *3*(3), 147–161. https://doi.org/10.1016/j.jfbs.2012.05.002

Daniels, J., Crum, M., Ramaswamy, M., & Freudenberg, N. (2011). Creating REAL MEN: Description of an intervention to reduce drug use, HIV risk, and rearrest among young men returning to urban communities from jail. *Health Promotion Practice*, *12*(1), 44–54. DOI: 10.1177/1524839909331910

Daura, E., Tolou-Shams, M., Skipalska, H., Bachmaha, M., & Hodgdon, S. (2018). Outcomes of the "STEPS" HIV prevention training program for young males in the penitentiary institution, *Journal Prison Health Ukraine,* *14*(2), 101–108. https://doi.org/10.1108/ijph-02-2017-0007

De La Rue, L., Polanin, J. R., Espelage, D. L. & Pigott, P. D. (2017). A Meta-analysis of school-based interventions aimed to prevent or reduce violence in teen dating relationships. *Review of Educational Research,* *87*(1), 7–34. https://doi.org/10.3102/0034654316632061

Dembo, R., Briones-Robinson, R., Barrett, K., Ungaro, R., Winters, K. C., Belenko, S., Karas, L. M., Gulledge, L., & Wareham, J. (2014). Brief intervention for truant youth sexual risk behavior and marijuana use. *Journal of Child & Adolescent Substance Abuse*, *23* (1), 318–333. https://doi.org/10.1080/1067828X.2014.928116

De Veld, L., van Hoof, J. J., Ouwehand, S., & van der Lely, N. (2020). Age at First Alcohol Use as a Possible Risk Factor for Adolescent Acute Alcohol Intoxication Hospital Admission in the Netherlands. *Alcoholism, clinical and experimental research*, *44*(1), 219–224. https://doi.org/10.1111/acer.14226

De Wet, C. 2012.The Cape Times's portrayal of school violence. *South African Journal of Education*, *36*(2), 1–12. https://doi.org/10.15700/saje/v36n2a1231

http://etd.uwc.ac.za

Dick, B. & Ferguson, J. (2015). Health for the worlds' adolescents: a second chance in the second decade. *Journal of Adolescence Health*, *1*(56), 3–6. https://doi.org/10.1016/j.jadohealth.2014.10.260

Dickerson, K. L., Milojevich, H. M., & Quas, J. A. (2019). Early environmental unpredictability: implications for youth's perceptions and social functioning. *Journal of Youth and Adolescence, 48*(1), 1754–1764. https://doi.org/10.1007/s10964-019-01052-9

Divan, V., Cortez, C., Smelyanskaya, M., & Keatley, J. (2016). Transgender social inclusion and equality: a pivotal path to development. *Journal of the International AIDS Society*, *19*(3), 20803. https://doi.org/10.7448/IAS.19.3.20803

Doubova, S. V., Martinez-Vega, I. P, Infante-Castaneda, C., & Pe´rez-Cuevas, R. (2017). Effects of an internet-based educational intervention to prevent high-risk sexual behavior in Mexican adolescents. *Health Education Research, 32*(2), 487–498. https://doi.org/10.1093/her/cyx074

El-Tholos, H. S., Alqahtani, F. D., Aljabri, A. A., Alfaryan, K. H., Alharbi, F., & Alhowaimil, A. A., Alkharji, A., Alrwaily, A., Obied, A. & Al- Afraa, A. (2018). Knowledge and attitude about sexually transmitted diseases among youth in Saudi Arabia. *Urology Annals*, *10*(2), 198–202. https://doi.org/10.4103/UA.UA_14_17

Eriksen, T. L. M., Nielsen, H. S, & Simonsen, M. (2014). Bullying in elementary school. *The Journal of Human Resources, 49*(4), 839–871.

Erwin, E., Brotherson, M., & Summers, J. (2011). Understanding qualitative metasynthesis. *Journal of Early Intervention, 33*(3), 186–200. https://doi.org/10.1177/1053815111425493

http://etd.uwc.ac.za

Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2013). The impact of a middle school program to reduce aggression, victimization, and sexual violence. *Journal for Adolescents Health*, *53*(1), 180–186. DOI: 10.1016/j.jadohealth.2013.02.021

Estabrooks, P. A., & Allen, K. C., (2012). Updating, employing and adapting: A commentary on what does it mean to "employ" The RE-AIM Model. *Journal Evaluation & the Health Professions*, *36*(1), 67–72. https://doi.org/10.1177/0163278712460546

Farahani, F. K., Darabi, F., & Yaseri, M. (2020). The effect of theory-based HIV/AIDS educational program on preventive behaviors among female adolescents in Tehran: A randomised controlled trial. *Journal Reproductive Infertility*, *21*(3), 194–206. http://www.jri.ir

Fell, J. C., Scherer, M., & Voas, R. (2015). The Utility of Including the Strengths of Underage Drinking Laws in Determining Their Effect on Outcomes. *Alcoholism, clinical and experimental research*, *39*(8), 1528–1537. https://doi.org/10.1111/acer.12779

Fetene, N. & Mekonnen, W. (2018). The prevalence of risky sexual behaviors among youth. Centre reproductive health clinics users and non-users in Addis Ababa, Ethiopia: A comparative. *Cross-Sectional Study*, *13*(6), 13–71. https://doi.org/10.1371/journal.pone.0198657

Frantz, J., & Chandeu, M. (2011). School based intervention on physical inactivity as a risk factor of chronic disease of lifestyle. *African Journal of Physical Health, Recreation and Dance*, *1*(1), 39–48. https://doi.org/10.4314/ajpherd.v17i3.68071

Gaglio, B., & Glasgow, R. E. (2012). Evaluating approaches for dissemination and implementation research. In R. C. Brownson, G. A. Colditz, & E. K. Proctor (Eds.), *Dissemination and implementation research in health: Translating science to practice* (pp. 327–356). Oxford University Press.

http://etd.uwc.ac.za

Gaglio, B., Shoup, J. O., Russell, E. & Glasgow, R. E. (2013). The RE-AIM Framework: A systematic review of use over time. *American Journal of Public Health*, *103*(6), 38–46. https://doi.org/10.2105/AJPH.2013.301299.

Gariepy, A. M., Hieftje, K., Pendergrass, T., Miller, E., Dziura, J. D., & Fiellin, L. E. (2018). Development and feasibility testing of a videogame intervention to reduce high risk sexual behaviour in black and Hispanic adolescents, *Games for Health Journal*, *7*(6), 1–20. https://doi.org/10.1089/g4h.2017.0142

Garvin, C. (2017). Designing and facilitating groups with adolescents. *Encyclopedia of Social Work, 97*(8), 1–9. https://doi.org/10.1093/acrefore/9780199975839.013.1229

George, M. J., Jensen, M. R., Russell, M. A., Gassman-Pines, A., Copeland, W. E., Hoyle, R. H. & Odgers, C. L. (2020). Young adolescents' digital technology use, perceived impairments, and well-being in a representative sample. *The Journal of Paediatrics, 219,* 180–187. https://doi.org/10.1016/j.jpeds.2019.12.002

Gessner, R., Fonseca, R., & Oliveira, R. (2016). Violence against adolescents: an analysis based on the categories of gender and generation, *48*(1), 102–108. https://doi.org/10.1590/S0080-623420140000600015

Giannotta, F., Ortega, E. & Stattin, H. (2013). An attachment parenting intervention to prevent adolescents' problem behaviors: a pilot study in Italy. *Child Youth Care Forum*, *42*(1), 71–85. https://doi.org/10.1089/g4h.2017.0142

Gibbon, K., Walklate, S., McCulloch, J., & Maher, J. (2017). Criminology, gender, and security in the Australian context: Making women's lives matter. *Theoretical Criminology*, *23*(1), 60–77. https://doi.org/10.1177%2F1362480617719449

Gordon, A. M., & Browne, K. W. (2017). *Beginnings and beyond. foundations of early childhood.* (10th ed.). Boston Cengage Learning.

http://etd.uwc.ac.za

Green, R., Jason, H., & Ganz, D. (2015). Underage drinking: does the minimum age drinking law offer enough protection? *International journal of adolescent medicine and health*, *27*(2), 117–128. https://doi.org/10.1515/ijamh-2015-5002

Green, M., & Piel, J. A. (2009). *Theories of human development*: *A comparative approach* (2nd ed.). Prentice-Hall, Inc.

Griffin, K. W. & Botvin G. J. (2010). Evidence-based Interventions for Preventing Substance Use Disorders in Adolescents. *Child Adolescent Psychiatry Clinic, 19*(3), 505–526. https://doi.org/10.1016/j.chc.2010.03.005

Grigsby, T. J., Forster, M., Unger, J. B. & Sussman, S. (2016). Predictors of alcohol related negative consequences in adolescents: A systematic review of the literature and implications for future research. *Journal of Adolescence*, *48*(1), 18–35. https://doi.org/10.1016/j.adolescence.2016.01.006

Gutierrez, A., & Sher, L. (2015). Alcohol and drug use among adolescents: an educational overview. *International journal of adolescent medicine and health*, *27*(2), 207–212. https://doi.org/10.1515/ijamh-2015-5013

Hailemariam, M., Bustos, T., Montgomery, B. (2019). Evidence-based intervention sustainability strategies: a systematic review. *Implementation* Science, *14*(57), 1–7. https://doi.org/10.1186/s13012-019-0910-6

Harinie, L. T., Sudiro, A., Rahayu, M., & Fatchan, A. (2017). Study of the Bandura's social cognitive learning theory for the entrepreneurship learning Process. *Social Sciences*, *6*(1), 1–6. https://doi.org/10.11648/j.ss.20170601.11

Harris, L. W., & Cheney, M. K. (2018). Positive Youth Development Interventions Impacting the Sexual Health of Young Minority Adolescents: A Systematic Review. *Journal of Early Adolescence, 38*(1), 74–117. https://doi.org/10.1177/0272431615578693

http://etd.uwc.ac.za

Hathorn, E., Dhasmana D., Duley, L., & Ross, J. (2014). The effectiveness of gentamicin in the treatment of Neisseria, gonorrhoea A systematic review. *Systematic Reviews, 3*(1), 104. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4188483/

Hellfeldt, K., Gill, P. E., & Johansson, B. (2018). Longitudinal analysis of links between bullying victimization and psychosomatic maladjustment in Swedish school children. *Journal of School Violence*, *17*(1), 8698. https://doi.org/10.1080/15388220.2016.1222498

Hernandez-Serrano, O., Griffin, K. W. & Orgiles, M. (2013). Public commitment, resistance to advertising, and Leisure promotion in a school-Based drug abuse prevention program: A Component dismantling study. *Journal Drug Education*, *43*(4), 331–351. https://doi.org/10.2190/DE.43.4.c ·

Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A. & Kraus, L. (2012). *The 2011 ESPAD Report: Substance Use Among Students in 36 European Countries.* Sweden: The Swedish Council for Information on Alcohol and Other Drugs (CAN).

Hardiningsih, T.T., & Yuwono, S. (2014). The Relationship Between Social Support and Resilience in Adolescents at the Orphanage Muhammadiyah Muhammadiyah Surakarta. (Unpublished Undergraduate Thesis). Muhammadiyah University of Surakarta: Surakarta.

Higgins, J., & Green, S. (2011). *Cochrane handbook for systematic reviews of intervention* (Vol. 4). John Wiley & Sons.

Hodgson, K., Hutchinson, A. D., & Denson, L. (2014). Nonpharmacological Treatments for ADHD: A Meta-Analytic Review. *Journal of Attention Disorders*, *18*(4), 275–282. https://doi.org/10.1177/1087054712444732

http://etd.uwc.ac.za

Holt, E., & Brown, H. C. (1931). Animal drive and the learning process: an essay toward radical empiricism. New York.

Hoque, M. E., Powell-Jackson, T., Dasgupta, S. K., Chowdhury, M. E, Koblinsky, M. (2012). Costs of maternal health-related complications in Bangladesh. *Journal of Health Population and Nutrition*, *30*(2), 205–212. https://doi.org/10.3329/jhpn.v30i2.11315

Human Sciences Research Council (HSRC). 2017. The Health of Educators in Public Schools in South Africa. https://healtheducationresources.unesco.org

Hussain, A., Zaheer, S., & Shafique, K. (2018). School-based behavioural intervention to reduce the habit of smokeless tobacco and betel quid use in high-risk youth in Karachi: A randomised controlled trial. *PLoS ONE*, *13*(11), e0206919. https://doi.org/10.137/journal.pone.0206919

Hutchinson, N., & Bodicoat, A. (2015). The Effectiveness of Intensive Interaction, A Systematic Literature Review. *Journal of Applied Research in Intellectual Disabilities, 28*(6), 437–454. https://doi.org/10.1111/jar.12138

Jackson, C., Geddes, R., & Frank, J. (2012). Interventions to prevent substance use and risky sexual behaviour in young people: a systematic review. *Journal of Addiction, 107*(4), 733–747. https://doi.org/10.1111/*j*.1360-0443.2011.03751.x.

Jackson, C. A, Henderson, M., Frank, J. W., & Haw, S. J. (2012). An overview of prevention of multiple risk behaviour in adolescence and young adulthood, *Journal of Public Health*, *34*(1), 31–40. https://doi.org/10.1093/pubmed/fdr113

Jan, C. (2018). Meta- Synthesis of Qualitative Studies. Background, Methodology and Applications, *NORDSCI Conference on Social Sciences*, *1*(13), 1–10. DOI:10.32008/NORDSCI2018/B1/V1/13

http://etd.uwc.ac.za

Jander, A., Mercken, L., Crutzen, R., & De Vries, H. (2013). Determinants of binge drinking in a permissive environment: Focus group interviews with Dutch adolescents and parents. *Public Health, 13*(1), 882–895. https://doi.org/10.1186/1471-2458-13-882

Jauregui, E. (2015). Using the Re-Aim Framework to evaluate physical activity public health activities in Mexico. *Journal of Public Health, 15*(1), 162. https://doi.org/10.1186/s12889-015-1474-2

Jennings, J. M., Howard, S. & Perotte, C. L. (2014). Effects of a school-based sexuality education program on peer educators: The Teen PEP model. *Health Education Research, 29*(2), 319–329. https://doi.org/10.1093/her/cyt153

Jinlu, S. & Liqun, C. (2021). Explaining Physical Bullying in Chinese Middle Schools, *Journal of School Violence*, DOI: 10.1080/15388220.2021.1985324

Johnson, S. E., Jones, V., & Cheng, T. L. (2016). Promoting "Healthy Futures" to Reduce Risk Behaviours in Urban Youth: A randomised control trial. *Journal Community Psychology*, *56*(0), 36–45. https://doi.org/10.1007/s10464-015-9754-7

Johnston, L. D., Miech, R. A., O'Malley, P. M., Schulenberg, J. E., & Patrick, M. E. (2018). *Monitoring the future national survey results on drug use, Overview- Key findings on adolescent drug use external*. Institute for Social Research.

Jonas, K., Crutzen, R., van den Borne, B., Sewpaul, R., & Reddy, P. (2016). Teenage pregnancy rates and associations with other health risk behaviors: a three-wave cross-sectional study among South African school-going adolescents. *Reproductive Health*, *13*(50), 1–10. DOI: 10.1186/s12978-016-0170-8

Jull, A., & Chen, R. (2013). Parent-only vs. parent-child (family-focused) approaches for weight loss in obese and overweight children: a systematic review and meta-analysis. https//doi.org/10.1111/obr.12042

http://etd.uwc.ac.za

Kakade, M., Duarte, C. S., Liu, X., Fuller, C. J., Drucker, E., Hoven, C. W., Fan, B., & Wu, P. (2012). Adolescent substance use and other illegal behaviors and racial disparities in criminal justice system involvement: Findings from a US national survey. *American Journal of Public Health, 102*(7), 1307–1310. https://doi.org/10.2105/AJPH.2012.300699

Kaminer, D., du Plessis, B., Hardy, A., & Benjamin, A. (2013). Exposure to violence across multiple sites among young South African adolescents. Peace and Conflict: *Journal of Peace Psychology*, *19*(2), 112–124. https://doi.org/10.1037/a0032487

Kann, L., MacMunus, T., & Harris, W. A. (2018). Youth Risk Behaviour Surveillance. *Morbidity and Mortality Weekly Report Surveillance Summaries*, *67*(8), 1–114. https://doi.org/10.15585/mmwr.ss6708a1

Kapadia, S. (2017). *Adolescence in urban India A cultural construction in a society in transition.* Springer.

Karakos, H. (2014). Positive Peer Support or Negative Peer Influence? The Role of Peers among Adolescents in Recovery High Schools. *Peabody Journal of Education*, *89*(2), 214–228. https://doi.org/10.1080/0161956X.2014.897094

Kassa, S. N., Molla, A. M., & Nigus, C. (2019). Sexual Coercion and Determinant Factors among Female Students in Wollo University, Ethiopia. *Journal of Epidemiology & Community Medicine, 5*(1), 1–13. https://doi.org/10.31872/2018/KJECM-100117.

Kaufman, Z. A., Braunschweig, E. N., Feenay, J., Dringus, S., Weiss, H., Delany-Moretlwe, S., & Ross, D. A. (2014). Sexual risk behavior, alcohol use, and social media use among secondary school students in informal settlements in Cape Town and Port Elizabeth, South Africa. *AIDS and Behavior*, *18*, 1661–1674. DOI: 10.1007/s10461-014-0816-x

Kazdouh, H. E., Ammari, A., Bouftini, S., Fakir, S. E. & Achhab, Y. (2019). Perceptions and intervention preferences of Moroccan adolescents, parents, and teachers regarding risks

http://etd.uwc.ac.za

and protective factors for risky sexual behaviors leading to sexually transmitted infections in adolescents: qualitative findings. *Reproductive Health*, *138*(16), 1–17. https://doi.org/10.1186/s12978-019-0801-y

Kendall, A. D., Bray, B. C., Emerson, E. M., Freels, S. & Donenberg, G. R. (2020). Changes in Externalizing and Internalizing Symptoms Among African American Female Adolescents Over 1 Year Following a Mother-Daughter Sexual Health Intervention. *Journal of Consulting and Clinical Psychology, 88*(6), 495–503. http://dx.doi.org/10.1037/ccp0000491

Kenton, W. (2019). Best Practices. *Investopedia.* https://www.investopedia.com/terms/b/best_practices.asp

Kessler, R. S., Klesges, L. M., Peek, C. J., Benkeser, R. M., Glasgow, R. E., & Purcell, P. (2012). What does it mean to "employ" the RE-AIM framework model? *Evaluation and the Health Professions, 36*(1), 44–66. https://doi.org/10.1177/0163278712446066

Kim-Spoon, J., Holmes, C. & Deater-Deckard, K. (2015). Attention regulates anger and fear to predict changes in adolescent risk-taking behaviors. *Journal of Child Psychology and Psychiatry, 56*(7), 756–765. https://doi.org/10.1111/jcpp.12338

Knight, K. (2015). *Benefits of Using English in the Workplace*. England.

Kohli, A., Remy, M. M., Binkurhorhwa, A. K., Mitmita, M. C., Mirindi, B. C., Mwinja, N. B. Banyewesize, J. H., Ntakwinja, G. M., Perrin, N. A., & Glass, N. (2018). Preventing risky behaviours among young adolescents in eastern Democratic Republic of Congo: A qualitative study. *Global Public Health, 13*(9), 1241–1253. https://doi.org/10.1080/17441692.2017.1317009

Kokkinos, C. M., & Voulgaridou, I. (2017). Relational and cyber aggression among adolescents: Personality and emotion regulation as moderators. *Computers in Human Behavior*, *68*(1), 528–537. https://doi.org/10.1016/j.chb.2016.11.046

http://etd.uwc.ac.za

Korhonen, A., Hakulinen-Viitanen, T., Jylha, A., & Holopainen, A. (2012). Meta-synthesis and evidence-based health care – a method. *Scandinavian Journal of Caring Sciences*, *11*(1), 1027–1034. doi: 10.1111/scs.12003

Korpershoek, H., Harms, T., de Boer, H., van Kuijk, M. & Doolaard, S. (2014). A meta-analysis of the effects of classroom management strategies and classroom management programs on students' academic, behavioural, emotional, and motivational outcomes. Groningen. *Review of Educational Research*, *86*(3). https://doi.org/10/3102/0034654315626799

Kuklinski, M. R., Fagan, A. A., Hawkins, J. D., Briney, J. S., & Catalano, R. F. (2015). Benefit-cost analysis of a randomized evaluation of Communities That Care: monetizing intervention effects on the initiation of delinquency and substance use through grade 12. *Journal of Experimental Criminology*, *11*(2), 165–192. https://doi.org/10.1007/s11292-014-9226-3.

Kumpfer, K. L., Xie, J., & O' Driscoll, R. (2012). Effectiveness of a Culturally Adapted Strengthening Families Program 12–16 Years for High-Risk Irish Families. *Child Youth Care Forum*, *41*(1), 173–195. https://doi.org/10.1007/s10566-011-9168-0

Lachal, J., Revah-Levy, A., Orri, M., & Moro, M. R. (2017). Metasynthesis: An Original Method to Synthesize Qualitative Literature in Psychiatry. *Frontiers in psychiatry*, *8* (1), 269–170. https://doi.org/10.3389/fpsyt.2017.00269

Lakerveld, J., Bots, S., Chinapaw, M., Van, T.M., Kingo, L., & Nijpels, G. (2012). Process evaluation of a lifestyle intervention to prevent diabetes and cardiovascular diseases in primary care. *Health Promotion Practice,* *13*(1), 696–706. https://doi.org/10.1177/1524839912437366

LaMorte, W. M. P. (2016). *Behavioral Change Models: Social Cognitive Theory*. Boston University School of Public Health.

http://etd.uwc.ac.za

Lanter, P. L., Wolff, K. B., Johnson, L. C., Ercolano, E. M., Kilmer, J. R., & Provost, L. (2015). Change IS Possible: Reducing High-Risk Drinking Using a Collaborative Improvement Model, *Journal of American College Health*, *63*(5), 330–336. https://doi.org/10.1080/07448481.2015.1015021

Lee, G. Y., & Lee, D. Y. (2019). Effects of a life skills-based sexuality education program on Korean early adolescents. *Social Behavior and Personality an International Journal, 47*(12), 1–11. https://doi.org/10.2224/sbp.8600

Lee, R. P., Hart, R. I., Watson, R. M., Rapley, T. (2014). Qualitative synthesis in practice: some pragmatics of meta-ethnography. *Qualitative Research*, *15*(1), 334–337. https://doi.org/10.1177/1468794114524221

Leflot, G., Van Lier, P. A. C., Onghena, P., & Colpin, H. (2013). The role of children's on-task behavior in the prevention of aggressive behavior development and peer rejection: A randomized controlled study of the good behavior game in Belgian elementary classrooms. *Journal of School Psychology*, *51*(1), 187–199. https://doi.org/10.1016/j.jsp.2012.12.006

Lekaviciene, R., & Antiniene, D. (2016). High Emotional Intelligence: Family Psychosocial Factors, *217*(1), 609–617. https://doi.org/10.1016/j.sbspro.2016.02.066.

Lim, K. H., Teh, C. H., Heng, P. P., Pan. S, Ling, M. Y., Yusoff, M. F. M., Ghazali, S. M, Kee, C. C., Shaharudin, R., & Lim, L. H. (2018). Source of cigarettes among youth smokers in Malaysia: Findings from the tobacco and e-cigarette survey among Malaysian school adolescents, *Journal of Public Health Tobacco Induced Diseases*, *16*(51), 1–7. https://doi.org/10.18332/tid/96297

Lippold, M. A., Hussong, A., Fosco, G. M. & Ram, N. (2018). Lability in the Parent's Hostility and Warmth Toward Their Adolescent: Linkages to Youth Delinquency and Substance Use. *Developmental Psychology*, *54*(2), 348–361. https://doi.org/10.1037/dev0000415

http://etd.uwc.ac.za

Ling, S., Hawkins, R. & Weber, D. (2011). Effects of a Classwide Interdependent Group Contingency Designed to Improve the Behaviour of an At-Risk Student. *Journal of Behavioural Education,* 20(2), 103-116. https://eric.edu.gov

Lishman, J., Yuill, C., Brannan, J., & Gibson, A. (2014). *Social Work. An Introduction*. Sage.

Long, L. (2014). Routine piloting in systematic reviews—a modified approach? *Systematic Review*, *3*(77), 1–5. https://doi.org/10.1186/2046-4053-3-77.

Mark, M. M., Donaldson, S. I., & Campbell, B. (2011). *Social psychology and evaluation*. The Guilford Press.

Martin, J. A., Hamilton, B. E., Osterman, M. J. K., Driscoll, A. K., & Drake, P. (2018). Births: Final data for 2016. *National Vital Statistics Report*, *67*(8), 1–50.

Mathews, S., Abrahams, N., Martin, L. J., Lombard, C., & Jewkes, R. (2019). Homicide pattern among adolescents: *A national epidemiological study of child homicide in South Africa*, *14*(8), 1–15. https://doi.org/10.1371/journal.pone.0221415

Mavhandu-Mudzusi, A. H., & Asgedom, T. (2016) The prevalence of risky sexual behaviours amongst undergraduate students in Jigjiga University, *Ethiopia Health Sagesoheid*, *21*(17), 179–186. https://doi.org/10.1016/j.hsag.2015.11.002

McInroy, L. B., & Craig, S. L. (2015). Transgender representation in offline and online media: LGBTQ youth perspectives. *Journal for Human Behaviour Social Environment, 25*(6), 606–617. https://doi.org/10.1080/10911359.2014.995392

McLaughlin, A. Campbell, A. & McColgan, M. (2016). Adolescent Substance Use in the Context of the Family: A Qualitative Study of Young People's Views on Parent-Child Attachments, Parenting Style and Parental Substance Use, Substance Use & Misuse, 51:14, 1846-1855, DOI: 10.1080/10826084.2016.1197941

Menon, J. (2018). Gaining Insight into the magnitude of and factors influencing child marriage and teenage pregnancy in Zambia. *Medical Journal Zambia*, *41*(3), 145–149.

http://etd.uwc.ac.za

Miller, J. W., Naimi, T. S., Brewer, R. D., Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, *119*(1), 76–85. https://doi.org/10.1542/peds.

Miller, N. E., & Dollard, J. (1941). Social Learning and Imitation. New Haven: Yale U. Press.

Mncube, V., & Madikizela-Madiya, N. (2014). Gangsterism as a cause of violence in South African schools: The case of six provinces. *Journal of Sociology and Social Anthropology*, *5*(1), 43–50. https://doi.org/10.1080/09766634.2014.11885608

Mohammad, A., & Basim, O. (2020). A Cross-Sectional Study on the Knowledge of Sexually Transmitted Diseases among Young Adults Living in Albaha, Saudi Arabia. *International Journal of Environmental Research and Public Health, 17*(1), 18–72. https://doi.org/10.3390/ijerph17061872.

Moher, D., Liberati A., Tetzlaff, J., & Altman, D. G. (2009). Group Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ, 339,* b2535. https://doi.org/10.1136/bmj.b2535

MOST (UNESCO) (2018). Clearinghouse of Best Practices. Best practices in urban and community development.

Moultrie, T. A. & Timaeus, I. M. (2015). Teenage childbearing and educational attainment in South Africa. *Studies in Family Planning,* *46*(2), 143–160. https://doi.org/10.1111/j.1728-4465.2015.00021.x

Muliyadi, S., Rahardjo, W., & Basuki, H. (2016). The Role of Parent Child- Relationship, Self Esteem, Academic Efficacy to Academic Stress. *Social and Behavioural Sciences, 217*(1), 603–660. https://doi.org/10.1016/j.sbspro.2016.02.063

Mulwa, S., Osindo, J., & Wambiya, E. O. (2021). Reaching early adolescents with a complex intervention for HIV prevention: findings from a cohort study to evaluate DREAMS in

http://etd.uwc.ac.za

two informal settlements in Nairobi, Kenya. *BMC Public Health*, *21*, 1107. https://doi.org/10.1186/s12889-021-11017-y

Mwania, J., M., & Muola, J. M. (2013). Teachers' Labeling of students and its effect on Students' Self-concept: A Case of Mwala District, Machakos County, Kenya. *International Journal of Education and Research, 1*(10), 1–8.

Nabavi, R. T. (2012). *Bandura's Social Learning Theory and Social Cognitive learning theory*. Tehran, Iran. https://davidamerland.com/images/pdf/BandurasTheory.pdf

Naeger, S. (2017). *Emergency department visits involving underage alcohol use: 2010 to 2013 External. Centre for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration*. Rockville.

National Registry for Effective Prevention Programs. (2017). Substance Abuse and Mental Health Services Association. Evidence Based Practices Resource Centre.

Ncontsa, V. N., & Shumba, A. (2013). The nature causes and effects of school violence in South African high schools. *South African Journal of Education*, *33*(3), 1–15.

Notywala, A. (2012). Helping Khayelitsha's children escape gang violence. https://www.groundup.org.za/article/helping.

Nwabisa, J. S., & Sikweyiya, Y. (2015). Programmes for change Addressing sexual and intimate partner violence in South Africa. *South Africa Crime Quarterly*, *51*(1), 1–41. https://doi.org/10.4314/sacq.v51i1.4

Nydegger, L. A., DiFranceisco, W., Quinn, K., & Dickson-Gomez, J. (2016). Gender Norms and Age-Disparate Sexual Relationships as Predictors of Intimate Partner Violence, Sexual Violence, and Risky Sex among Adolescent Gang Members. *Journal Urban Health, 94*(1), 266–275. https://doi.org/10.1007/s11524-016-0068-3

http://etd.uwc.ac.za

Obermeyer, C. M., Bott, S. & Sassine, A. J. (2015). Arab adolescents: health, gender, and social context. *Journal of Adolescents Health*, *57*(1), 252–262. https://doi.org/10.1016/j.jadohealth.2015.01.002

Ogenchuk, M. J. (2012). High School Students' Perceptions of Alcohol Prevention Programs. *Canadian Journal of Education, 35*(10), 156–170. ISSN-0380-2361

Olaoye, T. & Agbede, C. (2019). Prevalence and personal predictors of risky sexual behaviour among in-school adolescents in the Ikenne Local Government Area, Ogun State, Nigeria. *International Journal Adolescence Med Health*. 1(35), 15-35. doi: 10.1515/ijamh-2019-0135.

Ormrod, J. E. (2011). *Educational Psychology: Developing Learners*. Pearson.

Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Rima, A., Allen, N. B., & Viner, R. M. (2016). Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet*, *387*(1), 2423–2478. DOI: 10.1016/S0140-6736(16)00579-1

Perera, U. A. P., & Abeysena, C. (2018). Prevalence and associated factors of risky sexual behaviors among undergraduate students in state universities of Western Province in Sri Lanka: a descriptive cross-sectional study. *Reproductive Health*, *15*(5), 105–110. DOI: 10.1186/s12978-018-0546-z

Perrino, T., Pantin, H., Huang, S., Brincks, A., Brown, C. H., & Prado, G. (2016). Reducing the Risk of Internalizing Symptoms among High-risk Hispanic Youth through a Family Intervention: A Randomized Controlled Trial. *Family Process*, *55*(1), 91–106. https://doi.org/10.1111/famp.12132

Phelphs-Tschang, J. S., Miller, E., Rice, K., & Primack, B. A. (2014). Web-based Media Literacy to Prevent Tobacco Use among High School Students. *Journal of Media Literacy Education, 7*(3), 29–40.

http://etd.uwc.ac.za

Piehler, T. F., & Winters, K. C. (2015). Parental involvement in brief interventions for adolescents marijuana use. *Psychology of Addictive Behaviors*, *29*(3), 512–521. https://doi.org/10.1037/adb0000106

Pires, M., R., Fonseca, R., M. & Padilla B. (2016). Politic of care in the criticism towards gender stereotypes. *Revista Brasileira de Enfermagem*. 69(6):1223-1230. doi: 10.1590/0034-7167-2016-0441. PMID: 27925101.

Population Reference Bureau. (2017). *The Demographic dividend in Africa relies on investment in the reproductive health and rights of adolescents and youth.* Population Reference Bureau: Washington.

Public Agenda. (2017). Facilitation Challenges and Interventions. Video-based training for Facilitators. *League for Innovation in the Community College*. https://www.league.org/project-resource/facilitation-challenges-and-interventions-video-based-training-facilitators.

Puffer, E. S., Green, E. P., Sikkema, K. J., Broverman, S. A., Ogwang-Odhiambo, R. A., & Pian, J. (2016). A church-based intervention for families to promote mental health and prevent HIV among adolescents in rural Kenya: Results of a randomized trial. *Journal of Consulting and Clinical Psychology*, *84*(6), 511–525. DOI: 10.1037/ccp0000076

Purwano, P. (2018, April 18–19). Constructivist Learning Theory: The Contribution to Foreign Language Learning and Teaching. *Conference Paper presented at the 1st Annual International Conference and Language and Literature (AICLL).* Universitas Islam Sumatera Utara, Medan, Indonesia.

Radliff, K. M., Wheaton, J. E., Robinson, K., & Morris, J. (2012). Illuminating the relationship between bullying and substance use among middle and high school youth. *Addictive Behaviour, 37*(4), 569–572. DOI: 10.1016/j.addbeh.2012.01.001

http://etd.uwc.ac.za

Radohl, T. (2011). Incorporating family into the formula: Family-directed structural therapy for children with serious emotional disturbance. *Child and Family Social Work*, *16*(1), 127–137. DOI:10.1111/j.1365-2206.2010.00720.x

Rhew, I. C., Monahan, K. C., Oesterle, S., & Hawkins, J. D. (2016). The Communities That Care brief depression scale: psychometric properties and criterion validity. *Journal of Community Psychology*, *44*(3), 391–398.

Rhoades, B. L., Warren, H. K., Domitrovich, C. E., & Greenberg, M. T. (2011). Examining the link between preschool social-emotional competence and first grade academic achievement: The role of attention skills. *Early Childhood Research Quarterly*, *26*(2), 182–191. https://doi.org/10.1016/j.ecresq.2010.07.003

Ring N. (2011). *A Guide to Synthesising Qualitative Research for Researchers Undertaking Health Technology Assessments and Systematic Reviews*. Edinburgh: NHS Quality Improvement, Scotland.

Ritchwood, T. D., Dave, G., Carthron, D. L., Isler, M. R., Blumenthale, C., Wynn, M., Odulana, A., Lin, F. C., Akers, A.Y., & Corbie-Smith, G. (2016). Adolescents and parental caregivers as lay health advisers in a community-based risk reduction intervention for youth: baseline data from Teach One, Reach One. *Aids Care, 28*(4), 537–542. DOI: 10.1080/09540121.2015.1112348

Riva, K., Allen-Taylor, L., Schupmann, W. D., Mphele, S., Moshashane, N., & Lowenthal, E. D. (2018). *Prevalence and predictors of alcohol and drug use among secondary school students in Botswana: a cross-sectional study*, *BMC Public Health, 18,* 1396. https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-6263-2

Robert, G. H., & Schumann, G. (2017). Reinforcement related behaviour and adolescent alcohol abuse: From localized brain structures to coordinated networks. *Current*

http://etd.uwc.ac.za

Opinion in Behavioural Science, *13*(1), 106–116. https://doi.org/10.1016/j.cobeha.2016.11.008

Robles, E. H., Maynard, B. R., Salas- Wright, C. P., & Todic, J. (2018). Culturally Adapted Substance Use Interventions for Latino Adolescents: A Systematic Review and Meta-Analysis. *Research on Social Work Practice, 28*(7), 789–801. https://doi.org/10.1177/1049731516676601

Rojas, F. L. (2015). Factors affecting academic resilience in middle school students: A case study. *Gist Education and Learning Research Journal*, *11*(1), 63–78. https://doi.org/10.26817/16925777.286

Roman, N. V., & Frantz, J. M. (2013). The prevalence of intimate partner violence in the family: a systematic review of the implications for adolescents in Africa. *Family Practice*, *30*(3), 265–265. https://doi.org/10.1093/fampra/cms084

Rosati, M. J., Cupp, P. K., Chookare, W., Miller, B. A., Byrnes, H. F., Fongkaew, W., Vanderhoff, J., Chamratrithirong, A., Rhucharoenpornpanich, O., & Katharine, A. (2012). Successful Implementation of Thai Family Matters: Strategies and Implications. *Health Promotion Practice*, *13*(3), 355–363.

Rosenfeld, R., Quinet, K., & Garcia, C. A. (2012). *Contemporary Issues in Criminological Theory and Issues*. (2nd ed.). Kindle Edition. Cengage Learning.

Rosenthal, S. M. (2014). Approach to the patient: transgender youth: endocrine considerations. *Journal Clinical Endocrinology and Metabolism, 99*(1), 4379–4389. DOI: 10.1210/jc.2014-1919

Sanci, L., Webb, M., & Hocking, J. (2018). Risk-taking behaviour in adolescents. *Australian Journal of general practice*, *47*(12), 829–834. https://doi.org/10.31128/AJGP-07-18-4626

http://etd.uwc.ac.za

Sandoy, I. F., Mudenda, M., Zulu, J., Musaka, E., Blystal, A., & Makasa, M. (2016). Effectiveness of a girls' empowerment programme on early childbearing, marriage, and school dropout among adolescent girls in rural Zambia: study protocol for a cluster randomised trial. *Trials*, *17*(1), 588. https://doi.org/10.1186/s13063-016-1682-9

Santa Maria, D., Markham, C., Mullen, P. D., & Bluethmann, S. (2015). Parent-Based Adolescent Sexual Health Interventions and Effect on Communication Outcomes: A Systematic Review and Meta-Analyses. *Perspectives on Sexual and Reproductive Health*, *47*(1), 37–50. https://doi.org/10.1363/47e2415

Santrock, J. W. (2012). *Educational Psychology*. (3rd ed.). McGraw Hill.

Scull, T. M., Kupersmidt, J. B., Malik, C. V., & Keefe, E. M. (2018). Examining the efficacy of an mHealth media literacy education program for sexual health promotion in older adolescents attending community college. *Journal of American College Health, 66*(3), 165–177. doi: 10.1080/07448481.2017.1393822

Segalo, L., & Rambunda, A. M. (2018). South African public school teachers' views on right to discipline learners. *South African Journal of Education*, *2*(38), 1–6. http://dx.doi.org/10.15700/saje.v38n2a1448

September, S. J., Rich, E. G., & Roman, N. V. (2015). The role of parenting styles and socio-economic status in parents' knowledge of child development. *Journal Early Child Development Care*, *186*(7), 1060–1078. https://doi.org/10.1080/03004430.2015.1076399

Sharmin, S., Kypri, K., Khanam, M., Wadolowski, M., Bruno, R., Attia, J., Holliday, E., Pallazi, K., & Mattick, R. P. (2017). Effects on parental alcohol rules on risky drinking and related problems in adolescence: Systematic review and meta-analysis. *Drug and Alcohol Dependence*, *178*(1), 243–256. DOI: 10.1016/j.drugalcdep.2017.05.011

http://etd.uwc.ac.za

Shields, N., Nadasen, K., & Hanneke, C. (2015). Teacher Responses to School Violence in Cape Town, South Africa. *Journal of Applied Social Science, 9*(1), 47–64. https://doi.org/10.1177/1936724414528181

Shook, A. C. (2012). A study of preservice educators' dispositions to change behavior management strategies. Preventing School Failure: *Alternative Education for Children and Youth*, *56*(1), 129–136. https://doi.org/10.1080/1045988X.2011.606440

Shumer, D. E., Nokoff, N. J., & Spack, N. P. (2016). Advances in the Care of Transgender Children and Adolescents. *Advances in Pediatrics*, *1*(63). https://doi.org/10.1016/j.yapd.2016.04.018.

Sieving, R. E., McMorris, B. J., Sector-Turner, M., Garwick A.W., Shlafer, R., Beckman, K. J, Pettingell, S. L., Olliphant, J. A. & Seppelt, A. N. (2014). Prime Time: 18 Month violent outcomes of a Clinic Linked Intervention. *Perspective Sex Reproduction Health*, *46*(2), 91–100. https://doi.org/10.1363/46e0914

Smart, J. B., & Brent, I. L. (2010). A grounded theory of behavior management strategy selection, implementation, and perceived effectiveness reported by first-year elementary teachers. *Elementary School Journal*, *110*(1), 567–584. https://doi.org/10.1086/651196

Smith, V., & Devane, D. (2011). Methodology in conducting a systematic review of systematic reviews of healthcare interventions. *BMC Medical Research Methodology, 11*(15), 1–6. https://doi.org/10.1186/1471-2288-11-15.

Snipes, D., & Benotsch, E. G. (2013). High -risk cocktails and high-risk sex: Examining the relation between alcohol mixed with energy drink consumption, sexual behaviour, and drug use in college students. *Addictive Behaviors*, *38*(1), 1418–1423. DOI: 10.1016/j.addbeh.2012.07.011

http://etd.uwc.ac.za

Snyder, J., Low, S., Schultz, T., Barner, S., Moreno, D., Garst, M., Leiker, R., Swink, N., & Schrepferman, L. (2011). The impact of brief teacher training on classroom management and child behavior in at-risk preschool settings: Mediators and treatment utility. *Journal of Applied Developmental Psychology*, *32*(6), 336–345. https://doi.org/10.1016/j.appdev.2011.06.001

Solomon, B. G., Klein, S. A., Hintze, J. M., Cressey, J. M., & Peller, S. L. (2012). A meta-analysis of schoolwide positive behavior support: An exploratory study using single case synthesis. *Psychology in the Schools*, *49*(2), 105–121. https://doi.org/10.1002/pits.20625

South African Police Service (SAPS). 2016. Fact Sheet: South African's Crime Statistics. https://www.thesouthafrican.com

Spirito, A., Hernandez, L., Cancilliere, M. K., Graves, H. & Barnett, N. (2015). Improving Parenting and Parent-Adolescent Communication to Delay or Prevent the onset of Alcohol and Drug Use in Adolescents with Emotional/ Behavioural Disorders: A Pilot Trial. *Journal Child Adolescence Substance Abuse*, *4*(5), 308–322. doi: 10.1080/1067828X.2013.829013

Staecker, E., Puett, E., Afrassiab, S., Ketcherside, M., Azim, S., Wang, A., Rhodes, D., & Cox, C. (2016). Effectiveness of an afterschool-based aggression management program for elementary students. *Professional School Counseling, 19*(1), 125–132.

Stern, C., Jordan, Z., & McArthur, A. (2014). Developing the review question and inclusion criteria. *Am Journal Nursing*, *4*(114), 53–56. https://doi.org/10.1097/01.NAJ.0000445689.67800.86

Stewart, R. (2014), Changing one systematic review at a time; A new development methodology for making a difference. *Development Southern Africa, 31*(4), 581–590. https://doi.org/10.1080/0376835X.2014.907537

http://etd.uwc.ac.za

Stice, E., Gau P. R., & Wade. E. (2010). Efficacy Trial of a Brief Cognitive–Behavioural Depression Prevention Program for High-Risk Adolescents: Effects at 1- and 2-Year Follow-Up. *Journal of Consulting and Clinical Psychology, 78*(5), 623–634. DOI: 10.1037/a0020544

Stigler, M. H., Neusel, E., & Perry, C. L. (2011). School based programs to prevent and reduce alcohol use among youth. *Alcohol Research & Health, 34*(2), 157–162.

Stockings, E. (2016). Prevention, early intervention, harm reduction and treatment of substance use in young people. *Journal Lancet Psychiatry*, *3*(3), 280–296. DOI: 10.1016/S2215-0366(16)00002-X

Stoll, C. R. T., Izadi, S., Fowler, S., Green P., Suls, J., & Colditz, G. A. (2019). The value of a second reviewer for study selection in systematic reviews. *Research Synthesis Methods*, *10*(4), 539–545. https://doi.org/10.1002/jrsm.1369.

Strada, T., Kokoski, C., Collins, D. A., & Shamblen, S. R. (2018). Creating Lasting Family Connections Program. *The America Journal of Family Therapy*, *46*(4), 1–6.

Studer, J. R., & Mynatt, B. S. (2015). Bullying prevention in middle schools: A collaborative approach. *Middle School Journal*, *46*(3), 25–32. https://doi.org/10.1080/00940771.2015.11461912

Sui, X., Massar, K., Kessels, K., Reddy, L. T. E., Ruiter, R. C. A., & Sanders-Phillips, K., (2018). Violence exposure in South African Adolescents: Differential and Cumulative effects on psychological functioning. *Journal of Interpersonal Violence*, *36*(9-10), 1–7.

Suri, H. (2018). Meta-analysis, systematic reviews and research syntheses. In L. Cohen, L. Manion & K. R. B. Morrison (Eds.), *Research Methods in Education* (8th ed., pp. 427–439). Routledge.

http://etd.uwc.ac.za

Szkody, E., Steele, E. H. & McKinney, C. (2020) Links between parental socialization of coping on affect: Mediation by emotion regulation and social exclusion. *Journal of Adolescence*, *80*(1), 60–72. https://doi.org/10.1016/j.adolescence.2020.02.004

Thurman, T. R., Kidman, R., Carton & Chiroro, P. (2016). Psychological and behavioral interventions to reduce HIV risk: evidence from a randomized control trial among orphaned and vulnerable adolescents in South Africa. *AIDS Care*, *13*(51), 8–15. https://doi.org/10.1080/09540121.2016.1146213

Timol, F., Vawda, Y. M., Bhana, A., Moolman, B., Makoae, M. & Swartz, S. (2016). Addressing adolescents' risk and protective factors related to risky behaviours: Findings from a school-based peer-education evaluation in the Western Cape. *Sahara Journal of Social Aspects of HIV/AIDS, 13*(1), 197–207.

Tollefsen, T. K., Darrow, S. M., & Neumer, S. P. (2020). Adolescents' mental health concerns, reported with an idiographic assessment tool. *BMC Psychology, 8*(117), 1–15. https://doi.org/10.1186/s40359-020-00483-5

Truco, E. M., Colder, C. R., Bowker, J. C., & Wieczorek, W. F. (2011). Interpersonal goals and susceptibility to peer influence: Risk factors for intentions to initiate substance use during early adolescence. *The Journal of Early Adolescence, 31*(4), 526–547. DOI:10.1177/0272431610366252

Turi, E., Merqa, B. T., Fekadu, G., & Abajobir, A. A. (2020). Why Too Soon? Early Initiation of Sexual Intercourse Among Adolescent Females in Ethiopia: Evidence from 2016 Ethiopian Demographic and Health Survey. *International Journal Women's Health*, *12*(1), 269–275.

United Nations Educational Scientific and Cultural Organisation (UNESCO). 2017. *School Violence and Bullying. Global Statistics Report.* UNESCO.

http://etd.uwc.ac.za

United Nations Children's Fund (UNICEF). (2015). *Adolescent participation in Decisions Affecting their lives.* https://www.redr.org.in/wp-content/uploads/2019/04/IMEP_AdolescentParticipation_FINAL.pdf

United Nations Children's Fund. (UNICEF). (2017*). A Familiar Face: Violence in the lives of children and adolescents*. UNICEF.

United Nations Children's Fund. (UNICEF). (2018). *Youth Ambassadors and Youth Advocates on World Children's Day. Countries around the world are collaborating with young people to advance children's rights.* UNICEF.

United Nations Centre for Human Settlements. (2018). Meeting Development Goals in Small Urban Centres.UN Habitat.

United Nations Population Fund (UNFPA). (2015). *Adolescents and Youth*. UNFPA.

United Nations Women (2019). *Facts and Figures: Ending violence against women*. https://www.unwomen.org/en/what-we-do/ending-violence-against-women/facts-and-figures

Urben, S., Suter, M., Pihet, S., Straccia, C., & Stephan, P. (2015). Constructive thinking skills and impulsivity dimensions in conduct and substance use disorders: Differences and relationships in an adolescents' sample. *Psychiatric Quarterly, 86*, 207–218. DOI: 10.1007/s11126-014-9320-8

Vannest, K. J., Davis, J. L., Davis, C. R., Mason, B. A., & Burke, M. D. (2010). Effective intervention for behavior with a daily behavior report card: A meta-analysis. *School Psychology Review*, *39*(1), 654–672. https://doi.org/10.1080/02796015.2010.12087748

Vannucci, A., Simpson, E. G., Gagnon, S. & Ohannessian, C. M. (2020). Social media use and risky behaviors in adolescents: A meta-analysis. *Journal of Adolescence*, *79*(1), 258–274. DOI: 10.1016/j.adolescence.2020.01.014

http://etd.uwc.ac.za

Vermeulen-Smit, E., Verdurmen, J. E. E., & Engels, R. C. M. E. (2015). The Effectiveness of Family Interventions in Preventing Adolescent Illicit Drug Use: A Systematic Review and Meta-analysis of Randomized Controlled Trials. *Clinical Child Family Psychology Review, 18*(1), 218–239. DOI: 10.1007/s10567-015-0185-7

Vidourek, R. A., King, K. A., & Montgomery L. (2017). Psychosocial determinants of marijuana use among African American youth. *Journal of Ethnicity in Substance Abuse, 16*(1), 43–65. DOI: 10.1080/15332640.2015.1084256

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, *379*(1), 1641–1652. DOI: 10.1016/S0140-6736(12)60149-4

Volingis, A. M. & Goodness, K. (2017). School violence prevention: Teachers Establishing Relationships with Students Using Counseling Strategies. *Journals of Violence and Schools, 7*(1), 1–11. https://doi.org/10.1177/2158244017700460

Vollebergh, W., Vermeulen-Smit, E., Engels, R. (2014). The role of general parenting and cannabis-specific parenting practices in adolescent cannabis and other illicit drug use. *Drug Alcohol Depend*, *147*(1), 222–228. DOI: 10.1016/j.drugalcdep.2014.11.014

Wager. E., & Wiffen, P., (2011). Ethical issues in preparing and publishing systematic reviews. *Journal of Evidence-based Medicine, 4*(2), 130–134. https://doi.org/10.1111/j. 1756-5391.2011.01122.x.

Wagner, D. E., Fernandez, P., Jordan, J. W. & Saggese, D. J. (2019). Freedom from Chew: Using Social Branding to Reduce Chewing Tobacco Use Among Country Peer Crowd Teens. *Health Education & Behaviour, 46*(2), 286–294. https://doi.org/10.1177/1090198118806966

Wang, Z., Chen, X., Liu, J., Bullock, A., Li, D., & French, D. (2020). Moderating role of conflict resolution strategies in the links between peer victimization and psychological

http://etd.uwc.ac.za

adjustment among youth. *Journal of Adolescence, 79*(1), 184–192. DOI: 10.1016/j.adolescence.2020.01.002

Warnke, A. (2014). Children and adolescents as perpetrators and victims of violence and sexual abuse, *111*(4), 683–684. doi: 10.3238/arztebl.2014.0683

Wechsberg, W. M., Carney, T., Browne, F. A., Myers, B., Minnis, A., MacDonald, R., Ndirangu., J. W., Turner, L. B., Howard, B. N., & Rodman, N. (2018). The Young Women's Health CoOp in Cape Town, South Africa: Study protocol for a cluster-randomised trial for adolescent women at risk for HIV. *BMC Public Health*, *18*(859), 1–11. https://doi.org/10.1186/s12889-018-5665-5

Weeger, M. A., & Pacis, D. (2012). A Comparison of Two Theories of Learning, Behaviorism and Constructivism as applied to Face-to-Face and Online Learning. *Journal of Arabic and English Language, 1*(1), 1–20.

Wicki, M., Kuntsche, S., Stucki, S., Mumet, S., & Annaheim, B. (2018). Outcome evaluation of 'Cool and Clean', a sports-based substance use prevention programme for young people in Switzerland. *Health Education Journal*, 77(2), 226–240. https://doi.org/10.1177/0017896917745105

Wojcik, M., & Helka, A. M. (2019). Meeting the Needs of Young Adolescents; ABBL Anti-Bullying Program During Middle School Transition. *Psychological Reports*, *122*(3), 1043–1067. https://doi.org/10.1177/00332941187668671

Woldeyohannes, D., Asmamaw, Y., Sisay, S., Hailesselassie, W., Birmeta, K., & Tekeste, Z. (2017). Risky HIV sexual behavior and utilization of voluntary counseling and HIV testing and associated factors among undergraduate students in Addis Ababa, Ethiopia. *Public Health*, *17*(1), 121–128. https://doi.org/10.1186/s12889-017-4060-y

Woolfolk, A. (2014). *Educational Psychology*: Unisa Customs Edition. Pearson Education.

http://etd.uwc.ac.za

World Health Organisation (WHO). (2014a). Child and adolescent mental health policies and plans. *Mental Health Policy and Services Guidance Package*, 1–85. https://www.who.int/mental_health/policy/Childado_mh_module.pdf

World Health Organisation (WHO). (2014b). *Global Status Report on Alcohol Abuse and Health.* World Health Organisation.

World Health Organisation (WHO). (2017). *Adolescent Health*. World Health Organisation.

World Health Organisation (WHO). (2019). *WHO and United Nations Definition of Adolescent. World* Health Organisation.

World Health Organisation (WHO). (2021a). *Substance Abuse*. World Health Organisation Africa.

World Health Organisation (WHO). (2021b). *Violence Prevention Alliance*. World Health Organisation.

Wu, L., Woody, G. E., Yang, C., Pan, J., & Blazer, D. G. (2011). Racial/Ethnic Variations in Substance-Related Disorders Among Adolescents in the United States. *General Psychiatry, 68*(11), 1176–1185. DOI: 10.1001/archgenpsychiatry.2011.120

Wudark, M., Kuntsche, E., & Wolstein, J. (2016). Effectiveness of an email-based intervention helping parents to enhance alcohol-related parenting skills and reduce their children's alcohol consumption – A randomised controlled trial. *Drugs Education Prevention Policies*, *24*(2), 144–151. https://doi.org/10.1080/09687637.2016.1201459

Wulandari, A., P., J., & Istiani, I. (2021). The effect of self-esteem and self-efficacy on the academic resilience of undergraduate students in Jakarta IOP Conference Series: Earth and Environmental Science (EES), *716*(1), 012107.

Zulu, J. M. Goicolea, I., Kinsman, J., Sandoy, I. F., Blystad, A., Mulumbwa, C., Makasa, M. C., Michelo, C., Musonda, P., & Hurtig, A. K. (2018). Community-based interventions for strengthening adolescent sexual reproductive health and rights: how can they be

http://etd.uwc.ac.za

integrated and sustained? A realist evaluation protocol from Zambia. *Reproductive Health*, *15*(1), 145–178. DOI: 10.1186/s12978-018-0590-8

http://etd.uwc.ac.za

APPENDICES

APPENDIX A: A-Z DATABASES

Natural Sciences	**Social Science**	**Education & Health**
BioMed Central	African Journals Archive	Academic Search
	(Sabinet)	Complete
		Cochrane Library
Health Source: Consumer	Cambridge Journal Online	EBSCOhost Web
Edition	CINAHL	Ovid
Health Source: Nursing	Journal Citation Reports	Whiley Online Library
Edition	JSTOR	
	Oxford Journals Online	
Medicine Complete	Psych ARTICLES	
PubMed	Sabinet African Journal	
ScienceDirect	Archive	
SCOPUS	Sage Journal Online	
	SocIndex	
	SpringerLink	
	Taylor and Francis eJournals	

http://etd.uwc.ac.za

APPENDIX B: TITLE SHEET

Author	Date	Title and Source	Database	Location Stored	Outcome Inclusion/Exclusion

http://etd.uwc.ac.za

APPENDIX C: ABSTRACT SHEET

Type of Design	Study Population	Instrument/s used	Outcomes	Results of study Analysis/Quality of Results

http://etd.uwc.ac.za

APPENDIX D: RE-AIM FRAMEWORK APPRAISAL TOOL

R	Reach	Score yes – 1; no - 0
	• Does the article indicate who the program is intended for (Inclusion and Exclusion criteria)?	
	• Does the article report on the representativeness of the target population?	
	• Does the article report on participation rate?	
E	**Effectiveness**	**Score yes – 1; no - 0**
	• Did the program achieve the intended objective?	
	• Do they report on the limitations of the intervention?	
	• Reports on at least one outcome of the intervention	
	• Reports on attrition	
A	**Adoption**	**Score yes – 1; no - 0**
	• Is the setting clearly described?	
	• Does the evaluation report on the adoption of the intervention by the participants or the organization? • Who delivered the program?	
I	**Implementation**	**Score yes – 1; no - 0**
	• Describe the duration and frequency of the interventions?	
	• Has the staff/ participants of the organization / intervention been involved in delivering the program (cost implication?	
	• Reports on intended and delivered interventions.	
M	**Maintenance**	**Score yes – 1; no - 0**
	• Does the article report on long term effects of the intervention (after 6 months)	
	• Do they report on the indicators used for intervention follow – up?	

http://etd.uwc.ac.za

APPENDIX E: SCORING SHEET FOR THE CRITICAL APPRAISAL TOOL

	Reach			Effectiveness				Adoption			Implementation			Maintenance		
Author	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Score

http://etd.uwc.ac.za

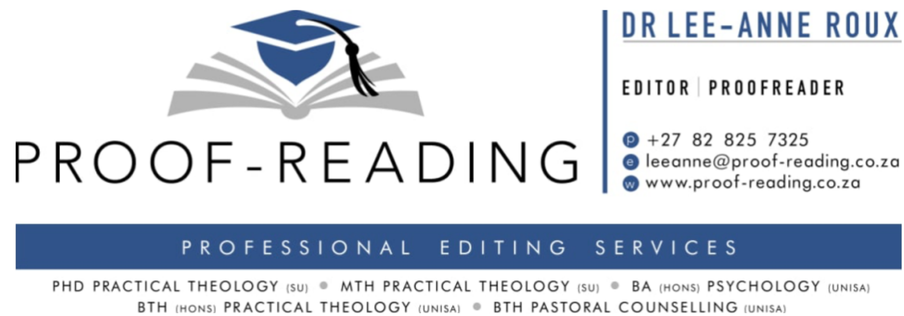
APPENDIX F: RE-AIM DATA EXTRACTION SHEETS

General Description

Author	Population & Sample Size	Geographical Location/ Country	Aim	Problem Statement

http://etd.uwc.ac.za

APPENDIX G: EDITOR'S LETTER



5 September 2021

TO WHOM IT MAY CONCERN

RE: LANGUAGE EDITING

This letter serves to confirm that I have edited the thesis titled:

Interventions directed at reducing high risk-taking behaviour in adolescents. A RE-AIM framework review

RUMBIDZAI KANGIRA MATE

Please feel free to contact me if you need any further information.

Yours sincerely,

Dr Lee-Anne Roux

http://etd.uwc.ac.za

APPENDIX H: ETHICAL CLEARANCE FORM

UNIVERSITY *of the* WESTERN CAPE

20 November 2020

Mrs R Kangira Mate
Social Work
Faculty of Community and Health Sciences

Ethics Reference Number:	HS19/9/30
Project Title:	Interventions directed at reducing high risk-taking behaviour in adolescents, A RE-AIM framework review.
Approval Period:	18 November 2020 – 18 November 2021

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

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

Please remember to submit a progress report in good time for annual renewal.

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

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

NHREC Registration Number: HSSREC-130416-049

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

http://etd.uwc.ac.za