

**MODIFIABLE RISK FACTORS AND THEIR RELATIONSHIP TO RISK
MANAGEMENT STRATEGIES AMONG VIOLENT OFFENDERS AT ELDORET
MAIN PRISON**

BY

COLLINS P. W MANANA

REG NO: C50/13521/2018

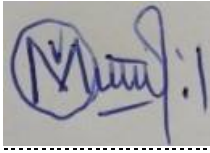
**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF PSYCHOLOGY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
DEGREE OF MASTER OF PSYCHOLOGY (FORENSIC PSYCHOLOGY),
UNIVERSITY OF NAIROBI.**

NOVEMBER 2020

DECLARATION

This project is my own original work and has not been presented for any award in any other university.

Signature



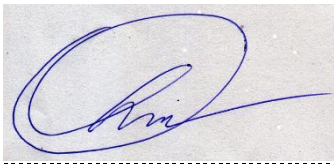
Date 29th Nov, 2020

COLLINS P. W MANANA

REG NO: C50/13521/2018

This project is presented for examination with our approval as the university supervisors.

Signature



Date 30th Nov, 2020

DR. CHARLES KIMAMO

SENIOR LECTURER

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF NAIROBI

DEDICATION

The study is dedicated to our late MAMA DORIS for her firm believe in education and for her unstinted support which has been one of the foundations in all my work.

ACKNOWLEDGEMENT

The accomplishment of this research project would not have been realized without the support and cooperation several people, who to some extent guided me towards my final goal. I would like to pass on my appreciation to them and especially to the following: -

I wish to convey my sincere gratitude to my project supervisor, Dr. CHARLES KIMAMO, for his encouragement, selfless desiccation, and tireless guidance in the realization of this project and DR. LUCAS MWAURA for his direction and holding my hand as I did purse my studies, His kindness and earnest sustenance was of great help on this path.

My heartfelt gratitude goes to my family; my siblings for setting the pace, their support in raising the school fees during the formative levels of my studies and maintaining the spirit of oneness in the family.

A special note of gratitude goes to my dear wife PURITY for her inestimable support and our daughters ARSHLY and ELLA for their inspiration to keep moving.

Immense acknowledgement to my research participants; without you this research would have not been realized.

Most important of all, I extend my gratitude to the Almighty God for vitality, knowledge, good health, and strength that helped make this project a reality and grace to actualize my childhood dream.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
ACRONYMS AND ABBREVIATIONS.....	ix
ABSTRACT.....	x
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	4
1.3 Purpose of the Study	5
1.4 Objectives of the Study.....	5
1.5 Research Questions.....	5
1.6 Research Hypothesis.....	6
1.7 Justification of the Study	6
1.8 Significance of the Study	7
1.9 Scope of the Study	7
1.10 Limitations	8
1.11 Delimitation of the Study.....	8
1.12 Assumption of the study	8
1.13 Definition of Terms.....	9
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1 Introduction.....	10
2.2 Empirical Review.....	10
2.3 Modifiable Risk Factors.....	12
2.4 Risk Management Strategies in Correctional Institutions	15
2.5 Theoretical Explanation of Violence	16
2.6 Causes of Violence	17
2.7 Conceptual Framework.....	19
2.8 Theoretical Model.....	20
CHAPTER THREE: RESEARCH METHODOLOGY.....	22
3.1 Introduction.....	22
3.2 Study Area	22

3.3 Research Design.....	22
3.4 Target Population and Sampling Frame	22
3.5 Sample Size.....	23
3.6 Sampling Procedures	24
3.7 Data Collection Instruments	24
3.8 Pilot Testing.....	25
3.9 Data Collection Procedure	25
3.10 Reliability of the Research.....	25
3.11 Validity of Research Instruments.....	26
3.12 Data Analysis and Presentation	26
3.13 Ethical Considerations	27
CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION.....	28
4.1 Introduction.....	28
4.2 Response Rate and Respondents' Background Information.....	28
4.3 Modifiable Risk Factors.....	31
4.4 Risk Management Strategies at Eldoret Main Prison	35
4.5 The Relationship Between Modifiable Risk Factors and Risk Management Strategies Among Violent Offenders at Eldoret Main Prison	39
4.6 Chapter Summary	39
CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS.....	40
5.1 Introduction.....	40
5.2 Study Findings	40
5.3 Discussion.....	41
5.4 Conclusions.....	45
5.5 Recommendations.....	46
5.6 Suggestions for Future Study.....	47
REFERENCES.....	48
APPENDICES.....	54
Appendix I: Letter of Introduction.....	54
Appendix II: Research Questionnaire.....	55
Appendix III: Research Consent Form	58
Appendix IV: Approved Data Collection Form.....	59
Appendix V: Plagiarism Report.....	60

LIST OF TABLES

Table 3.1: Target Population.....	23
Table 3.2: Sampling Frame.....	24
Table 4.1: Stable Modifiable Risk Factors.....	32
Table 4.2: Acute Modifiable Risk Factors	33
Table 4.3: Risk Management Strategies at Eldoret main Prison	36
Table 4.4: Chi-Square Test	39

LIST OF FIGURES

Figure 2.1: Conceptual Framework	19
Figure 4.1: Respondents Gender	28
Figure 4.2: Respondents Highest Level of Education	29
Figure 4.3: Respondents' Age Bracket	30
Figure 4.4: Respondents' Upbringing.....	30
Figure 4.5: Respondents' Duration in Eldoret Main Prison	31
Figure 4.6: Respondents' Reoffence Rates	32
Figure 4.7: Benefits of Risk Management Strategies	37
Figure 4.8: Recommended Risk Management Strategies	38

ACRONYMS AND ABBREVIATIONS

DAP:	Daily Average Population
DRF's:	Dynamic risk factors
FBI:	Federal Bureau of Investigations
LSI:	Level of Service Inventory
NACOSTI:	National Council of Science and Technology
RMA:	Risk Model Agency
SPSS:	Statistical Package for Social Sciences
START:	Short-Term Assessment of Risk Treatability
US:	United States of America
VRAG-R:	Violence Risk Appraisal Guide-Revised
WHO:	World health Organization

ABSTRACT

Modifiable risk factors assessment and risk management are central to most management decisions made in prisons about offenders, including who should be released, what restrictions are appropriate, and what rehabilitative efforts would be effective. If adopted, the modifiable risk factors assessment and risk management would be useful in predicting future re-offending and at the same time be a useful tool of rehabilitation to build behavior change by identifying a specific treatment program for violent offenders. This research project's purpose was to assess modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison. The study sought to determine the modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison and establish the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. The study was conducted at Eldoret Main Prison. The study applied a descriptive survey method for collecting and analyzing primary data. The target population in the study comprised 152 violent offenders (convicted for robbery with violence, murder, home invasions, burglaries, kidnappings, and armed carjacking). The sample size was 74 violent offenders. The selection of the 74 study participants was attained using a stratified proportionate random sampling technique. For the collection of primary data from the selected study participants, self-administered questionnaires were utilized. Particularly, the drop-and-pick later approach was employed in the self-administration of the questionnaires. Statistical Package for Social Sciences (SPSS Version 25.0) was utilized in the analysis of the obtained data. After cleaning the data, which included checking for entry errors, 55 questionnaires were identified as eligible and appropriate for the data analysis procedure. After the data analysis, the study found seven acute modifiable risk factors, comprising substance abuse, anger or hostility, opportunity or access to victims, a negative mood, employment, interpersonal relationships, and six stable modifiable risk factors including living situations and peer associations, attitudes towards authority, impulse control, problem solving, sense of entitlement, and attachment with others and contributing to offending. The study found five specific risk management strategies implemented by the Eldoret main prison for the management of violent offenders. Finally, a chi square test score of 8.14 was obtained with a p-value of 0.04 which is less than the set significance level of 0.05 indicating significant relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison was found, hence concluding that the established risk management strategies factors impacted the violent offenders' modifiable risk within Eldoret main prison.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Modifiable risk factors are possibly, factors that are changeable like as substance abuse and negative peer relationships. Modifiable risk factors are progressively being imported as explanatory constructed into research and treatment fields and appear to provide increased value in predictive algorithms. According to Blanchard (2013), modifiable risk factors assessment is an effort of identifying the possibility that an individual engages in a specified antisocial behavior in a defined period of follow-up. Risk assessment has a significant contribution in pinpointing the small cluster of people who believe they represent a very high risk of violence to the immediate community and in evaluating their risk levels after and during treatment (Brunton-Smith & Hopkins, 2013).

Modifiable risk factors assessment can be founded on either clinical judgment or on particular 'predictor variables' that can be found in a person's background such as alcohol or other substance abuse, past violent behavior, history of serious mental disorder, age and adequate system of social support are all significant pointers that a person is likely to become violent again (Heffernan, *et.al*, 2019). The assessment includes identifying and managing modifiable risk factors for individuals committing crime, as well as supporting correctional policy formation and prisons', probation systems', and forensic hospitals' therapy programs' funding, forensic hospitals and the probation system (Butchart & Mikton, 2014). The assessment also focuses on criminal justice system. Structured risk assessment has revealed significant accomplishment in forecasting recurrence and constitutes a fundamental foundation on which people can assign themselves to intervention streams (Cording, Beggs Christofferson & Grace, 2016).

Desmarais, *et. al.* (2013) observes that that routine risk and needs assessments are often used in estimating a person's likelihood of recurrence in correctional systems in the United States and provide direction on appropriate corrections. It informs the sentencing process, identifying the need and nature of rehabilitation programs, informs conditional release decisions, and allows community correction officers to customize surroundings to the particular strengths, skills gaps, and rehabilitation challenges of a person (Hanson, *et. al.*, 2017).

In Africa, throughout the past 50 years the assessment of violence risk has changed, from a clinical risk assessment to the latest instruments which integrate various aspects of risk management, intervention selection, and rehabilitation change assessment. In most nations, the criminal justice

systems the assessment of the criminal risk plays an important role and risk assessment is used across a range of areas (Russil, 2016). The risk posed by someone is essential to examine as they make it possible to acclimate the interventions to the specific offender's needs (like in regards to risk level, type/cause of offense), which then contribute to preventing future crimes (Heffernan et.al, 2015).

In Kenya, the violence risk assessment accuracy is significant for many reasons which include informing the process of making legal decisions, decisions on the treatment and supervision needs as well as recidivism likelihoods (Salaam, 2009). Decisions in regard to such factors may be endless for the individual as well as the general public and thus a significant amount of attention has to be paid to violent factors and recurrence. Risk assessment of violent offenders is vital so as to protect the outside community from any harm that would be caused by the inmate once they are released from prison (Desmarais & Singh, 2013).

Risk management is central to most management decisions made about offenders, including who should be released, what restrictions are appropriate and what rehabilitative efforts would be effective (Andrews & Bonta, 2010a, 2010b). Risk management is an area that is often measured by the activities of the police and other relevant agencies, such as probation, in the context of major offences and damage to victims. Criminal risk assessment has a substantial contribution to many different countries' criminal justice systems and the risk evaluation is applied in various fields. Modifiable risk factors assessment and risk management have become a key part of prison management all over the world. This is attributed to increasing cases of violent crimes and criminal activities (Campbell, French & Gendreau, 2009).

Violence is an important public health and social concern in the world. Violence is defined as physical power use with an intention of causing injuries, fatalities, psychological harms or deprivations to other people (Averill, 2016). Although violence can commonly be explained as extreme aggression, violent behaviors are difficult to assess and predict considering inadequate comprehension of their connections with specific mental states. Prior studies have discovered a strong and weak link between violence and several other demographics, environmental and personal factors in psychiatry, forensic psychology, and criminology; usually known as 'risk factors' (Andrews & Bonta, 2006).

Violent offenders are defined as individuals with a likelihood of inflicting serious physical or psychological harm on other people and have as well been the subject of concern to both public

and policy makers (Bellis, Hughes, Wood, Wyke, & Perkins, 2011). Particularly, attention has been drawn to the offenders that harm vulnerable persons (like children and elderly people) or who have failed to receive surveillance after their release from a mental hospital or prison. These people's crimes may include threat of violence (such as "stalking") or physical violence and could have important psychological impacts on the victims. There are diverse crimes and offenders that can now be seen as 'potentially dangerous' (Andrews, Bonta & Wormith, 2004).

Globally, there are deaths of more than 1.3 million people annually because of all forms of violence that is, self-directed, interpersonal and collective. This accounts for 2.5 percent of the global mortality. Violence is perceived to be the fourth most widespread cause of death for individuals aged between of 15 and 44 years globally (WHO, 2014). Report by Krug *et.al* (2002) indicates that on a daily basis, tens of thousands of people throughout the globe suffer fatal violence. They included victims of physical injury in emergency departments and people who have other physical, sexual and psychological abuse, but who cannot bring this information to the attention of health or other officials. The purpose of the present report is to address the issue of interpersonal violence and the abuse of elderly people, as well as violence against women between relatives and family members, intimate partners, friends, acquaintances and foreigners (Claessen, Eijkman & Lamkaddem, 2019).

Violence is perceived to be a key public health issue affecting millions of people in the United Kingdom. The England and Wales' Crime Survey estimated that in 2011/12 there were approximately two million violent instances involving adults (Taylor, 2012). Over that same duration, police in England and Wales recorded about 762,500 crimes. Further study by Bellis (2011) indicates that there have been 53,665 sexual offenses. Within half of the violent police occurrences, half of those reported by adults were injured. In the United States, there were an approximated 1,197,704 violent crimes carried out in 2015. This included an estimated 15,696 murders committed, 327,374 robberies, and 764,449 aggravated assaults. While crime rates have generally been declining since 2011 (FBI, 2015) and this shows why there is need for assessment of modifiable risk factors as well as risk management in US among the violent offenders before releasing them (Craig, Gannon & Dixon, 2013).

Modifiable risk factors assessment and risk management in Kenya has been utilized to assess violent offenders who are fit for release especially through presidents' pardon (Kamau, 2018). Though this have been found effective in establishing the appropriate violent offenders who can

be released, most of prisons authorities have been breaching the provisions of Section 22 of the Power of Mercy Act in their determination of deserving cases to be forwarded to the Power of Mercy Committee for pardon. In settling for the deserving cases, the criteria employed requires the consideration of age, community and state interest, the convict's physical fitness, the duration served by prisoner in remand, the conviction's length, the seriousness of the offence, and whether the convict was a first-time offender. Despite adhering to these provisions, Kamau (2018) posits that most convicted offenders still reenter society and continue to partake in crimes, in even more appalling manner. Hence, the study looked at the evaluation of modifiable risk factors and their connection to risk management strategies among violent criminals at Eldoret Main Prison.

1.2 Statement of the Problem

Modifiable risk factors assessment and risk management are central to most management decisions made in prisons about offenders, including who should be released, what restrictions are appropriate and what rehabilitative efforts would be effective (Blanchard, 2013). If adopted the modifiable risk factors assessment and risk management would be useful in predicting future re-offending and at the same time be a useful tool of rehabilitation so as to build behavior change by identifying a specific treatment program for violent offenders (Kamau, 2018). However, modifiable risk factors assessment and risk management among violent offenders have not been done effectively in most of prisons especially in developing countries like Kenya. This makes it hard to establish the role modifiable risk factors assessment and risk management in reducing the violent crimes (Kimiti & Thinguri, 2016).

In Kenya, despite conducting modifiable risk factors assessments among the violent offenders before deciding to release them, most of the released prisoners, still return to prison immediately upon release. This is because modifiable risk factors assessment measures take into account offender strengths, weaknesses or protective factors. These internal or external variables may mitigate an offender's likelihood of engaging in crime, and accordingly are an important component of risk assessment. The recidivism rate in Kenya is at 47% Rwanda and Tanzania 36% as per Fellowship Kenya (2018). There is an increase in recidivism indicating that reoffending rate is at 50%. The Kenya National Bureau of Statistics economic survey of 2019, showed an increase in the Daily Average Population (DAP) of male offenders which went up by 4% as compared to the survey of 2018 (KNBS survey, 2019).

The concept of modifiable risk factors assessment and risk management has not been adequately explored. Most of studies have looked at risk assessment alone leaving the concept of management. For instance, Vernham *et.al*, (2015) observes that initial risk forecast research shows that the modifiable risk factors are simply described as a series of characteristics or equivocal explanations based on the identified variables to relate to the behavior of offenders. This implies the inadequate determination of modifiable risk factors and that current concepts omit these variables' highly diversified nature, failing to notice the significance of looking at their internal structure.

In addition, Constantine, Freestone, Marsh, Fenton and Coid (2015) looked Risk assessment of violent reoffending among prisoners and Kamau (2018) looked at an evaluation on the significance of risk assessment on rehabilitation strategies of violent offenders at Kamiti Main Prison, Kenya. It is against these contextual gaps that this study sought to assess modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison.

1.3 Purpose of the Study

This research project intended to assess modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison.

1.4 Objectives of the Study

The following objectives guided the study:

- i. To determine the modifiable risk factors among violent offenders at Eldoret main prison.
- i. To determine the risk management strategies among violent offenders at Eldoret main prison.
- ii. To establish the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison.

1.5 Research Questions

The study sought to answer the following questions:

- ii. What are the modifiable risk factors among violent offenders at Eldoret main prison?
- iii. What are the risk management strategies among violent offenders at Eldoret main prison?
- iv. What is the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison?

1.6 Research Hypothesis

The study sought to test the following hypotheses:

H₀: There is no relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison.

H₁: There is a significant relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison.

1.7 Justification of the Study

Modifiable risk factor is a variable which, due to intervention or normal development processes, can change over time. Some modifiable risk factors can change faster than others (for example anger may change fast; a more stable characteristic anger cannot change). Current poor parenthoods, such as incompatible discipline, substance abuse, deviant peer relationships and bad academic achievement are important modifiable risk factors for young people. These factors predict both reoffending and help planning the intervention under certain circumstances.

Risk management and assessment are key elements of discharge planning, the transfer of various safety levels and care checks (Department of Health, 2007). Key points of transition such as discharges from hospital environments are seen as durations of high vulnerability and risk, presenting challenges regarding the consistency of risk management and care, as the latter is always transferred from service to service (Appleby, 1999). Clinical risk decisions are taken in forensic mental health care at all phases of service user's career path. Hence assessment of modifiable risk factors that are malleable and responsive to interventions is important in violent risk assessment, which is this study's primary focus.

Andrews and Bonta (2017) note that modifiable determinants of criminal behavior or criminal need factors are highly practical for they apprise intervention by identifying the treatment objectives which reduce the risk of criminal behaviour. This view clearly indicates that modifiable risk factors contribute substantially to reoffending and thus should be the focal point of crime descriptions and taken into account when developing intervention programs (Heffernan et.al, 2019), which was this study's primary focus.

1.8 Significance of the Study

This project's results were intended to be beneficial to prison management in coming up with appropriate strategies for making decision regarding the violent offenders. This is because the objective of risk assessment is to offer restorative organizations an opportunity to understand the threat the offender poses and guiding in the choice of strategies to be used in rehabilitating the individual.

Psychological assessment in the survivor of a brutal wrongdoing is to decide the sort and seriousness of psychological harm so as to give guidelines to treatment, just as deciding the results experienced, with the end goal of fixing the harm caused.

The assessment of modifiable risk factors among violent offenders is significant over arranging rehabilitation intervention plans by the rehabilitation department of the prison. The study will focus on these changeable factors with the foundation that when changed they will lead to reduced likelihood of violence when appropriate rehabilitation strategies are employed.

It is trusted that the debates and recommendations advanced here will support future examination into the organization of modifiable risk factors and their job in illuminating increasingly helpful clarifications regarding culpable and related phenomena. When properly understood by correctional institutions, modifiable risk factors assessment will go a long way in guiding the choice of rehabilitation strategies to be adopted thereby reducing reoffending.

The findings would be of importance to the judiciary and prison administration, whereby before release of an inmate via an appeal, the court will have to request for a risk assessment schedule from the correctional institution that clearly shows the level(s) of risk the inmate had acquired while in the prison and this will help the court in resolving the release of the inmate taking into account the probability of re-offending.

1.9 Scope of the Study

The project was constrained to the study of modifiable risk factors and their correlation to risk management strategies among violent criminals at Eldoret Main Prison. Specifically, the study will seek to determine the modifiable risk factors and risk management strategies among violent offenders and also establish the relationship between modifiable risk factors and risk management

strategies among violent offenders at Eldoret main prison. The study was done at Eldoret main prison and took a period of six months.

1.10 Limitations

The study anticipated that there are certain limitations that could prevent the study's access to information. The respondents targeted in this study were expected to be hesitant in providing information in fear of being intimidated by the information they give or to print a negative picture about them. The researcher expected to manage this with a letter from the university to give surety to the study participants that the data they offered would only be utilized for academic purposes and kept confidential.

Furthermore, the project results were constrained to the research project participants' willingness to give correct, objective and reliable information. Provision of information by respondents was also expected to be limited to respondent's literacy levels. Besides, the researcher also evaluated the collected data's consistency, tested its reliability, and translated the questions to a language the respondents could understand while collecting data.

1.11 Delimitation of the Study

The study was partaken on inmates charged with violent crimes like assault, robbery with violence, murder, and sexual offences in Eldoret Main Prison. The data was collected by working closely with the Kenya prisons service to easily access the targeted inmate.

1.12 Assumption of the study

The project presumed that the study participants would volunteer to take part in the study and give their honest responses to the research questions. This study also assumed, in response to the research instruments, that the study participants were honest, supportive, and objective and would respond to the research questions in a timely manner. Finally, the research relied on the authorities granting essential data collection permission.

1.13 Definition of Terms

These terms were utilized throughout this study:

Modifiable risk factors will be used to mean Dynamic risk factors (DRF): These are behaviours and exposures that can raise or lower a person's risk of being violent.

Assessment of modifiable risk factors: This is an effort of identifying the possibility that a certain individual might get involved in a given antisocial behavior within a defined period of follow-up.

Risk Management: This is the process of recognizing possible risks in advance, investigating them as well as taking safety steps before making decisions about offenders, including who should be released, what restrictions are appropriate and what rehabilitative efforts would be effective.

Violent offenders: These are individuals who have a likelihood of inflicting serious physical or psychological harm on other people.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is an evaluation of pieces of work carried out by other scholars and researchers on assessment of modifiable risk factors and risk management among violent offenders. The review focuses on risk management strategies, modifiable risk factors, and the relationship between modifiable risk factors assessment on risk management strategies. This chapter also encompasses theoretical review and the conceptual framework.

2.2 Empirical Review

Risk assessments including modifiable risk factors are progressively used within the system of justice to predict the probability of an individual to reoffend, support case management and improve the information provided by intervention services (Durrant, 2016). Modifiable factors are up to date and changing and include current economic conditions, marital status, crime-friendly attitudes, faulty cognitions, preference for sexual differences, family conditions, recreational activities, friendly criminals, substance abuse and employment status. The lack of evidence indicating that alterations in those modifiable risk factors actually resulted in the minimization of violent crime is more challenging. The risk assessment aims at predicting future crime and managing the risk of offenders throughout the process of criminal justice. Risk assessment is the process by which criminals are evaluated in relation to several key empirically known variables, which increase the probability of committing a crime (Devon, Polaschek & Kilgour, 2013).

Various studies have been conducted in regards to risk management and modifiable risk factors assessment. Constantine et al. (2015) examined risk management and risk assessment of violent reoffending among inmates. The study found that some prisoners may pose a significant threat to society following release. Therefore, it is essential to accurately measure and, most importantly, uses causative interventions in minimizing this risk post-incarceration. In this field of research, well-established predictors typically are founded on regression models or even some regulatory approaches that lack a statistical composition and confirmed to be inappropriate for the replication of causal intervention for risk assessment. In comparison to approved predictors (AUC rates extending from 0.665 to 0.717) within this field, the Bayesian network (bn) identifies causal relationships between the risk factors, the actions and the violence and signifies a substantially higher exactness (cross-validated AUC scores of 0.78) in this field, as regards whether a prisoner is determined to be released. Nevertheless, the BN model also permits specific risk factors for

causal intervention to be targeted for the risk management of future re-infractions (Hanson & Harris, 2000).

Mariam (2009) did the management and assessment of violence in forensic populations. The overall objective of this thesis is the validity of the evaluation and violence treatment in forensic populations, with a specific emphasis on the modifiable risk factors contribution to predicting recurrence. The study shows that the historical factors of HCR-20 are significant predictors of a future recurrence in these populations and also shows that clinical scale is important in the prediction of future acts of violence.

Blanchard (2013) examined the modifiable risk factors in violence risk assessment based on a multiple time-point evaluation of the Hysterical Conversion Reaction-20 (HCR- 20) and Short-Term Assessment of Risk and Treatability (START). The study revealed that the re-evaluation interval duration impacts on HCR-20, but not START, the intra-individual change ratio. On each dynamic scale, the specific path (or pattern) of change was discovered to fluctuate between persons, with four groups in each scale changing as per various patterns. The study established that changes made to the HCR-20 were ultimately linked with both forms of violence and changes to the START scale.

O'Dwyer (2007) did a study on a risk management approach and risk assessment to Irish probation services' sexual offenders. This report looks at literature on sex offenders, serious violent offenders, those who are considered 'hazardous' and, consequently, require special action. It has been created to assist probation, police, and other agencies that play a significant part in meetings of multi-agency public protection panels and are responsible for risk and risk management.

Kimiti and Thinguri (2016) examined risk assessment as an instrument for sexual offences prevention tool, which is an untried option in Kenya. In the study, sexual violence was pinpointed as a usual phenomenon in Kenya that poses serious social difficulties in order to preserve public security. There is a big gap in Kenya in terms of understanding sex offenders and designing risk evaluation skills, which can aid to refine sexual violence responses. In other jurisdictions, various types of risk assessment tools were developed, although none from elsewhere have been adopted or designed authorized for the use of Kenyan forensic populations. This study provides a summary of Kenyan sexual violence situations, evaluates examples of risk-assessment methods and tools for improving the assessment quality in other countries. It also provides a synopsis of a risk assessment investigation carried out in Kenya on sexual offenders and tries to create challenges

that can be prevented by incorporating risk assessment into and helping to address these challenges.

Kamau (2018) did an evaluation on the significance of risk assessment on rehabilitation strategies of violent offenders at Kamiti Main Prison, Kenya. This study's primary objective was to establish whether risk assessment is carried out in the Kenyan prisons and what is its significance in relation to the rehabilitation programs. The research utilized both descriptive and cross-sectional research design. Data analysis was carried out using inferential statistics such as regression and also descriptive statistics that include measures of dispersion and central tendency. After analysis on the significance of risk assessment on rehabilitation strategies, it was established that violent offenders with a strong social support system and those who had developed social control were more receptive to making changes in their lives that they had the ability to change.

2.3 Modifiable Risk Factors

Modifiable risk factors assessment is the process whereby some key variables in an offender that have been established and known to increase the chances of committing an offence are measured. They can vary in duration as well: stable (for example, relatively durable problems, alcoholism) versus aggressive (for example emotional collapse) problems (Hanson & Harris, 2000). While static risk factors are strongly predictive and can be measured readily, their lack of changeability does not mean that they can be concentrated on treatment programs nor modified to reduce recurrence rates (Bonta & Andrews, 2006). While modifiable risk factors are challenging to gauge consistently and are mostly of lower predictive validity in comparison to static risk factors, they may be adjusted (Craig, Browne & Beech, 2008). Thus, modifiable risk factors should help to reduce recurrence when handled appropriately in treatment (Heffernan et.al 2015).

Heffernan and Ward (2015) investigated the modifiable hazard factors' nature and capacity in their capacity to clarify sexual culpable and inform treatment. They contended that the denotion of hazard areas as shortfalls or hazard factors increased the propensity to subvert the wrongdoers. The research also identified modifiable risk factors as composites and a new etiological model developed: The Risk Model Agency (RMA) was developed. The AMR propositions three levels of organization, (1) personal threshold alludes to what the person feels about themselves (for instance, norms, priorities, and personal values), (2) social level referring to the self with regard to others (for example, interpersonal interactions and enhancement). The three levels may influence each other and are linked to a specific arrangement of goals, plans and procedures, the usage of

activities and self-checking and reflection. The mental and social processes which allude to the segments of the organization such as objectives, designs, techniques, the use of activity, and self-reflection are accepted as modifiable factors of risk and defenses, thus affecting the normal working within the social, cultural and physical context of the individual. It is accepted that Therefore, modifiable risk factors are mechanisms that affect the ability of someone to act in a pro-social or purposeful way (Vernham et.al 2015).

Modifiable risk factors, such as intimacy shortcomings or attitudes and beliefs to support crimes, specify specific forms of harm and its root causes. For instance, relations indicate that adults and kids who are close to the offender have suffered or abused, whereas deficits of self-regulation indicate that they tend to be impulsive and may cause damage to others (Ward, 2018).

2.3.1 Stable Modifiable Risk Factors

Stable risk factors encompass offender characteristics that are capable of undergoing changes within months or years and linked to recidivism. Stable Modifiable risk factors can transform progressively over longer durations (that is., months or years) but are unlikely to change quickly or over short periods, which makes them rather persistent traits and characteristics. They consist of learned behaviors, predilections, and personal skill deficits, that are linked to sexual recidivism but that can be altered by the employment of an effortful intervention procedure. Stable factors should be targeted in treatment or other interventions aimed at fostering enduring improvements given that they can remain unchanged for years or months (Eher, Rettenberger, Matthes & Schilling, 2010).

2.3.2 Acute Modifiable Risk Factors

Acute Modifiable risk factors are highly temporary conditions that only persist last days or hours. These factors comprise fast changing intrapersonal and environmental stresses, events, or conditions that have been denoted by previous scholars to be associated with impending violent re-offense. Acute Modifiable risk factors can change rapidly within days, hours, or minutes and help determine the imminence of individual reoffending. These factors include living situation, interpersonal relationships, unemployment, negative mood, opportunity/access to victims, anger/hostility, and substance abuse. Deterioration of these factors infers to the offender being at a substantial risk for imminent reoffending (Čulić, 2007).

2.3.3 Approaches to Modifiable risk factors Assessment

There exist various methods to risk assessment as discussed below.

Level of Service Inventory (LSI): This method encompasses an actuarial evaluation tool designed to identify the risks and needs of the offender in relation to recurrence. That is, the LSI seeks to classify the risk of re-offending of an offender and to determine its specific criminal needs (Hanson & Morton-Bourgon, 2009).

Static-99: This is a 10-point actuarial assessment tool initially formulated by David Thornton, Ph.D. and R. Karl Hanson, Ph.D. for utilization with adult sex offenders at the time their release into the community is at least 18 years old. The scale was updated and Static-99R was created in 2012. Static-99 / R is the world's best-utilized instrument for sex offender risk assessment and is widely used in the U.S., Canada, the U.K., Australia and many countries across Europe (Hanson, et al., 2017).

Violence Risk Appraisal Guide-Revised (VRAG-R): The most widely utilized actuarial violence risk assessment instrument worldwide is the innovative update. The VRAG-R provides an estimated rate of recurrence for different follow-up lengths for the approximation of the probability that the male criminal offender or forensic mental patient will carry out a new sexual or violent offense. The VRAG scheme has been replication studied in a number of ways to accurately predict violent recurrence and in child abusers, rapists and non-violent agents (Hart, Sturmey, Logan & McMurrin, 2011).

Scale (VRS) and the Short-Term Assessment of Risk Treatability (START): This is a new structured professional judgment scheme aimed at informing diverse risk areas of daily practice (e. g. victimization, unauthorized leave, substance abuse, self-denial, self-harm, risk, and suicide) that are relevant to psychiatric clinical practice. It offers an efficient way in which people with mental and personality disorders assess risks to themselves and others (Heffernan & Ward, 2015).

The Dynamic Risk Assessment for Offender Re-Entry (DRAOR). Tametea and Wilson (2009) posited that this tool was designed for the provision of Community Probation services with a more practical assessment tool. The tool also permits for management planning grounded on pinpointed problematic elements across three spheres, Protective, Acute, and Stable. Protective and stable risk factors are employed in helping with the determination of intervention needs. Oppositely, acute risk factors are utilized in specifying the impending reoffending risk. Besides, this tool is meant

for use with adult offenders and is generally developed for the prediction of violent and overall recidivism, with the inclusion of technical violations (Hanby, 2013).

2.4 Risk Management Strategies in Correctional Institutions

On reoffender rehabilitation community study by Van Rensburg et al., (2009) indicates that staff and prisoners individually and collectively have the responsibility to preserve core values of respect, support, autonomy, unity and openness within the community. The communities encourage collectivism, group decision-making, the positive influence of peer groups, an emphasis on interpersonal behaviour (Lipton, 1998). The community parallels, to the best of their ability, the structure and function of external community life. It does provide inmates with chances to reserialize themselves before they are released and even to integrate themselves into a kind of community. The community parallels as far as possible the functions and structure of external civic society. It does provide offenders with possibilities to reserialize themselves before they are released and even to integrate themselves into a kind of community (Polaschek *et.al.*, 2013).

In Kenyan prisons, programs offered under instructive recovery intuitive include social, tertiary, secondary, and primary education. According to Kenya Prisons Service (2013), primary education denotes literacy programs or adult education focusing on numerical skills, writing, and reading for elderly offenders. Social education, on the other hand, consist of cognitive skills training like basic financial management, social interaction, hygiene, and daily living. This training is perceived to be quite alluring to the elderly offenders in comparison to the current education system that is offered within Kenyan prisons (Ogeto, 2009).

Furthermore, Iguna (2009) asserted that a majority of vocational programs are created based on the available resources rather than based on the offenders' needs. Alternatively, Wekesa (2013) observed that development programs and personal awareness were discovered as cutting across all inmates, regardless of age. Additionally, Wekesa (2013) posited that Kenyan prisons lack special rehabilitation programs targeting the elderly offenders, psychosocial adjustment. As such, there is a need for vocational and educational rehabilitation programs targeting the offender's criminogenic needs.

According to the Kenya Prison Services (2013) examples of vocational rehabilitation programs include brick making, pottery, knitting, painting, masonry, cosmetology, saloon management, soap making, metalwork, upholstery, garment making, carpentry, mushroom production, sericulture, floriculture, fish farming, bee keeping, rabbit rearing, and dairy production. Besides, all the

identified activities were found to be focusing on imparting the inmates with essential skills that would provide them with the capability to partake in positive socioeconomic engagement post-incarceration, hence minimizing recidivism rates among the offenders reentering society post-imprisonment (Kenya Prisons Service, 2013).

Offenders practice new skills with others who can model positive behavior with contingent responses to their behaviour, such as problem-solving or conflict resolution. Monitoring of changes is improved; custodial and therapeutic personnel can identify or deteriorate the progress and alter treatment plans accordingly. Regular cases management meetings, where individual inmates meet with a variety of personnel, provide important opportunity for review and sanction events and participant behaviour, establish new objectives and strategies and practice certain interpersonal competencies (like job interviews, day landscape cases) (Polaschek et.al 2013).

Staff may ask the prisoner to establish a behavioral contract to remedy the problem or to apologize or take account of his actions in a public meeting and/or seek assistance and support from a graduate mentor for a minor issue. These tasks require inmates to decide whether to be more committed to the program or to be transferred elsewhere (Polaschek *et.al.*, 2013). Preparations for release (reintegration) into the community are also incorporated in the treatment model. Criminals are invited to develop positive plans for a gratifying life within the unit and begin to implement them (Polaschek *et.al.*, 2013).

2.5 Theoretical Explanation of Violence

According to Bartol & Bartol (2014) criminal violence can be looked at from two poles. These are highly impulsive and demonstrate a behavior that is emotionally driven with absolutely no planning involved, commonly known as ‘crimes of passion’. In psychological literature violence can be explained through a continuum, whereby both the expressed or reactive kind of aggression and instrumental aggression happen with equivalent essentials of the two arising at the middle section of the continuum (Woodworth & Porter, 2002).

On the other hand, reactive violence also known as expressive violence is physical violence that is occasioned by an enraged or unpleasant reaction to dangerous situation or supposed threat, it therefore is the unthoughtful and impetuous response to a provocation be it real or imagined (APA,1996). An example would be a person who shoots a friend over a petty confrontation. In most cases once the aggressor’s emotions have calmed down, they usually cannot believe what

they have done or understand how they could lose control to that point. Whether a violent act is instrumental or reactive is never easy to differentiate, it often appears to be a combination of both, so that the violent actions fall in the middle range of the instrumental-reactive continuum, similar with the regular curve. Psychopaths are also impetuous and extremely reactive to provoking circumstances irrespective of their lack of compassion and guilt and superficial emotions generally. A research done by Woodworth and Porter (2002) studied both psychopathic and non-violent psychopath offenders who had committed murder. Their findings showed that psychopaths tended to engage more in the instrumental or goal driven kind of violence. Non-psychopathic offenders however engaged predominantly in reactive spontaneous violence.

2.6 Causes of Violence

Violence is an act of physical strength that tends to cause or aims to harm. Violence can cause damage, whether physical, psychological or both. Violence can be distinct from aggression, which may be physical, verbal or passive in nature, a more general type of harsh behaviour. The following are the causes of violence:

2.6.1 Cognitive Factors

Cognitive factors allude to convictions, ideas, and thinking patterns that develop due to interactions with the world over an individual's lifespan. A major characteristic with violent people is that they cannot think of non-violent ways of solving social disagreements and conflict such as negotiations, they tend to identify more with violence. According to Shahinfar, Kupersmidt and Matza (2001) belligerent children and adolescents have more antisocial, violent beliefs as compared to the non-aggressive peers. Bartol (2014) stated that members of violent groups or gangs notably some young males have assumed conviction that it is fine to respond to every supposed or illusory indicator of disrepute with aggression and further violence.

2.6.2 Situational Factors

These refer to environmental characteristics, like stress or attack in others, which promote or produce violent conduct. Aversive situations like stress, repeated loud noises, excess heat, and overcrowded cramped living conditions can trigger aggression and violence in people exposed to these conditions. Bartol (2014) further explains that characteristics of the environment for example aggression or stress encourage violent behavior. Children who have higher risk chances of engaging in violent activities when grown up are predominantly those who have been brought up

in underprivileged or poor environments. Agents such as schools, neighborhoods, families and peers can all contribute to the growth of violent behavior. Bartol (2011) indicates that adult violence can be linked to childhood aggression in some individuals. Research shows that 10% of extremely aggressive children grow up to account for 50-60% of the bulk of violent crimes

2.6.3 Biological Factors

They refer to the broad range of effects on violence and aggression, either neurologically, physiologically or chemically. Recent developments in neuroscience have shown that biological factors that interact with the social environment could influence child development considerably. It is still largely unknown the exact nature of these influences (Krug, Mercy, Dahlberg, & Zwi, 2002). The connections between brain damage from numerous environmental factors and aggression have been identified by child development researchers. Researchers on child development indicate that there are links between aggression and brain injury that can be as a result of various environmental factors for instance lethal substances in the surroundings, dietary pre-natal deficiency, head injury as a result of accidents, abuse, and the mother ingesting alcohol or drugs during key fetal development stages as well as birth trauma. (Bartol & Bartol, 2014)

2.6.4 Socialization factors

This refers to the processes by which a person learns from early life experiences the patterns of thought, behavior and feeling. Practices whereby a person learns the patterns of behavior, early life experiences that include thoughts and feelings are known as socialization factors. Extensive research shows that aggression, violence, and anti-social behaviors are more often learned from television, partners, or movies and are stored in standby for response to an exact social situation. It is therefore important to limit children's exposure to violent media images (Heffernan & Ward, 2019).

2.7 Conceptual Framework

The purpose of this research project was to ascertain the dependency levels of the dependent variable on the independent variables. Diagrammatically, the conceptual framework depicts how these variables relate.

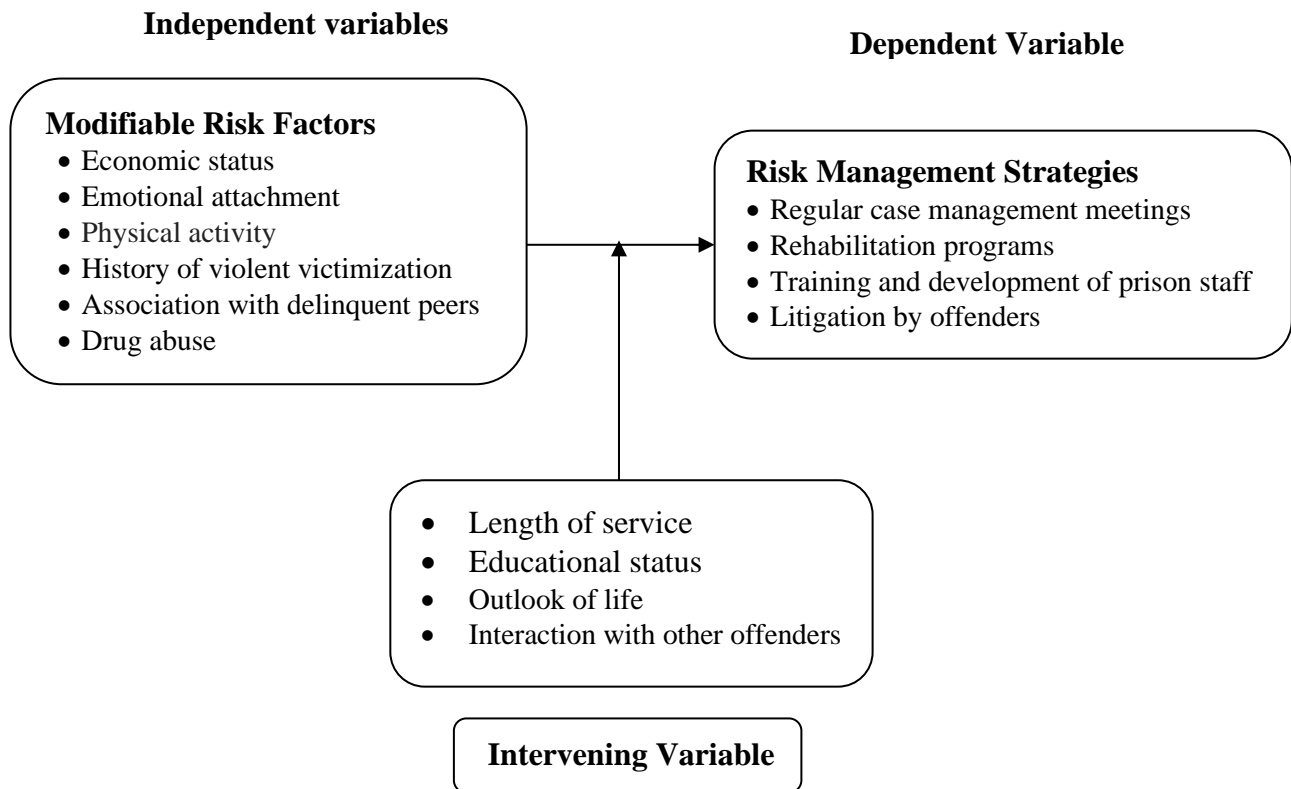


Figure 2.1: Conceptual Framework

2.8 Theoretical Model

This study was anchored on Risk-Need-Responsivity Model. The framework was first suggested by Lee Sechrest and Ted Palmer in 1990 on the ground of studies carried out in the 1960s and 1970s on classifying offender treatment. It was formulated mainly by Canadian scientists Paul Gendreau and James Bonta, Donald A. Andrews. The best model to determine offender treatment has been considered and it is based on several of the best tools to assess the risks of offenders. The risk-needed response model is a crime model used to formulate recommendations on how to evaluate prisoners based on the risk that they exhibit and need, and on what types of environments to reduce recurrence.

There are three basic principles according to the model which should guide interventions to help offenders reduce crime involvement. Risk principle where differing from their risk for recurrence, offenders are therefore appropriate in different types of actions. In low risk, complex (and costly) procedures can be unreasonable. On the other hand, intensive intervention for high-risk offenders is likely to lead to any change. Need principle where naturally, every offender has its own set of modifiable risk factors or criminal needs. If modified, changes in reoffending rates are forecast. Responsivity principle is where the effectiveness of various modes of intervention in reducing recurrence differs. Compliance and cognitive procedures are generally preferred. Interaction with the attributes of the offender also exists: various kinds of interventions are indicated according to age, sex, cognitive ability or motivation (Bonta, 2007).

The principle of risk is that service intensity ought to be in accordance with the degree of individual risk. In general, high-risk persons (status) are expected to receive high-intensity services and low-risk persons (status) should be offered minimum services. A comprehensive risk assessment is necessary for individuals to identify and allocate inter-individual risk difference to intensity levels of treatment. The risk principle therefore refers to who should focus on services and the intensity of the services available to various groups based on the level of danger. The principle of necessity states that treatment should be targeted at crime. A criminal need is a modifiable risk factor which is functionally associated with criminal behavior (that is a criminal risk factor).

As for the risk principle, the principle of need therefore requires an in-depth evaluation of the individual's risk (state) in view of the different types of risk factors outlined above. The principle of need identifies the criminal needs which certain management strategies should targeted. The principle of responsivity states that treatment must be given in a way sensitive to the learning skill

and style of the individual. The principle of response involves the application of tactics that have proven to be generally maximum effective and then individualize the treatment according to individual characteristics (Serin, Mailloux & Wilson, 2010).

A criminogenic need is an important concept to clarify. Criminogenic need is a risk factor capable of changing, and the corresponding change in the probability of the result is associated with it. In other words, the change in criminal necessities is statistically linked to the criterion's change, and the change is increasingly valid in addition to baseline evaluations (Andrews et al., 1990). A criminogenic need therefore refers only to Kraemer's and colleagues' class of modifiable risk factors as causal risk factors. A wider range of variables that subdivide criminal needs are the modifiable risk factors. This theory is relevant as it highlights modifiable risk factors assessment and risk management among violent offenders.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods applied in conducting the research. The sub-sections in this chapter are: The study area, research design, target population, sample size, sampling techniques, data collection instruments, data collection procedure, pilot testing and reliability and finally data analysis and presentation. The study also considered the necessary ethical consideration.

3.2 Study Area

The study was completed at Eldoret Main Prison. Eldoret Main prison is located in Eldoret town, which is 320 KM northwest of Nairobi, the capital city of Kenya. The prison was instituted in 1963 with an envisioned capacity of 600 inmates. The prison has been upgraded to hold approximately 1325 prisoners (inmates). There are 152 violent offenders (convicted for robbery with violence, murder, home invasions, burglaries, kidnappings and armed carjacking). The prison has various inmates including those that the study is interested in, hence ideal study area.

3.3 Research Design

The study applied a descriptive survey method in the collection and analysis of primary data. Data collection included the use of questionnaires. Wang (2015) argued that descriptive survey designs are suitable in contexts where the overall objective is to determine the existence of significant associations among variables. The design was ideal as the characteristics of some groups are described, proportion estimated with certain characteristics is estimated and predicts are made. This design involved the quantitative data collection for carrying out inferential analysis. Alternatively, it also involved qualitative data for the description and explaining themes of behavior discerned about the modifiable risk factors assessment and risk management among violent offenders at Eldoret Main Prison.

3.4 Target Population and Sampling Frame

The target population is referred to as the entire components, units, or people to which the researchers want to spread the conclusions. Therefore, the target population in the study comprised 152 violent offenders (convicted for robbery with violence, murder, home invasions, burglaries, kidnappings and armed carjacking) as signified in Table 3.1.

Table 3. 1: Target Population

Category	Target population	Percentage
Robbery with Violence Convicts	60	39.5
Murder Convicts	27	17.8
Home invasions convicts	16	10.5
Burglaries convicts	11	7.2
Kidnappings Convicts	21	13.8
Armed carjacking convicts	17	11.2
Total	152	100

3.5 Sample Size

Sampling is a methodical careful selection for a number of individuals to provide the data from which they make predictions about a larger group represented by them. A sample is a representative percentage of the population of interest which is randomly chosen (Wang, 2015). Nassiuma (2000) endorses a margin error ranging between 2%- 5% and a 20%- 60% coefficient of variation. The sample size was determined at an error of 0.05 and at 95% confidence with coefficient of variation of 0.6, whereas the Nassiuma (2000) formula was used to obtain a target population of 152 as shown

$$n = \frac{N(cv^2)}{Cv^2 + (N-1)e^2}$$

Where n = sample size

N = population (152)

Cv = Coefficient of variation (take 0.6)

e = tolerance of desired level of confidence (take 0.05) at 95% confidence level)

$$n = \frac{152 (0.6^2)}{0.6^2 + (152-1) 0.05^2} = 74$$

The sample size was 74 respondents. For the ascertainment of how the sample is distributed among the targeted respondents including convicted for robbery with violence, murder, home invasions, burglaries, kidnappings and armed carjacking, the sampling ration was computed and then multiplied with targeted group's target population. The ration was 74/152= 0.486, which was then utilized as indicated in Table 3.2.

Table 3.2: Sampling Frame

Category	Target population	Ratio	Sample Size
Robbery with Violence Convicts	60	0.486	29
Murder Convicts	27	0.486	13
Home invasions convicts	16	0.486	8
Burglaries convicts	11	0.486	5
Kidnappings Convicts	21	0.486	10
Armed carjacking convicts	17	0.486	9
Total	152		74

3.6 Sampling Procedures

Sampling concentrates on the choosing of a portion of individuals from within an entire group to estimate the population characteristics. In this study, stratified proportionate random sampling technique was employed in the choosing of the participants. The aim was to obtain the sought-after representation by different sub-groups in the population. The current subgroups in the population were more or less depicted in the sample in stratified random samples (Yin 2017). In order to find the respondents in each stratum, the study used a simple sample.

3.7 Data Collection Instruments

The Ralph Serin (2007) dynamic risk assessment for offender re-entry (DRAOR) tool was adopted and customized for the study as it evaluates all the domains of MRF, it also permits for the preparation for probable reoffending risk scenarios for further informing management strategies and decision making. The basis for this instrument is the ‘risk-needs-responsivity’ model, which categorizes interventions based on risk and changing needs (Yesberg et al., 2015).

Primary data was collected through self-administered questionnaires consisting of open-ended questions and closed questions. The former questions were utilized for the encouragement of the study participants respond in depth without feeling impeded by any information, and the closed questions enabled the study participants to answer limited options outlined. According to Wang (2015), the unstructured or open-ended questions permit the respondents to provide profound answers, while it is usually simpler to evaluate closed or structured questions. The questionnaires consisted of two sections that Section A covering Background Information and section B covering questions on modifiable risk factors assessment and risk management among violent offenders.

3.8 Pilot Testing

The rationale of pre-testing the data instrument is to ensure the clear statement of the items as well as ensuring that they have the same meaning to all respondents (Wang, 2015). Pilot testing of the research instruments was carried out, where 14 questionnaires were administered to the pilot survey respondents who were picked at random representing 20% of the sample size. In this case, the study used prisoners on probation community service in Eldoret town. After one day, the same participants were asked to answer the same questionnaires, but without notice, to see if there were any changes in the first and second test responses. This was very important in the research process as it helped to identify and correct unclear issues and instructions.

3.9 Data Collection Procedure

The researcher sought permission from the relevant authorities including an authorization letter from the University of Nairobi and approval from the Eldoret Main prison administration. The researcher also sought for a letter of permit from the National Council of Science and Technology (NACOST). This was followed by the researcher arranging meetings with the key informants on how to reach the target population. Due to COVID-19 disease, the researcher was aided by prison wardens by visiting the sampled respondents and administered the questionnaires. The questionnaires were self-administered. The drop and pick later tactic was employed in the administration of these questionnaires. The selected respondents were given 3 days after which the researcher gathered the completed questionnaire for analysis. Translation to Kiswahili was offered to participants who were not good in English. The participants were promised that the information they provided would be strictly confidential. Administration of the questionnaire followed the agreed schedule.

3.10 Reliability of the Research

Reliability of a measurement denotes the extent to which a research instrument lacks bias, hence ensuring data consistency. Particularly, the purpose of reliability entails ensuring that a study's results can be repeated. Reliability of the data collection instrument was done using the test-retest method then calculated using Spearman Brown correlation formulae to get the whole test reliability. Besides, in this study, a 0.7 construct composite reliability coefficient or above was perceived as sufficient for the study as suggested by Rousson, Gasser, and Seifer (2012).

3.11 Validity of Research Instruments

According to Creswell and Creswell (2017), validity encompasses the meaningfulness and accuracy of inferences, based on the research results. The study employed content validity which extracts an inference from test scores to a cast array of items similar to those on the test. Gorard (2013) posited that the skills and knowledge covered by the test items ought to be representative of the larger domain of skills and knowledge. Expert opinion was sought for the determination of the suitability and representativeness of questions and the provision of propositions of rectifications to be made to the research tools' structure. This practice assisted in the enhancement of the content validity of the collected data. Content validity was acquired by requesting for the lecturers' and the supervisor's opinion, as well as other professionals' opinion on whether the questionnaire would be sufficient. The study adopted an existing tool DRAOR.

3.12 Data Analysis and Presentation

The Statistical Package for Social Sciences (SPSS Version 25.0) was utilized in the data analysis procedure. The gathered questionnaires were referenced and coding of the questionnaire items was done to for data entry facilitation. After data cleaning that included data evaluation for entry errors, descriptive statistics like standard deviation, mean scores, percentages, and frequencies were approximated for all the quantitative variables. The obtained information was then presented in form of tables and figures. On the other hand, thematic content was employed in the analysis of the qualitative data and presented in narrative form.

The study used chi-square test for testing whether there was a relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. If the p value for chi-square statistic was less than 0.05, the study intended to conclude that there was a significant relationship between modifiable risk factors and risk management strategies.

3.13 Ethical Considerations

The researcher complied with the social research ethics by observation of the appropriate fundamental clauses. Firstly, all the study participants' confidentiality was warranted in writing and verbally. The study participants were also advised to avoid the inclusion of their names in the questionnaire. Thirdly, the study was carried out solely for academic purpose. Fourthly, before the commencement of the actual field work, permission was sought from the Eldoret Main Prison administration. Sixthly, the respondents were informed of the nature of the research and any queries on confidentiality and anonymity were answered. At completion, the findings were shared with stakeholders through feedback sessions and through publications in journals for wider academic sharing. The research sought informed consent from the respondents by providing a consent form. The respondents were allowed to voluntarily participate in the study. Any respondent who sought clarification of any question in the questionnaire was accorded.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter provides the findings obtained following the data analysis procedure. These findings comprise the response rate and respondents' background information, identified modifiable risk factors among violent offenders in Eldoret main prison, the risk management strategies implemented within the prison for minimization of reoffence, and the relationship between the identified modifiable risk factors and risk management strategies implemented within the prison.

4.2 Response Rate and Respondents' Background Information

Seventy-four questionnaires were administered at the Eldoret main prison. One hundred percent response rate was realized, for all the questionnaires were returned to the researcher. However, during the data analysis procedure, the researcher discovered that only 55 of the questionnaires, representing 74 percent of the study participants, had answered all the questions without errors. As such, the 55 completed questionnaires formed the basis for this study.

4.2.1 Respondents Gender

Of the 55 study participants, 11 were female, and 44 were male. Figure 1 below the respondents' gender percentage, with the male participants forming 80 percent of the study participants and the female representing 20 percent.

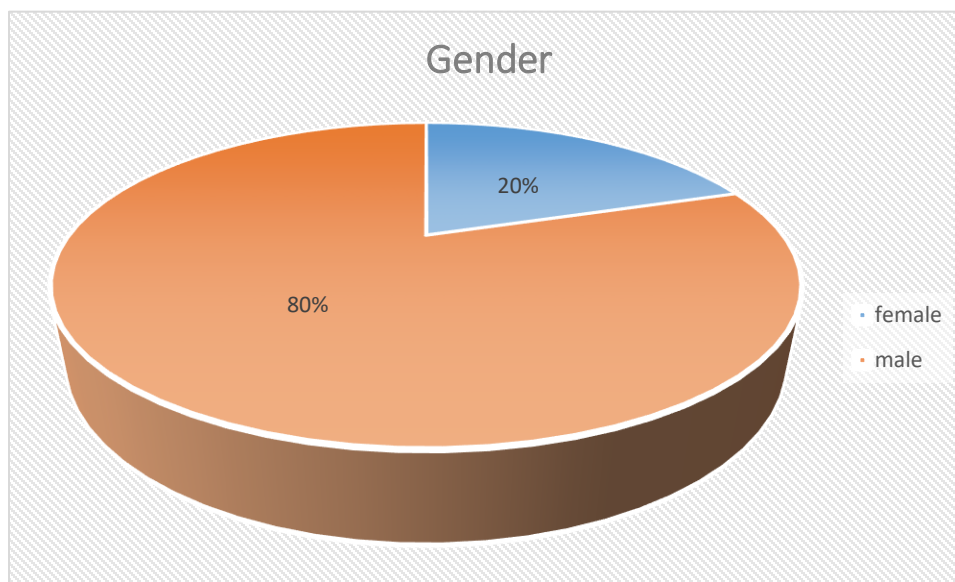


Figure 4.1: Respondents Gender

Figure 1 above shows that the male participants were four times more than the female participants.

4.2.2 Respondents Highest Level of Education

Of the 55 study participants, 32 answered that a certificate was their highest level of education, 15 had a diploma, eight a degree, and none had reached the PhD or masters education level.

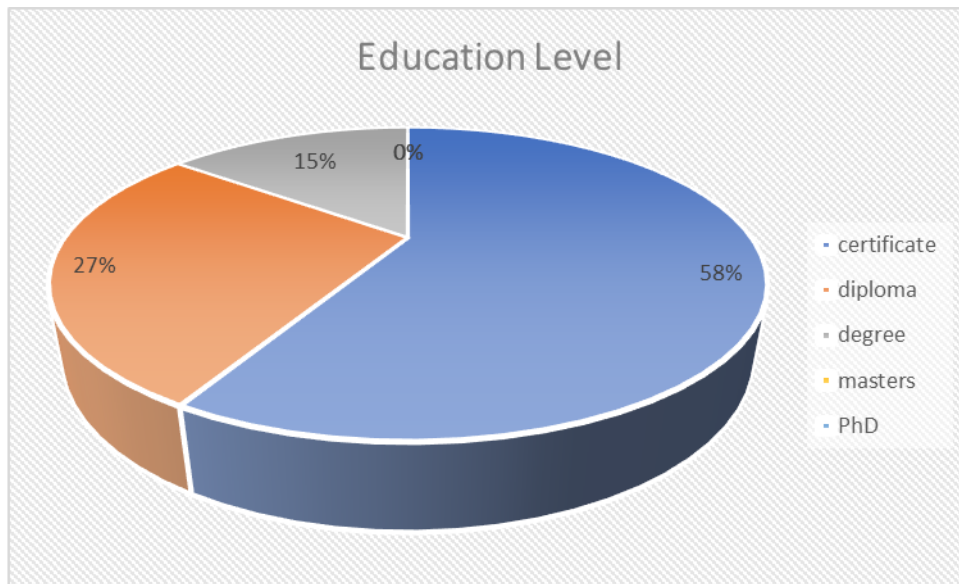


Figure 4.2: Respondents Highest Level of Education

Figure 4.2 above shows that 58 percent of the respondents, representing more than half of the study participants, had only attained a certification. Besides, the figure reveals that the highest level of education achieved among the study participants was a degree and the lowest being a certificate.

4.2.3 Respondents' Age

Of the 55 respondents, 18 were within the 20-30 age bracket, 19 within the 31-40 age bracket, 12 within the 41-50 age bracket, and only six of the study participants were aged above 50 years.

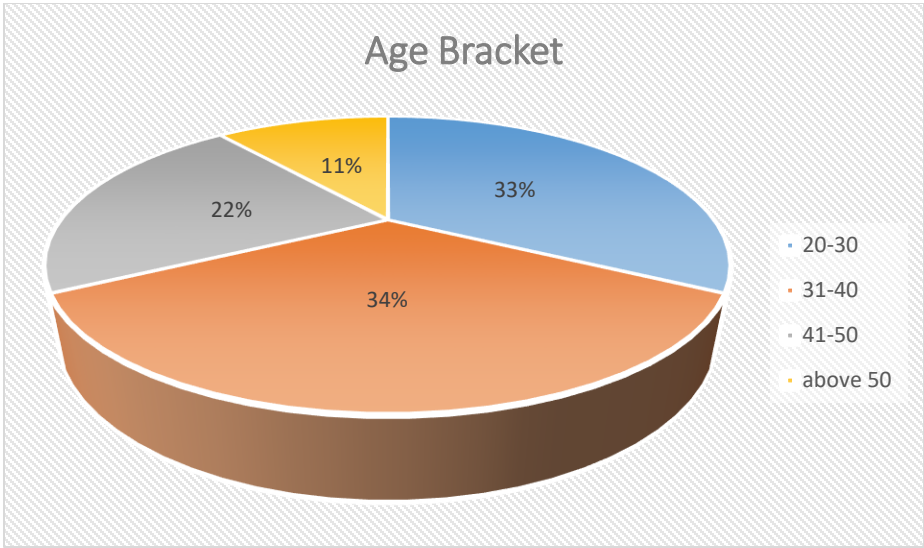


Figure 4.3: Respondents' Age Bracket

Figure 4.3 above shows that most of the respondents were between the 20 and 40, representing 67 percent of the study participants, whereas only 11 percent of the respondents were above 50 years old.

4.2.4 Respondents' Upbringing

Concerning upbringing, 45 of the respondents answered that they had been raised by both parents comprising a mother and a father, one was raised by a father alone, six by a mother alone, one by grandparents, and two specified that they had been brought up by guardians (refer to figure 4.4 below).

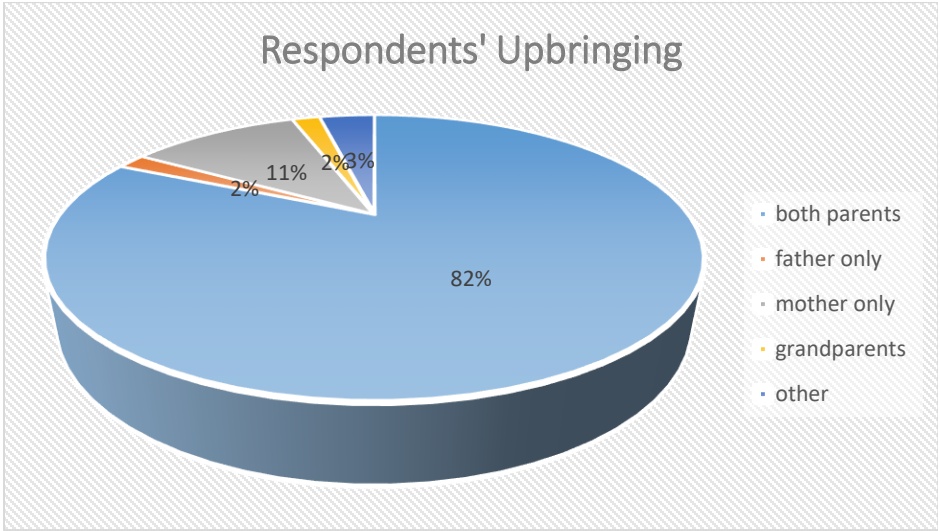


Figure 4.4: Respondents' Upbringing

Figure 4.4 above shows that most of the respondents, 82 percent, had been raised by both parents, whereas the least of the respondents answered that they had been raised by grandparents (2%) and a father alone (2%).

4.2.5 Respondents' Duration in Eldoret Main Prison

When asked how long they had been in Eldoret main prison, 13 of the respondents answered that they had been in the prison for less than two years, 14 had been in the prison for two to four years, eight between four and years, and 20 had been in the prison for more than six years (refer to figure 4.5 below).

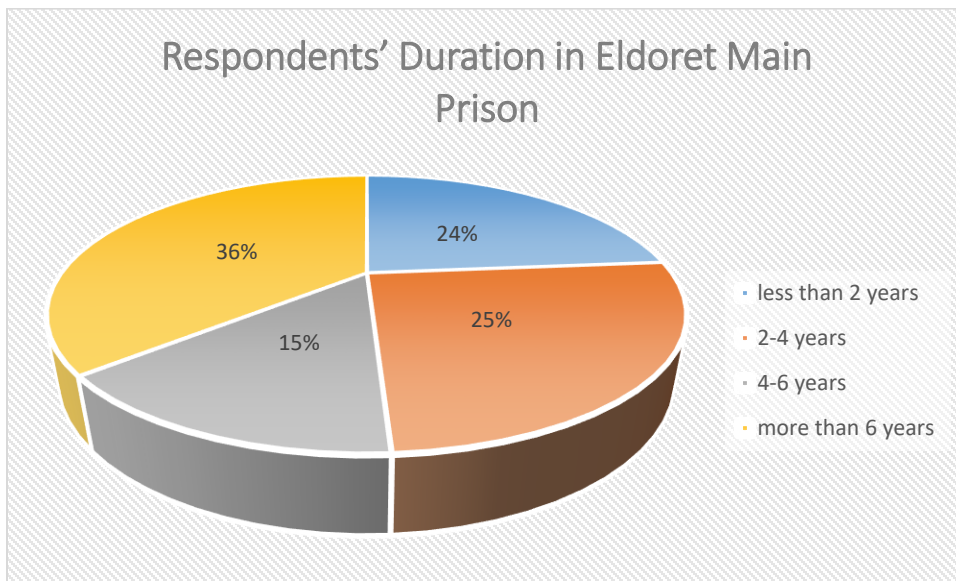


Figure 4.5: Respondents' Duration in Eldoret Main Prison

Figure 4.5 above indicates that a majority of the respondents (36%) had been in the prison for more than six years, whereas the least proportion of the respondents (15%) comprised those who had been in the prison for four to six years.

4.3 Modifiable Risk Factors

Of the 55 participants, 49 reported that they had never committed another crime following the initial crime, whereas the remaining six participants reported that they had been involved in reoffence.

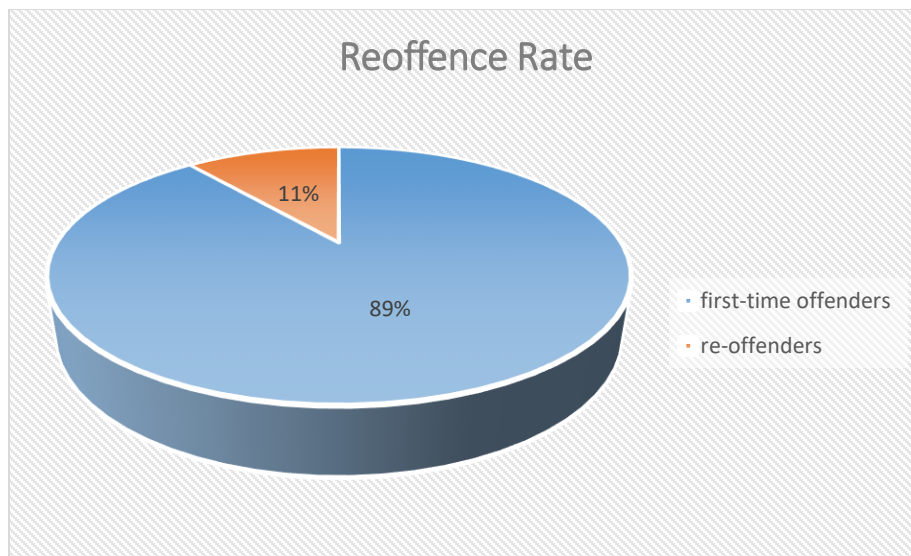


Figure 4.6: Respondents’ Reoffence Rates

Figure 4.6 above depicts that the re-offence rates in the Eldoret main prison is somewhat low. Furthermore, when asked the causes of the re-offence or the violated condition, five of the respondents, representing 83 percent of the reoffenders, stated that their re-offence involved a new offense, whereas one reported to have been recalled back to prison.

4.3.1 Stable Modifiable Risk Factors

Table 4.1 below shows the respondents’ answers to the question on the extent to which the following characteristics associated with modifiable risk factors contributed to their offending.

Stable modifiable risk factors					
Factor	Low Extent (n)	Moderate Extent (n)	Great extent (n)	Mean	Standard Deviation
Peer associations	22	12	21	1.98	0.89
Attitudes towards authority	22	26	7	1.73	0.68
Impulse control	18	19	18	2.00	0.82
Problem solving	18	24	13	1.91	0.75
Sense of entitlement	15	29	11	1.93	0.69
Attachment with others	21	19	15	1.89	0.81

Table 4.1: Stable Modifiable Risk Factors

Table 4.1 above shows that peer associations, attitudes towards authority, impulse control, problem solving, sense of entitlement, and attachment with others were the stable modifiable risk factors obtained among the respondents at the means of 1.98, 1.73, 2.00, 1.91, 1.93, and 1.89 respectively. Besides, a low standard deviation was recorded indicating that the obtained data was close to the mean, thus inferring to a low variability.

4.3.2 Acute Modifiable Risk Factors

Table 4.2 below shows the study participants' responses regarding the acute modifiable risk factors that influenced their choice to partake in law breaking.

Acute modifiable risk factors					
Factor	Low Extent (n)	Moderate Extent (n)	Great extent (n)	Mean	Standard Deviation
Substance abuse	31	10	14	1.69	0.86
Anger/hostility	31	11	13	1.67	0.84
Opportunity/access to victims	31	15	9	1.60	0.76
Negative mood	31	18	6	1.55	0.69
Employment	21	23	11	1.82	0.75
Interpersonal relationships	12	26	17	2.09	0.73
Living situations	13	24	18	2.09	0.75

Table 4.2: Acute Modifiable Risk Factors

Table 4.2 above indicates that seven acute modifiable risk factors, comprising substance abuse, anger or hostility, opportunity or access to victims, a negative mood, employment, interpersonal relationships, and living situations were found with means of 1.69, 1.67, 1.60, 1.55, 1.82, 2.09, and 2.09, respectively. Besides, the acute modifiable risk factors data had a low standard deviation, thus implying a convergence in the study participants' responses.

4.3.3 Modifiable Risk Factors and Crime

When asked to specify ways in which modifiable risk factors make violent offenders commit crimes again, the respondents provided a vast range of answers. After the analysis of these answers, 14 themes were discovered. After further analysis of these themes and grouping, six primary

themes were found. These themes comprise peer pressure, financial instability, lack of education and skills, anger and hostility, lack of social support, and alcohol and drug abuse.

Of the six themes, peer pressure was ranked first with the most responses. This theme comprised the other inmates' influence and peer pressure from close friends. Particularly, 12 of the 55 participants identified peer pressure as the main modifiable risk factor that makes violent offenders reoffend.

Financial instability was the second-ranked theme with ten responses. Regarding this theme, the respondents mentioned several causes of financial instability, including lack of financial support post-incarceration, poverty, low standards of living, and poverty as the primary modifiable risk factors that influence violent offenders to reoffend.

Lack of social support was ranked third with nine responses. The participants who identified lack of social support as the main modifiable risk factor influencing violent offenders to commit crimes again cited the lack of community support, lack of proper rehabilitative services, lack of qualified rehabilitative personnel, lack of mentors post-incarceration as the modifiable risk factors leading to reoffence.

The fourth-ranked theme was alcohol and drug abuse. This theme had seven responses, thus indicating that six of the respondents believed that alcohol and drug abuse were the predominant modifiable risk factors that make violent offenders commit crimes again.

The fifth-ranked theme was lack of education and skills. Particularly, six of the study participants identified a lack of education and practical skills because of imprisonment as the main modifiable risk factors that increased the violent offenders' likelihood of reoffence. Finally, four of the respondents identified anger and hostility as the main ways in which modifiable risk factors make violent offenders commit crimes again, hence making anger and hostility the sixth-ranked theme.

4.4 Risk Management Strategies at Eldoret Main Prison

Table 4.3 below depicts the data collected regarding available risk management strategies within Eldoret main prison.

RISK MANAGEMENT STRATEGIES	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Coefficient of Variation
The prison management have implemented policies for the identification, notification, and management of high-risk offenders	10	9	12	9	15	3.18	1.47	0.46
There is monitoring of behavioral changes of violent offenders	8	12	3	16	16	3.36	1.47	0.44
There are regular cases management meetings	21	6	21	3	4	2.33	1.25	0.54
There is continuous consultation between local probation service and police forces to undertake	24	18	7	2	4	1.98	1.18	0.59

formal risk assessment of every offender								
There is always a plan in the prison to manage the risk by appropriately sharing information and tasks with other agencies	15	7	10	15	8	2.89	1.45	0.50

Table 4.3: Risk Management Strategies at Eldoret main Prison

Table 4.3 above indicates that the respondents reported five specific risk management strategies implemented by the Eldoret main prison. These strategies consist of policies for the identification, notification, and management of high-risk offenders with a mean of 3.18; monitoring of behavioral changes of violent offenders with a mean of 3.36; regular cases management meetings with a mean of 2.33; continuous consultation between local probation service and police forces to undertake a formal risk assessment of every offender (1.98); and a plan in the prison to manage the risk by appropriately sharing information and tasks with other agencies (2.89). Besides, the obtained standard deviation was somewhat low, showing convergence in the respondents' answers. This low variation in the respondents' answers is further proven by the data's coefficient of variance, which is below one in all the risk management strategies, suggesting a low variation in the data.

Moreover, when asked whether the risk management strategies used by the prison service are beneficial in addressing the risk that led them into offending, 25 of the respondents answered yes, whereas 30 responded with a no (refer to figure 4.7 below).

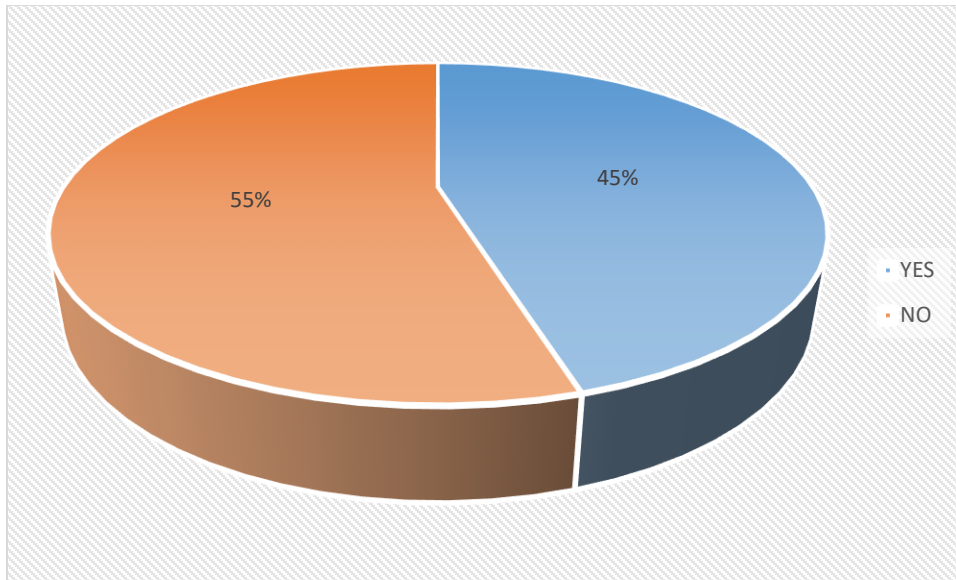


Figure 4.7: Benefits of Risk Management Strategies

In addition, the respondents were asked ways in which risk management strategies have assisted in managing violent offenders in Eldoret main prison. Nineteen of the respondents stated that there were either minimal or no risk management strategies for the management of violent offenders in Eldoret main prison. The remaining 36 respondents reported positive impacts of the risk management strategies on the management of violent offenders in Eldoret main prison.

Further analysis of the 36 respondents revealed eight main themes, comprising behavioral change, helping them realize their mistakes, education of the importance of upholding the law, training/skills, information sharing, proper advice, spirituality enhancement, and reducing the influence of others. Regarding behavioral change, 11 of the 36 respondents stated that risk management strategies have helped in managing violent offenders in Eldoret main prison by influencing their behavior, leading to behavioral change. As such, the behavioral change theme was ranked first with 11 responses.

The training/skills theme was ranked second, with eight responses. Particularly, eight of the 36 respondents claimed that risk management strategies have helped in managing violent offenders in Eldoret main prison by teaching them vocational skills such as carpentry. The third-ranked theme was helping them realize their mistakes. Six of the 36 respondents stated that risk management strategies have helped in managing violent offenders in Eldoret main prison by helping violent offenders realize their past mistakes.

Enhancing spirituality theme and education on the importance of upholding the law theme were both ranked fourth with four responses each. From this perspective, four of the 36 respondents answered that risk management strategies have helped in managing violent offenders in Eldoret main prison by enhancing spirituality, whereas the other four pinpointed education of the violent offenders on the importance of upholding the law as the risk management strategy that has helped in managing violent offenders in Eldoret main prison. Similar to the third position, the sixth position also had a tie between reducing the influence of others themes and information sharing theme, each with two responses.

Specifically, two of the respondents reported that risk management strategies have helped in managing violent offenders in Eldoret main prison by reducing the influence of others. Alternatively, the other two stated that risk management strategies have helped in managing violent offenders in Eldoret main prison by minimizing information sharing among these offenders. Finally, the eighth-ranked theme was advice, which was only supported by one respondent. This respondent argued that risk management strategies have helped in managing violent offenders in Eldoret main prison by giving them advice.

Figure 4.8 below shows the predominant themes that were obtained upon asking the respondents to propose other risk management strategies to be used in Eldoret main prison.



Figure 4.8: Recommended Risk Management Strategies

As depicted in figure 4.8 above, regular counselling was the first ranked theme with 38 percent of the study participants supporting it. Besides, 24 percent of the respondents recommended training courses as a risk management strategy that ought to be implemented in Eldoret main prison, 22 percent supported the notion of provision of support to the violent offenders, whereas 16 percent proposed formal risk assessment of the violent offenders.

4.5 The Relationship Between Modifiable Risk Factors and Risk Management Strategies Among Violent Offenders at Eldoret Main Prison

Table 4.4 below shows the chi-square test values obtained using modifiable risk factors and risk management strategies data.

MR	RISK	Total
7.64	7.37	15
8.65	8.35	17
7.13	6.87	14
4.58	4.42	9
28	27	55
X ² =0.043		

Table 4.4: Chi-Square Test

After conducting a chi-square test on modifiable risk factors and risk management strategies data, the researcher realized a degree of freedom of 3, a chi-square test of 8.14, and a p-value of 0.04, which is less than the set significance level of 0.05. The realization of a p-value that is less than the significance level indicates that there is adequate evidence to prove that a relationship exists between the categorical variables. In this context, the lower p-value indicated that there is a significant relationship between modifiable risk factors and risk management strategies.

4.6 Chapter Summary

This chapter used tables and charts in the presentation of the findings obtained after the data analysis process. These findings comprised the respondents' background information, the identified modifiable risk factors among violent offenders in Eldoret main prison, the implemented risk management strategies within the prison, and the relationship between the two variables.

CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter comprises a combination of the study findings and related information from the literature review section for the provision of a comprehensive discussion regarding modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison. The discussion also formed the basis for the study conclusions and recommendations.

5.2 Study Findings

This study intended to assess modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison. In the persuasion of this study purpose, three specific objectives were formulated. These objectives comprised to determine the modifiable risk factors among violent offenders at Eldoret main prison; to determine the risk management strategies among violent offenders at Eldoret main prison; to establish the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison.

Regarding the first objective, the study found six stable modifiable risk factors and seven acute modifiable risk factors among violent offenders at Eldoret main prison. The stable modifiable risk factors comprised peer associations, attitudes towards authority, impulse control, problem-solving, sense of entitlement, and attachment with others at the means of 1.98, 1.73, 2.00, 1.91, 1.93, and 1.89 respectively. The acute modifiable risk factors found comprised substance abuse, anger or hostility, opportunity or access to victims, a negative mood, employment, interpersonal relationships, and living situations with means of 1.69, 1.67, 1.60, 1.55, 1.82, 2.09, and 2.09, respectively. Besides, for both forms of modifiable risk factors, a low variability was found in the collected data. Additionally, the study found six modifiable risk factors that contributed to reoffence. These modifiable risk factors consisted of peer pressure, financial instability, lack of education and skills, anger and hostility, lack of social support, and alcohol and drug abuse.

The second objective aimed to determine the risk management strategies among violent offenders at Eldoret main prison. The study found five specific risk management strategies implemented by the Eldoret main prison. These strategies comprised monitoring of behavioral changes of violent offenders, regular cases management meetings, continuous consultation between local probation service and police forces to undertake a formal risk assessment of every offender, a plan in the

prison to manage the risk by appropriately sharing information and tasks with other agencies, and the implementation of policies for the identification, notification, and management of high-risk offenders. Moreover, the study also discovered that the risk management strategies used by Eldoret main prison were beneficial in addressing the risk that initially drove the respondents to offend. Particularly, the study found positive impacts of the risk management strategies on the management of violent offenders in Eldoret main prison, thus inferring the importance of risk management strategies within prison contexts.

The third objective strove to establish the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. The study concluded that there was a significant relationship between modifiable risk factors and risk management strategies. This finding confirmed the alternative hypothesis that there is a significant relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. The next segment offers a more comprehensive discussion of the study's findings.

5.3 Discussion

This section describes the findings of the study in relation to the literature review concerning the modifiable risk factors, risk management strategies and their relationship among violent offenders at Eldoret main prison.

5.3.1 Modifiable Risk Factors Among Violent Offenders at Eldoret Main Prison

Modifiable risk factors comprise some key variables in an offender that have been established and known to increase the chances of committing an offence are measured. Additionally, Hefferman et al. (2015) suggested that modifiable risk factors assist in the minimization of recurrence and are capable of subverting wrongdoers when handled appropriately. Alternatively, Hans and Harris (2000) identified modifiable risk factors as categorizable based on their durability. Particularly, these risk factors can be divided into stable modifiable risk factors and acute modifiable risk factors. The stable risk factors comprise offender characteristics that are related to recidivism and are capable of changing over months or years. In the Eldoret main prison context, these stable risk factors were identified as peer associations, attitudes towards authority, impulse control, problem-solving, sense of entitlement, and attachment with others.

On the other hand, the acute modifiable risk factors comprise highly transient conditions that can only last hours or days. Besides, the acute modifiable risk factors were found to change rapidly

within days, hours, or minutes and help determine the imminence of individual reoffending. In Eldoret main prison, these acute modifiable risk factors were identified as substance abuse, anger or hostility, opportunity or access to victims, a negative mood, employment, interpersonal relationships, and living situations. Moreover, deterioration of these factors is inferred to a greater risk for imminent reoffending.

In the Eldoret main prison, the study found that 11 percent of the prisoners who had been involved in the study had been reoffenders, with a majority of them citing a new offense as their reason for reincarceration. Besides, these individuals identified alcohol and substance abuse, peer pressure, lack of education and skills, anger and hostility, financial instability, lack of social support, and poor interpersonal relationships as among the primary challenges that they faced post-incarceration. These findings support Culic's (2007) results that the deterioration of acute modifiable risk factors increases an individual's probability of reoffence. Moreover, of the identified acute modifiable risk factors, this study pinpointed peer pressure as the most common acute risk modifiable risk factor within Eldoret main prison that made violent offenders reoffend. Alternatively, anger and hostility were identified as the least acute modifiable risk factors driving violent offenders to reoffend.

Besides, for improved assessment of the various modifiable risk factors, there exist numerous assessment tools. These tools comprise the Dynamic Risk Assessment for Offender Re-Entry (DRAOR), Scale (VRS) and the Short-Term Assessment of Risk Treatability (START), Violence Risk Appraisal Guide-Revised (VRAG-R), Static-99, and Level of Service Inventory (LSI). Regarding Static-99, Hanson et al. (2017) identified the tool as useful in the measurement of a sex offender's risk of reoffence. Concerning VRAG-R, Hart et al. (2011) identified the instrument as capable of providing estimated rate of recurrence for different follow-up lengths for the approximation of the probability that the male criminal offender or forensic mental patient will carry out a new sexual or violent offense. On the other hand, Hefferman and Ward (2015) described the VRS and START risk assessment tool as a structured professional judgment scheme aimed at informing diverse risk areas of daily practice, such as victimization, unauthorized leave, substance abuse, self-denial, self-harm, risk, and suicide that are relevant to psychiatric clinical practice, hence offering an efficient way in which people with mental and personality disorders assess risks to themselves and others. Finally, Haly (2013) denoted that the DRAOR tool is meant for use with adult offenders and is generally developed for the prediction of violent and overall recidivism,

with the inclusion of technical violations. Nonetheless, despite that these tools can help in the determination of individuals' risk of offence, they do not stop them from partaking in illegal activities. For the minimization of the adverse impact of modifiable risk factors in Eldoret main prison, the study established that several risk management strategies had been implemented within the prison.

5.3.2 Risk Management Strategies at Eldoret Main Prison

Risk management strategies refer to the established measures aimed at altering the inmates' behavior for minimization of recidivism rates and the management of violent offenders. The study found five specific risk management strategies implemented by the Eldoret main prison for the management of violent offenders. These strategies comprised monitoring of behavioral changes of violent offenders with a mean of 3.36, regular cases management meetings with a mean of 2.33, continuous consultation between local probation service and police forces to undertake a formal risk assessment of every offender (1.98), a plan in the prison to manage the risk by appropriately sharing information and tasks with other agencies (2.89), and the implementation of policies for the identification, notification, and management of high-risk offenders (3.18). Moreover, the study also discovered that the risk management strategies used by Eldoret main prison were beneficial in addressing the risk that initially drove the respondents to offend.

The study findings support the results by Polaschek et al. (2013) that indicated that prisons helped offenders alter their behaviors through regular cases management meetings, where individual inmates meet with a variety of personnel, provide an important opportunity for review and sanction events and participant behavior, establish new objectives and plans and practice specific interpersonal skills. The study findings also complement Kenya Prisons Service's (2013) results, which indicated that the Kenyan prisons had implemented programs instructive recovery intuitive comprising primary education, secondary, tertiary, and social education. According to Kenya Prisons Service (2013), primary education denotes literacy programs or adult education focusing on numerical skills, writing, and reading for elderly offenders. Social education, on the other hand, consist of cognitive skills training like basic financial management, social interaction, hygiene, and daily living. However, this study further identified the inadequacy of these education programs for the Eldoret main prison inmates recommended a need for better programs aimed at improving their social and technical skills. Complementarily, Iguna (2009) stated that most vocational programs are designed around available resources and not around the needs of offenders. This

finding helped explain why risk management strategies tended to be inadequate and ineffective. Nonetheless, the Kenya Prison Services (2013) identified numerous vocational rehabilitation programs that impart the inmates with essential skills that would provide them with the capability to partake in positive socioeconomic engagement post-incarceration, hence minimizing recidivism rates among the offenders reentering society post-imprisonment. These vocational rehabilitation programs include brick making, pottery, knitting, painting, masonry, cosmetology, saloon management, soap making, metalwork, upholstery, garment making, carpentry, mushroom production, sericulture, floriculture, fish farming, bee keeping, rabbit rearing, and dairy production.

Despite that a significant correlation is linked to the establishment of risk management strategies and behavioral modifications, in the Eldoret main prison context, almost half of the respondents reported minimal to no changes in violent offenders following the implementation of risk management strategies. However, most of the respondents reported a positive outcome, implying a positive relationship between risk management strategies and modifiable risk factors among violent offenders in Eldoret main prison.

5.3.3 The Relationship Between Modifiable Risk Factors and Risk Management Strategies Among Violent Offenders at Eldoret Main Prison

The determination of the relationship between the two variables was aimed at verifying whether the existing modifiable risk factors have an impact on the established risk management strategies within the prison context. For the determination of the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison, the current study used chi-square test and compared the p value for chi-square statistic to the set significance level of 0.05. This study found a p-value of 0.04, which is less than the set significance level of 0.05, hence established a significant relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. Particularly, the study participants identified behavioral change, helping them realize their mistakes, education of the importance of upholding the law, training/skills, information sharing, proper advice, spirituality enhancement, and reducing the influence of others as the primary risk management strategies that helped in the management of violent offenders in Eldoret main prison.

Moreover, behavioral change was identified as the most efficient risk management strategy that helped in the management of violent offenders in Eldoret main prison. The effectiveness of this strategy can be associated with the fact that cognitive factors comprising beliefs, ideas, and patterns of thinking that develop as a result of interactions with the world over an individual's lifespan determines their likelihood of committing a violent offense. As such, the implementation of risk management strategies focusing on behavioral change targeting the inmates' psychological functioning and their view of their actions would help change their behaviors.

5.4 Conclusions

This study intended to assess modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison. In the persuasion of this study purpose, three specific objectives were formulated. These objectives comprised to determine the modifiable risk factors among violent offenders at Eldoret main prison; to determine the risk management strategies among violent offenders at Eldoret main prison; to establish the relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison.

Regarding modifiable risk factors, the study established there were two forms of modifiable risk factors that increased an individual's chances of committing an offense. These modifiable risk factors comprised of stable modifiable risk factors and acute modifiable risk factors. The study further identified the stable modifiable risk factors increasing the Eldoret main prison's probability of committing an offense to be peer associations, attitudes towards authority, impulse control, problem-solving, sense of entitlement, and attachment with others. On the other hand, the study identified the acute modifiable risk factors increasing the Eldoret main prison's probability of committing an offense to be abuse, anger or hostility, opportunity or access to victims, a negative mood, employment, interpersonal relationships, and living situations. Nevertheless, for the minimization of reoffence, the study also indicated that the prison had implemented numerous risk management strategies.

The implemented risk management strategies in Eldoret main prison comprised monitoring of behavioral changes of violent offenders, regular cases management meetings, continuous consultation between local probation service and police forces to undertake a formal risk assessment of every offender, a plan in the prison to manage the risk by appropriately sharing

information and tasks with other agencies, and the implementation of policies for the identification, notification, and management of high-risk offenders. Besides, the study established that the implemented risk management strategies within Eldoret main prison had been beneficial in the management of violent offenders, hence inferring to the importance of risk management strategies within prison contexts.

The fact that the implemented risk management strategies had generated positive outcomes in Eldoret main prison indicated a positive relationship between risk management strategies and the reduction of modifiable risk factors in the prison. The study concluded that there was a significant relationship between modifiable risk factors and risk management strategies, hence confirming the alternative hypothesis that there is a significant relationship between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. Besides, for better outcomes, the study recommended regular counseling, enhanced training courses, offering the inmates support post-incarceration, and the conduction of formal risk assessment of violent offenders in Eldoret main prison.

5.5 Recommendations

The study established a significant between modifiable risk factors and risk management strategies among violent offenders at Eldoret main prison. From this perspective, Eldoret main prison ought to focus on the implementation of more effective risk management strategies aimed at eradicating or minimizing the modifiable risk factors among violent offenders. As aforementioned, the provision of regular counseling, enhanced training courses, offering the inmates support post-incarceration and the conduction of formal risk assessment of violent offenders in Eldoret main prison.

Concerning counseling, the prison should ensure the hiring of competent and highly qualified counselors to help the inmates in realizing a permanent behavioral change. The prison should also focus on the provision of counseling services for inmates before their release to bring awareness to the challenges that the inmates should expect from their reentry back to society. In addition, the prison should focus on the mechanisms that the inmates can use in surviving in a society that might continually stereotype and discriminate against them because of their past prison records.

Besides mentally preparing them for life after incarceration, the prison should also attempt to impart functional skills to their inmates. Particularly, the prison should ensure that the skills that the inmates learn within the prison environment are practical and applicable to the outside world. Also, in addition to technical skills, the prison should emphasize the improvement of the inmates' social skills for the enhancement of their interpersonal relationships, which might decrease their likelihood of reoffence. Regarding support, the provision of better awareness of what the inmates ought to expect post-incarceration and preparing them mentally and technically by imparting in them the essential skills and knowledge for survival in society can be considered adequate support for life post-incarceration.

Finally, there is a need for the conduction of a comprehensive formal risk assessment of violent offenders in Eldoret main prison. The obtained information should then be used in the segregation of the inmates based on their violence level. The collected information should also be used in personalizing the prison's risk management strategies to target the individual prisoner needs.

5.6 Suggestions for Future Study

This study used both quantitative and qualitative data in the assessment of modifiable risk factors and their relationship to risk management strategies among violent offenders at Eldoret Main Prison. However, the use of qualitative data may have introduced an element of research bias, for qualitative data tends to be subjective in nature. As such, future studies on the topic should focus on the conduction of a purely quantitative study, which could improve the data integrity and reliability of the realized results.

Besides, this study also focused on a single prison and a relatively small sample size of 74 respondents. The use of small sample size and constrained research parameters may have decreased the study findings' generalizability. Therefore, for increased generalizability of the obtained findings to cover Kenyan prisons, future studies should focus on multiple prisons and the use of bigger sample sizes.

REFERENCES

- Andrews, D. A., & Bonta, J. (2006). *The psychology of criminal conduct*. Newark, NJ: LexisNexis.
- Andrews, D. A., & Bonta, J. (2010a). *The psychology of criminal conduct* (5th ed.). New Providence, NJ: LexisNexis Matthew Bender.
- Andrews, D. A., & Bonta, J. (2010b). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy and Law*, *16*, 39-55. doi: 10.1037/a0018362
- Andrews, D. A., & Dowden, C. (2006). Risk principle of case classification in correctional treatment: A meta-analytic investigation. *International journal of offender therapy and comparative criminology*, *50*(1), 88-100.
- Andrews, D. A., Bonta, J., & Wormith, J. S. (2004). *The Level of Service/Case Management Inventory (LS/CMI)*. Toronto: Multi-Health Systems.
- Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or needs assessment. *Crime & Delinquency*, *52*, 7-27. doi: 10.1177/0011128705281756
- Averill, A. E. (2016). An investigation of the modifiable Risk Assessment for Offender Re-Entry (DRAOR) with New Zealand sexual offenders.
- Bellis, M. A., Hughes, K., Wood, S., Wyke, S., & Perkins, C. (2011). National five-year examination of inequalities and trends in emergency hospital admission for violence across England. *Injury Prevention*, *17*(5), 319-325.
- Blanchard, A. J. E. (2013). *Modifiable risk factors in violence risk assessment: A multiple time-point evaluation of the HCR-20 and START* (Doctoral dissertation, Arts & Social Sciences: Department of Psychology).
- Bonta, J., & Andrews, D. A. (2007). Risk-need-responsivity model for offender assessment and rehabilitation. *Rehabilitation*, *6*(1), 1-22.
- Brunton-Smith, I., & Hopkins, K. (2013). The factors associated with proven re-offending following release from prison: findings from Waves 1 to 3 of SPCR. *Results from the*

Surveying Prisoner Crime Reduction (SPCR) Longitudinal Cohort Study of Prisoners.
2(1), 41-66

Butchart, A., & Mikton, C. (2014). Global status report on violence prevention, 2014.

Campbell, M. A., French, S., & Gendreau, P. (2009). The prediction of violence in adult offenders: A meta-analytic comparison of instruments and methods of assessment. *Criminal Justice and Behavior*, 36(6), 567-590.

Claessen, D., Eijkman, Q., & Lamkaddem, M. (2019). Social support and access to justice at the kitchen table? An assessment of the legal capabilities of community social care professionals in the Netherlands. *European Journal of Social Work*, 1-14.

Constantinou, A. C., Freestone, M., Marsh, W., Fenton, N., & Coid, J. (2015). Risk assessment and risk management of violent reoffending among prisoners. *Expert Systems with Applications*, 42(21), 7511-7529.

Cording, J. R., Beggs Christofferson, S. M., & Grace, R. C. (2016). Challenges for the theory and application of modifiable risk factors. *Psychology, Crime & Law*, 22(1-2), 84-103. <https://doi.org/10.1080/1068316x.2015.1111367>

Craig, L. A., Gannon, T. A., & Dixon, L. (Eds.). (2013). *What works in offender rehabilitation: An evidence-based approach to assessment and treatment*. John Wiley & Sons.

Desmarais, S. L., & Singh, J. P. (2013). Risk assessment instruments validated and implemented in correctional settings in the United States. *Lexington, KY: Council of State Governments*.

Devon L.L., Polaschek, D. L., & Kilgour, T. G. (2013). New Zealand's special treatment units: The development and implementation of intensive treatment for high-risk male prisoners. *Psychology, Crime & Law*, 19(5-6), 511-526.

Durrant, R. (2016). Putting risk factors in their place: An evolutionary-developmental approach to understanding risk. *Psychology, Crime & Law*, 22(1-2), 17-32.

Federal Bureau of Investigation. (2015). *Crime in the United States*. Retrieved from <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/offenses-known-to-lawenforcement/violent-crime>

- Hanby, L. (2013). *A Longitudinal Study of Dynamic Risk, Protective Factors, and Criminal Recidivism: Change over Time and the Impact of Assessment Timing*. Carleton University Ottawa, Canada© 2013.
- Hanson, R. K., & Harris, A. J. (2000). Where should we intervene? Dynamic predictors of sexual offense recidivism. *Criminal Justice and behavior*, 27(1), 6-35.
- Hanson, R. K., & Morton-Bourgon, K. E. (2009). The accuracy of recidivism risk assessments for sexual offenders: a meta-analysis of 118 prediction studies. *Psychological assessment*, 21(1), 1.
- Hanson, R. K., Bourgon, G., McGrath, R. J., Kroner, D., D'Amora, D. A., Thomas, S. S., & Tavarez, L. P. (2017). *A five-level risk and needs system: Maximizing assessment results in corrections through the development of a common language*. WS Hein.
- Hanson, R. K., Harris, A. J., Scott, T. L., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project* (Vol. 5, No. 6). Ottawa, Ontario: Public Safety Canada.
- Hart, S., Sturmey, P., Logan, C., & McMurrin, M. (2011). Formulación forense de casos. *International Journal of Forensic Mental Health*, 10, 118-126.
- Heffernan, R., & Ward, T. (2015). The conceptualization of modifiable risk factors in child sex offenders: An agency model. *Aggression and Violent Behavior*, 24, 250-260.
- Heffernan, R., & Ward, T. (2019). Modifiable risk factors, protective factors and value-laden practices. *Psychiatry, Psychology and Law*, 26(2), 312-328.
- Heffernan, R., Ward, T., Vandavelde, S., & Van Damme, L. (2019). Modifiable risk factors and constructing explanations of offending: The Risk-Causality Method. *Aggression and violent behavior*, 44, 47-56
- Iguna, J.K. (2010). Factors influencing perceived acceptance of change in prisons reforms in Kenya: a case of Nyeri Command Prison. (Unpublished Master's Thesis). University of Nairobi. Kenya. URI://http:erepository.uonbi.ac.ke 8080/handle/123456789/5035

- Kamau, E. N. (2018). *An evaluation on the significance of risk assessment on rehabilitation strategies of violent offenders at Kamiti Main Prison, Kenya* (Doctoral dissertation, , UNIVERSITY OF NAIROBI).
- Kenya Prison Service, (2013). Handbook. Government Press
- Kimiti, P. & Thinguri, R. (2016). Risk assessment as a tool for prevention of sexual offences an untried option in Kenya. *International Journal of Contemporary Applied Sciences*, 3(4), 2308-1365
- Klepfisz, G., Daffern, M., & Day, A. (2016). Understanding modifiable risk factors for violence. *Psychology, Crime & Law*, 22(1-2), 124-137.
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *The lancet*, 360(9339), 1083-1088.
- Latessa, E. J., & Lovins, B. (2010). The role of offender risk assessment: A policy maker guide. *Victims and Offenders*, 5(3), 203-219.
- Lewis, G., & Doyle, M. (2009). Risk formulation: What are we doing and why? *International Journal of Forensic Mental Health*, 8(4), 286–292
- Logan, C., & Johnstone, L. (2013). *Managing clinical risk: A guide to effective practice*. Oxford, UK: Routledge.
- Mann, R. E., Hanson, R. K., & Thornton, D. (2010). Assessing risk for sexual recidivism: Some proposals on the nature of psychologically meaningful risk factors. *Sexual Abuse*, 22(2), 191-217.
- Mariam, A. (2009). *The assessment and management of violence in forensic populations* (Doctoral dissertation, University of Birmingham).
- McGuire, J. (2013). What Works' to Reduce Re-Offending. *What works in offender rehabilitation: An evidence-based approach to assessment and treatment*, 20-49.
- O'Dwyer, G. (2007). *A risk assessment and risk management approach to sexual offending in the Irish probation service* (Doctoral dissertation, University College Dublin).

- Ogeto, A.N. (2009). The Impact of Prison Reforms on the Inmate Rehabilitation Programs in Kenya. A Case Study of Kamiti & Langata Prisons.
- Olver, M. E., Stockdale, K. C., & Wormith, J. S. (2014). Thirty years of research on the Level of Service Scales: A meta-analytic examination of predictive accuracy and sources of variability. *Psychological Assessment*, 26(1), 156.
- Salaam, A. O. (2009). *An Exploration of Risk Factors in Substance Misuse and the Trajectory of Criminal Offending*. University of Surrey (United Kingdom).
- Serin, R. (2007). *The modifiable risk assessment scale for offender re-entry (DRAOR)*. Unpublished scale. Carleton University, Ottawa, Ontario.
- Serin, R. C., Mailloux, D., & Wilson, N. (2010). *Practice manual for use with modifiable Risk Assessment for Offender Re-entry (DRAOR) scale: Revised version*. Unpublished manuscript, Carleton University, Ottawa, Canada.
- Taylor, P., & Bond, S. (2012). Crimes detected in England and Wales 2011/12. *Home Office Statistical Bulletin*. London, Home Office.
- Vernham, Z., & Nee, C. (2016). Dysfunctional expertise and its relationship with modifiable risk factors in offenders. *Psychology, Crime & Law*, 22(1-2), 47-67.
- Ward, T. (2016). Modifiable risk factors: Scientific kinds or predictive constructs. *Psychology, Crime & Law*, 22(1-2), 2-16.
- Ward, T., & Beech, A. R. (2015). Modifiable risk factors: A theoretical dead-end?. *Psychology, Crime & Law*, 21(2), 100-113.
- Ward, T., & Fortune, C. A. (Eds.). (2018). *Modifiable risk factors: What role should they play in the explanation, assessment and rehabilitation of offenders?*. Routledge.
- Ward, T., & Salmon, K. (2011). The ethics of care and treatment of sex offenders. *Sexual Abuse*, 23(3), 397-413. DOI: 10.1177/1079063210382049
- Wekesa, E. (2013). "The role of prisons in the administration of custodial rehabilitation of inmates in Kenya" a case of Thika main prison, Kiambu County.

Yesberg, J. A., & Polaschek, D. L. L. (2015). Assessing dynamic risk and protective factors in the community: Examining the validity of the Dynamic Risk Assessment for Offender Re-entry. *Psychology, Crime & Law*, 21(1), 80-99. doi: 10.1080/1068316X.2014.935775

APPENDICES

Appendix I: Letter of Introduction



UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES
FACULTY OF ARTS
DEPARTMENT OF PSYCHOLOGY

Telegrams: Varsity Nairobi
Telephone: 318262
Fax: 3245566
Telex 22095 varsity Ke Nairobi, Kenya

P.O. BOX 30197, 00100
NAIROBI
KENYA

22nd Sept 2020

The C.E.O,
National Commission for Science Technology and Innovation,
P. O. Box 30623, 00100
Nairobi

Dear Sir

REF: LETTER OF INTRODUCTION COLLINS P. W MANANA

REG NO: C50/13521/2018

The above named is a student in the Department of Psychology pursuing a Master of Psychology (Forensic Psychology). He has requested for a letter of introduction to enable him to collect data. He has successfully defended his research proposal at the Department including making a provision for COVID 19 requirements. His research is entitled: **MODIFIABLE RISK FACTORS AND THEIR RELATIONSHIP TO RISK MANAGEMENT STRATEGIES AMONG VIOLENT OFFENDERS: A CASE OF ELDORET MAIN PRISON.**

Your kind support is highly appreciated

Sincerely,

Dr. C. Kimamo
Chair, Department of Psychology

Appendix II: Research Questionnaire

This questionnaire is to collect data for purely academic purposes. All information will be treated with strict confidence. Do not put any name or identification on this questionnaire.

Answer all questions as indicated by either filling in the blank or ticking the option that applies.

SECTION A: BACKGROUND INFORMATION

1) Please indicate your gender:

- a. Female
- b. Male

2) State your highest level of education

- a. Certificate
- b. Diploma
- c. Degree
- d. Masters
- e. PhD

3) Please Indicate your age bracket

- a. 20-30 years
- b. 31-40 years
- c. 41-50 years
- d. Above 50 years

4) Were you raise by?

- a. Both parents (mother & father)
- b. Father only
- c. Mother only
- d. Grandparents
- e. Any other, specify

5) How long have you been in Eldoret main prison?

- a. Less than 2 years
- b. 2 to 4 years
- c. 4 to 6 years
- d. More than 6 years

SECTION B: MODIFIABLE RISK FACTORS

6) Have you ever committed another crime after the initial crime?

Yes [] No []

a. If yes, what was the offence or violated condition?

Breach [] Recall [] New Offence [] Re-imprisoned []

7) Please indicate the extent to which the following characteristics associated with modifiable risk factors contributed to your offending.

Factor	Low Extent	Moderate Extent	Great extent
Stable modifiable risk factors			
Peer associations			
Attitudes towards authority			
Impulse control			
Problem solving			
Sense of entitlement			
Attachment with others			
Acute modifiable risk factors			
Substance abuse			
Anger/hostility			
Opportunity/access to victims			
Negative mood			
Employment			
Interpersonal relationships			
Living situations			

8) In which ways do you think modifiable risk factors makes violent offenders to commit crimes again?

.....

.....

.....

.....

PART C: RISK MANAGEMENT STRATEGIES AMONG VIOLENT OFFENDERS

9) Please indicate your level of agreement with the following statements on risk management strategies among violent criminals using 5 Likert scale where:

5=Strong agree; 4=Agree; 3=Neutral; 2= Disagree and 1= Strongly disagree

RISK MANAGEMENT STRATEGIES	1	2	3	4	5
The prison management have implemented policies for the identification, notification, and management of high-risk offenders					
There is monitoring of behavioral changes of violent offenders					
There are regular cases management meetings					
There is continuous consultation between local probation service and police forces to undertake formal risk assessment of every offender					
There is always a plan in the prison to manage the risk by appropriately sharing information and tasks with other agencies					

10) Are the risk management strategies used by the prison service beneficial in addressing the risks that led you into offending?

Yes No

11) In which ways do you think risk management strategies have assisted in managing violent offenders in Eldoret main prison?


.....

12) What other risk management strategies would you propose to be used?

.....

Thank You for Your Participation


Appendix III: Research Consent Form


REPUBLIC OF KENYA


NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION

RefNo: **826266** Date of Issue: **29/September/2020**


RESEARCH LICENSE




This is to Certify that Mr. COLLINS P. W MANANA of University of Nairobi, has been licensed to conduct research in Usin-Gishu on the topic: MODIFIABLE RISK FACTORS AND THEIR RELATIONSHIP TO RISK MANAGEMENT STRATEGIES AMONG VIOLENT OFFENDERS: A CASE OF ELDORET MAIN PRISON for the period ending : 29/September/2021.

License No: **NACOSTI/P/20/6896**

826266
Applicant Identification Number


Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix IV: Approved Data Collection Form

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT
OFFICE OF THE PRESIDENT
Telegram 'OC PRISONS' ELDORET
Telephone (020) 2123129/2417316
Email: peldoretmain@gmail.com
When replying please quote;

OFFICE OF THE OFFICER -IN-CHARGE,
G.K. PRISON ELDORET MAIN,
P.O. BOX 824-30100
ELDORET

REF:ELD/PRIS/1/20/VOL.XIII/377 **DATE:12/11/2020**

TO:
MR. COLLINS MANANA (REG.NO.C50/13521/2018)
UNIVERSITY OF NAIROBI
P.O.BOX 9823-30100
NAIROBI

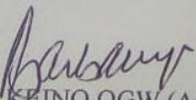
RE: REQUEST TO COLLECT DATA FOR ACADEMIC RESEARCH PURPOSES.

Reference is made to your unreferenced letter dated 11th November,2020 on the above subject.

Kindly be informed that your request to collect data on subject **MODIFIABLE RISK FACTORS AND THEIR RELATIONSHIP TO RISK MANAGEMENT STRATEGIES AMONG VIOLENT OFFENDERS** in our institution has been approved.

During the period of the research in this institution you will be required to observe the laid down rules and regulations. Covid -19 protocols should also observed as per the Governments and Health Ministry directives.

On completion you will be required to submit a copy of the research for security of the institution.


B.K. KEINO OGW (ACP)
OFFICER IN CHARGE
ELDORET MAIN PRISON

Cc

- THE DUTY OFFICE
- SECURITY OFFICER

/km ELDORET MAIN PRISON Page 1

Appendix V: Plagiarism Report

Turnitin 23/11/2020, 08:00

Document Viewer

Turnitin Originality Report

Processed on: 23-Nov-2020 07:56 EAT
 ID: 1454679070
 Word Count: 15386
 Submitted: 1

MODIFIABLE RISK FACTORS AND THEIR RELATIONSHI... By Collins Manana

Similarity Index <h1 style="font-size: 2em;">11%</h1>	Similarity by Source Internet Sources: 9% Publications: 5% Student Papers: 4%
--	---

[include quoted](#) [include bibliography](#) [excluding matches < 3 words](#) mode:

1% match (Internet from 18-Mar-2009) http://www.surrey.ac.uk	■
1% match (publications) Golshan Ghasemzadeh, Mostafa Soodmand, Mohammad Taghi Moghadamnia. "The Cardiac Risk Factors of Coronary Artery Disease and its relationship with Cardiopulmonary resuscitation: A retrospective study", The Egyptian Heart Journal, 2018	■
<1% match (student papers from 13-Oct-2017) Submitted to Kenyatta University on 2017-10-13	■
<1% match (student papers from 06-Oct-2020) Submitted to Africa Nazarene University on 2020-10-06	■
<1% match (Internet from 23-Oct-2019) https://pdfs.semanticscholar.org/ad64/8b042be73e1bc3b92ca2e97e2f22e7e9c4b8.pdf	■
<1% match (Internet from 21-Sep-2020) https://www.eecs.qmul.ac.uk/~norman/papers/BN_violence_for_web.pdf	■
<1% match (Internet from 22-Jul-2020) http://erepository.uonbi.ac.ke	■
<1% match (Internet from 20-Apr-2012) http://www.corrections.govt.nz	■
<1% match (student papers from 18-Oct-2019) Submitted to AUT University on 2019-10-18	■
<1% match (student papers from 18-Jun-2012) Submitted to EDMC on 2012-06-18	■
<1% match (Internet from 07-Nov-2017) https://link.springer.com/content/pdf/10.1007%2F978-1-4939-2416-5.pdf	■

https://www.turnitin.com/newreport_classic.asp?lang=en_us&oid=1454679070&ft=1&byypass_cv=1
Page 1 of 27

Document Viewer

Turnitin Originality Report

Processed on: 23-Nov-2020 07:56 EAT

ID: 1454679070

Word Count: 15386

Submitted: 1

MODIFIABLE RISK FACTORS AND THEIR RELATIONSHI... By Collins Manana

Similarity Index 11%	Similarity by Source	
	Internet Sources:	9%
	Publications:	5%
	Student Papers:	4%

include quoted include bibliography excluding matches < 3 words mode:

quickview (classic) report Change mode print refresh download

1% match (Internet from 18-Mar-2009)
<http://www.surrey.ac.uk>

1% match (publications)
Golshan Ghasemzadeh, Mostafa Soodmand, Mohammad Taghi Moghadamnia. "The Cardiac Risk Factors of Coronary Artery Disease and its relationship with Cardiopulmonary resuscitation: A retrospective study". The Egyptian Heart Journal, 2018

<1% match (student papers from 13-Oct-2017)
Submitted to Kenyatta University on 2017-10-13

help collins

<1% match (student papers from 06-Oct-2020)
Submitted to Africa Nazarene University on 2020-10-06

23/11/2020

<1% match (Internet from 23-Oct-2019)
<https://pdfs.semanticscholar.org/ad64/8b042be73e1bc3b92ca2e97e2f22e7e9c4b8.pdf>

<1% match (Internet from 21-Sep-2020)
https://www.eecs.qmul.ac.uk/~norman/papers/BN_violence_for_web.pdf

<1% match (Internet from 22-Jul-2020)
<http://erepository.uonbi.ac.ke>

<1% match (Internet from 20-Apr-2012)
<http://www.corrections.govt.nz>

<1% match (student papers from 18-Oct-2019)
Submitted to AUT University on 2019-10-18

<1% match (student papers from 18-Jun-2012)
Submitted to EDMC on 2012-06-18

<1% match (Internet from 07-Nov-2017)
<https://link.springer.com/content/pdf/10.1007%2F978-1-4939-2416-5.pdf>

