

**INFLUENCE OF POLICE PATROL ON CRIME REDUCTION IN IMENTI SOUTH
DISTRICT, MERU COUNTY, KENYA**

GATOTO DAVID MWANGI

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENT FOR THE AWARD OF MASTER OF ARTS DEGREE IN
PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF NAIROBI**

2013

DECLARATION

This research report is my original work and has not been submitted for an award in any other University

Signed _____ Date _____

GATOTO DAVID MWANGI

L50/77615/2012

This research report has been submitted with my approval as the University Supervisor.

Signed _____

Date _____

Dr. Harriet Kidombo

School of Continuing and Distance Studies

University of Nairobi

DEDICATION

This report is dedicated to my father, mother, brothers, sisters, Lorraine Njeri, the late Mercy Nyokabi and friends for their love, joy, support and strength that they give my entire life. May the God almighty bless them.

ACKNOWLEDGEMENTS

First and foremost, I wish to acknowledge and thank my research supervisor Dr. Harriet Kidombo for her tireless efforts in guiding me in the entire writing; her guidance was instrumental in writing this report. I would like to recognize the Department of Extra-Mural Studies; University of Nairobi for the training and support that helped me a lot in the progress of my research. I would also like to appreciate 2012 Nkubu Masters of Arts group members for their continued support and encouragement during the development of this report. I also want to acknowledge the cooperation of the police officers during the time of the study. I would also like to appreciate the upto standard binding services render by Miss Joy. Last but not least I would like to appreciate my colleagues for their support throughout my course work and thanks to my immediate and former boss for giving me an enabling environment to study.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS AND ACRONYMS	xi
ABSTRACT.....	xii
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	5
1.5 Research Questions	6
1.6 Significance of the Study	6
1.7 Delimitation of the Study	7
1.8 Limitations of the Study.....	7
1.9 Assumptions of the Study	8
1.10 Definitions of Significant Terms.....	8
1.11 Organization of the Study	8
CHAPTER TWO:LITERATURE REVIEW.....	10
2.1 Introduction	10
2.2 Number of Police Officers and Crime Reduction.....	10
2.3 Police Patrol Strategies and Crime Reduction	13
2.3.1 Hot Spots Strategies	13
2.3.2 Foot Patrol Strategies	14
2.3.3 Directed Patrol Strategies.....	14
2.3.4 High Visibility Patrol Strategies	15
2.4 Police Job Satisfaction and Crime Reduction	18
2.5 Police Motivation and Crime Reduction.....	21

2.6 Theoretical Review	22
2.7 Conceptual Framework	23
2.8 Summary	24
CHAPTER THREE:RESEARCH METHODOLOGY	25
3.1 Introduction	25
3.2 Research Design.....	25
3.3 Target Population	25
3.4 Research Instrument	26
3.5 Pilot Study.....	26
3.6 Validity of the Research Instrument.....	27
3.7 Reliability of the Instrument	27
3.8 Methods of Data Collection	27
3.9 Data Analysis	28
3.10 Operationalization Table	29
3.11 Ethical Consideration	30
3.12 Summary	31
CHAPTER FOUR:DATA ANALYSIS, PRESENTATION AND INTERPRETATION	32
4.1 Introduction	32
4.1.1 Police officers response rate.....	32
4.2 General Information	33
4.2.1 Age of police officers	33
4.2.2 Employment period of officers (tenure).....	33
4.2.3 Sex of the police officers.....	34
4.2.4 Police officers marital status	34
4.2.5 Police officers education level	35
4.2.6 Basic salary of police officers	36
4.2.7 Correlation of basic salary and number of years officers have worked	36
4.2.8 Correlation of rank of officers and educational level.....	37
4.2.9 Correlation of educational level and basic salary of officers	37
4.3 Number of police officers and crime reduction	38
4.3.1 Does Imenti South have enough police officers to reduce crime.....	38

4.3.2 Crosstabulation between number of officers and patrol frequency	39
4.3.3 Chi-square tests between number of officers and frequency of patrols	39
4.3.4 Correlation of number of police officers and crime reduction.....	40
4.4 Police patrol strategies and crime reduction	40
4.4.1 Rating of police patrol strategies in terms of their effectiveness	41
4.4.2 Means and standard deviations of patrol strategies.....	41
4.4.3 A Crosstabulation between role played by patrol strategies and challenges facing their implementation.....	42
4.4.4 Chi-square tests for role played by patrol strategies and challenges facing their implementation.....	43
4.5 Job satisfaction and crime reduction	43
4.5.1 Correlation of job satisfaction (working hours) and crime reduction	44
4.5.2 Correlation of job satisfaction in terms of fair pay (salary) and crime reduction in imenti south.....	44
4.6 Motivation and crime reduction	45
4.6.1 Means and standard deviation of financial and non-financial motivators	45
4.6.2 Correlation of police motivator in terms of housing conditions and crime reduction in imenti south.....	45
4.6.3 Influencer of crime reduction.....	46
4.6.4 Regression analysis of independent variables on dependent variable	47
CHAPTER FIVE:SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS.....	50
5.1 Introduction.....	50
5.1.1 Summary of the Findings	50
5.2 Discussions of Findings	52
5.2.1 Number of Police Officers	53
5.2.2 Police Patrol Strategy.....	54
5.2.3 Police Job Satisfaction	54
5.2.4 Police Motivation	55
5.3 Conclusions	55
5.4 Recommendations	56
5.5 Suggestions for Further Studies	57

REFERENCES	58
APPENDICES	65
APPENDIX I: Questionnairefor Police Officers	65
APPENDIX II: Letter of Transmittal.....	70
APPENDIX III: Authority to Undertake Research.....	71

LIST OF TABLES

Table 3.1: Target Population.....	26
Table 3.2: Operational Definition of Variables	29
Table 4.1: Police officers rank	32
Table 4.2: Police officers age.....	33
Table 4.3: Police officers tenure	34
Table 4.4: Police officers sex.....	34
Table 4.5: Police officers marital status.....	35
Table 4.6: Police officers education level.....	35
Table 4.7: Police officers basic salary	36
Table 4.8: Correlation of tenure of officers and basic salary.....	36
Table 4.9: Correlation of educational level and rank of officers	37
Table 4.10: Correlation of educational level and basic salary of officers.....	38
Table 4.11: Imenti South have enough police officers to enhance crime reduction	38
Table: 4.12 Crosstabulation between number of officers and frequency of police patrols	39
Table 4.13 Chi-Square tests between number of officers and frequency of patrol.....	40
Table 4.14: Correlation of number of police officers and crime reduction	40
Table 4.15 Rating of Police Patrol Strategies	41
Table 4.16 Means and standard deviations of patrol strategies	42
Table: 4.17 Crosstabulation between Patrol Strategies Roles and their Implementation Challenges.....	42
Table 4.18 Chi-Square tests for patrol strategies roles and their implementation challenges	43
Table 4.19: Correlation of job satisfaction (working hours) and crime reduction.....	44
Table 4.20: Correlation of job satisfaction in fair pay (salary) and crime reduction	44
Table 4.21 Means and standard deviation of financial and non-financial motivators	45
Table 4.22: Correlation of housing conditions and crime reduction	46
Table 4.23: Response of police officers on influencer of crime reduction.....	46
Table 4.24 Model Summary	47
Table 4.25: ANOVA.....	47
Table 4.26: Coefficients of independent variables.....	48
Table 5.1 Summary of the Findings.....	51

LIST OF FIGURES

Figure 1: Conceptual framework 24

LIST OF ABBREVIATIONS AND ACRONYMS

AG	–	Advisory Group
CCTV	–	Closed Circuit Television
GDP	–	Gross Domestic Product
ICT	–	Information Communication Technology
MDGs	–	Millennium Development Goals
NIJ	–	National Institute of Justice
OCPD	–	Officer commanding Police Division
OCS	–	Officer Commanding Station
SPSS	–	Statistical Package for the Social Sciences
UK	–	United Kingdom
US	–	United State

ABSTRACT

Security is a key component for any development progress to take place and thus any hindrance to secure environment ought to be addressed immediately and effectively as it may hinder attainment of Vision 2030. The goal of this study was to assess the influence of police patrol on reduction of crime in Imenti South district and it focused on obtaining information from police officers in the district. The study was expected to benefit the public, police officers and the National Police Service who are policy makers. The research questions and objectives were set in order to aid in gathering information on the independent variables (police patrol) and its influence on dependent variable (crime reduction). The study was carried out in Imenti South district, which is one of the 26 districts in Eastern Province. The district is located in Meru County which consists of 6 other districts namely Igembe, Ntonyiri, Tigania East, Tigania West, North Imenti and Central Imenti. A cross-sectional survey study was used to obtain information on influence of police patrols and crime reduction. The target population for this study was 120 police officers in two police stations (Nkubu and Mitunguu) and seven police posts (Maraa, Igoji, Keria, Kinoro, Kiangua, Ntharene, Murungurune) in Imenti South District. Due to the small number of the population to be studied a census was undertaken meaning all individuals were studied. The study was guided by two theories of crime; routine activity theory which proposes that a crime occurs when a suitable target and a potential offender meet at a suitable time and place lacking capable guardianship and rational choice theory which adopts a utilitarian belief that man is a reasoning actor who weighs means and ends, costs and benefits, and makes a rational choice. A pilot study to test the validity and reliability of the research instrument was carried out in Meru Central District which had similar characteristics as Imenti South District. Structured questionnaires were used to collect data on demographic, socio-economic, number of police officers, police patrol strategies, police job satisfaction, police motivation as well as attitudes and practices. Data was analyzed both quantitatively and qualitatively. This generated quantitative reports through crosstabulations, percentages, correlation, means and regression. The findings were presented using tables and frequency distributions. This study established that number of police officers affect crime reduction to a very small extent and the officers are severely under staffed, leading to long work hours and reduced leave days. It therefore made a recommendation that the number of police officers should be increased. The study also found that hot spot patrol and foot patrol were most effective and lack of patrol cars as well as limited number of police officers were found as major challenges in the implementation of patrol strategies and therefore recommended training and capacity building to police officers on the patrol strategy as well as provision of more patrol cars. The study further found that police officers were not satisfied with their working hours and salary and considering the work the police officers undertake the study recommended that the officers salary be increased and more officers be employed to bridge the gap that currently exist and to ensure that they do not work for very long hours. The study lastly found that police officers feel more motivated by financial motivators than non-financial motivators and that the officers housing condition are in bad state as some officers even share rooms. This study therefore recommended that more financial motivator be used to reward the officers as well as non-financial motivators and that more houses to be built for officers to improve their housing conditions and necessary arrangements be made to avoid sharing of houses. The study suggests further studies on influence of leadership of police officers on crime reduction and influence of police officers corruption on crime reduction.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Patrol is a policing tactic or technique that involves movement around an area for the purpose of observation, inspection or security. Patrol is conducted by police officers or other agents of policing; it may be undertaken on foot, on a bicycle, on horseback or in a vehicle and in uniform or in plain clothes and the officers may patrol alone or in pairs. Police operations cover the mission-critical aspects of a police organization: policies, institutional arrangements, processes and resources for the performance of the policeman's main functions. According to Felson and Clarke (1998), police operations encompass a wide range of activities, particularly patrol and traffic operations, implementation of special laws, command and control, civil disturbance, disaster management, terrorism, deployment of troops, internal security operations and community-oriented policing, with due regard to human rights. The general goals of the police patrol are to protect life and property, preservation of peace and order, prevention of crime, suppression of criminal activities, apprehension of criminals, enforcement of laws and ordinances, regulation of criminal conduct and performing necessary services and inspections (Felson, 2002).

The issues of peace and security have to be urgently and adequately addressed at the global, regional, national levels if Meru County specifically Imenti South district is to make progress towards realizing the Millennium Development Goals. Security is perceived as one of the crucial thematic areas that are essential in the achievements of the Millennium Development Goals (MDGs, 2004). Bittner (1970), said that patrol is based on the allocation of officers between spatial areas; it is also a method of organizing policing resources and managing policing personnel. Patrols involves police looking at activities that are illegal, making arrests of the perpetrators of such activities and by extent inhibiting such activities through their presence. According to the findings of Bittner(1970), in his classic study of police work, he said that officers who have stayed in an area for a substantial amount of time know the shops, stores, warehouses, restaurants, hotels, schools, playgrounds, and other public places in such a way that they are able to recognize at a glance whether what was going on within them is within the range of normalcy.

On the globally view when comparing different countries level of spending on security, it was evident that security took a bigger share of the Gross Domestic Product. According to Kyckelhahn (2011), local, state and federal governments in the United Kingdom spent approximately \$104 billion on police services in 2007, which is approximately \$344 per capita. United States spent far more than any other country on defense and security. Since 2001, the base defense budget soared from \$287 billion to \$530 billion. All told, the U.S. government spent about \$718 billion on defense and international security assistance in 2011. Regionally countries such as South Africa spent 1.6% of its GDP on security, Nigeria spent 1.2% of its GDP, and Ghana spent 0.7% of its GDP while Kenya spent 1.9% of its GDP on security (Wuyi and Eboe, 2006). Policing accounted for substantial portion of local government budgets.

The Kenyan government was determined to improve security in order to lower the cost of doing business and to provide Kenyans with a more secure living and working environment. Specific strategies included, improving the practice of community policing, reducing the police to population ratio, adopting information and communication technology (ICT) in crime detection and prevention and enhancing police training (Visions 2030). One of the flagship projects for 2012 for the political pillar was Security and Policing Reform Initiative that aimed at increasing the number of police officers to improve police population ratio and improve their working conditions.

Police Patrol has always been the backbone of protecting the public, and for as far back as society begun to get organized into groups and communities, mankind always had people to patrol so as to show a strong presence, as well as be on the lookout for danger at all levels, and then be able to respond (Felson, 1994). High police visibility discourages criminals as normally, criminals think twice before executing their plans if there is obvious presence of police officers. Police patrol activities should be carried out in a manner that attracts maximum attention to the public thus a number of countries tend to encourage officers to patrol on foot so as to increase their visibility but on the contrary increasing the level of foot patrol has no reduction effect on crime according to an experimental study carried out in Britain (Weatheritt, 1991).

Criminals usually know when police presence is high in specific areas and therefore wait a longer time to commit crimes after the police have moved out of the area as presence of police in an area has a deterrent effect on criminals. Koper (1995) attempted to understand the residual deterrent effect of police presence. It was hypothesized that the more time a police officer was present within a high crime area, the higher deterrent effect than when the police presence was absent (survival time). It was thus important that criminal prone areas should have a bigger number of police and the number of patrols or the frequency of patrols be increased so as to ensure that the deterrence effect was sustained as this was evident in most towns where patrols were carried out more frequently. Chaiken, Lawless and Stephen (1974) also noted that increase in deployment of additional police patrols in a robbery prone area led to reduced robbery rates.

The number of police in an area was important because the higher the number the smaller the size of area to patrol. Sherman (1995) also supported the effectiveness of police patrols and said that the more police, the less crime. While citizens and public officials often espouse that view, social scientists often claimed the opposite extreme: that police made minimal contributions to crime prevention in the context of far more powerful social institutions, like the family and labor markets and thus the truth appeared to lie in between. Whether additional police prevented crime depended on how well they focused on specific objectives, tasks, places, times and people. Most of all, it depended upon putting police where serious crime was concentrated, at the time it is most likely to occur and policing focused on risk factors. Further Dahmann (1975), said that random preventive patrol had impact on crime. In his study he used weaker quasi-experimental designs a much larger scale and more persuasive evaluation of preventive patrol in Kansas City found that the standard practice of preventive patrol did not reduce crime (Kelling, Tony, Duane, and Charles, 1974). However increasing police numbers seemed not to reduce crime but simply led to increase reported crime (Koenig, 1991). Thus as we conducted this study we were trying to find out if indeed by increasing the number of police there was any reduction of crime.

The study was guided by routine activity theory that was proposed by Felson and Cohen in 1979 and the rational choice theory by Clarke and Felson (1993). According to Felson (1994), a crime occurs when a suitable target and a potential offender meet at a suitable time and place lacking capable guardianship. These are the minimal elements and conditions for a crime to occur. Crime

risk is reduced if perceived target suitability is decreased or, conversely, its security increased. A missing element means that no crime will occur there and then. Consequently, routine activity theory reminds us that a crime requires more than just a potential offender; it requires a suitable target and a conducive environment. Once it is acknowledged that crime requires suitable targets and environments, and then these elements can be shaped in ways that reduce or prevent crime.

1.2 Statement of the Problem

Insecurity levels are on the rise globally, regionally and nationally despite police presence and Imenti South district has not been an exception. For any development progress to occur in any developed or developing countries security is very important. Security is enhanced by police patrols so as to prevent crimes or to reduce the frequency of their occurrence. Though crime is as old as humanity no country has been able to completely secure its citizen and property. Security as well as other constraints of development have to be urgently and adequately addressed at the continental, regional and national levels if its citizenry are to make progress towards realizing the Millennium Development Goals.

The police recorded just over 4.3 million crimes in England and Wales between April 2009 and March 2010 with a total economic and social cost of crime estimated to be just above £35 billion. In Kenya the general government final consumption expenditure (% of GDP) in Kenya was 16.65 as of 2010. Many agencies in Kenya have called on the government to increase the budgetary allocation on security. Although many police officers, especially those in patrols spend substantial amounts of their time on activities that are not crime related, police departments have a difficult time justifying their budgets, and especially call to increase these budgets, in terms of the benefits to the public from such non crime-related activities (Pate, 1976). For this reason, police administrators criticize vigorously any study that appears to show some time-honored police activities that are ineffective in deterring crime (Davis and Knowles, 1975). Regardless of security eating up so much on the country's GDP and with police patrolling most area crime levels are on the rise.

Crime control was a primary mission of the police patrols, as perceived by both the public and police administrators (AG, 1973). Police patrol almost all crime prone areas though their

presence has not done much to curb or reduce crime. This situation showed that a gap exists as far as patrol to reduce crime is concerned and thus there was need to re-evaluate police patrols so as to ascertain what should be changed to ensure crime reduced. Hence the study was aimed at identifying the best patrol strategy that would be recommended to be used by police on patrol. The study focused on the job satisfaction of police officers and how job satisfaction influenced their work to reduce crime. Since police officers are human beings whose behavior at work are influenced by motivational aspects the study evaluated how to motivate them in order to enhance they working capabilities

Looking at other studies that had focused on the number of police officers, the studies dwelled on the number of police officers in an area but did not evaluate the activities that the officers were undertake while patrolling an area. A study by Marvell and Moody (1996), found consistent evidence that increase in the numbers of police cause reductions in crime though it did not show what the causal mechanism for that effect may be or how it was enhanced, on the contrary 13 studies carried out in the UK, US, Netherlands and in Argentina did not show direct causal link between higher numbers of police and lower crime. The study tried to establish if there was evidence to show a causal link between higher numbers of police and reduction of crime as despite increase in the number of police officers in areas such as cattle rustling hit Barangoi, Tana River, Western Kenya, Garrissa and Mandera the criminal activities have still being witnessed.

1.3 Purpose of the Study

The purpose of this study was to assess the influence of police patrols on crime reduction in Imenti South District.

1.4 Objectives

The study was guided by the following objectives:

1. To establish the influence of the number of police officers on crime reduction in Imenti South district.

2. To examine the influence of police patrol strategies on crime reduction in Imenti South district.
3. To assess the influence of police job satisfaction on crime reduction in Imenti South district.
4. To establish the influence of police motivation on crime reduction in Imenti South district.

1.5 Research Questions

The study sought to answer the following research questions;

1. How does the number of police officers influence crime reduction in Imenti South district?
2. What is the influence of police patrol strategies on crime reduction in Imenti South district?
3. How does police job satisfaction influence crime reduction in Imenti South district?
4. To what extent does police motivation influence crime reduction in Imenti South district?

1.6 Significance of the Study

The findings of the study are expected to be beneficial to police officers as the study focused on police job satisfaction, police motivation and thus recommendations that favor them may be made after reviewing the findings the study such as more police officers may be employed to help in crime reduction. The study is expected to also benefit policy makers as the findings will be used to give recommendations to the law enforcing agencies in particular the National Police Service on ways of combating crime through proper staffing, proper motivation, improved working conditions to enhance police job satisfaction, effective and efficient patrol strategies. This would in turn lower crimes associated with poor patrol, as National Police Service was expected to give suggestions to the OCPD and OCS on the adequate number of police required to reduce crime, the better patrol strategies, how to improve the working conditions of police officers to increase their job satisfaction and ways in which police officers can be motivated to reduce crime in Imenti South district. Last but not least the study is expected to benefit the general public and community members as they will in the long run enjoy a secure environment if police are able to work hard to reduce crime.

1.7 Delimitation of the Study

The research was carried out in Imenti South District in Meru County. It involved police officers attached to all police stations and police posts in Imenti South District. The study only focused on the number of police officers in the district, patrol strategies used, police job satisfaction and police motivation in the district regardless of other variables that could influence crime reduction.

1.8 Limitations of the Study

While conducting the survey, the researcher encountered some limitations that could have hindered the achievement of the objectives. The biggest obstacle was officers fearing to submit to the survey as they were expected to express their feelings regarding their agency. These were countered by promising the officers confidentiality and letting the officers participate in the survey out of their own will and thus dependable responses that directly related on how an officer truly felt about their job. This thus reduced respondent bias whereby the officers may have given responses that would favor the researcher's results.

Another limitation that was anticipated was poor questionnaire return rate due to the busy schedule and long working hours, which would have affected the validity of the findings. The poor questionnaire return rate was countered by explaining to the officers the importance of the study and how it would benefit them. The questionnaires were dropped to officers in their police stations and police posts and picked a week later. This gave the officers ample time to fill the questionnaires. There were no attempts to control any possible intervening variables other than number of police officers, police patrol strategies, police job satisfaction and police motivation thus the limitation was not countered. The intervening variables included socioeconomic, cultural, and environmental factors such as police education levels, corruption, and police attitude and government policy. The many theories of crime causation in the literature, such as biological and sociological factors were not considered and therefore, it was possible that the findings of the study could be spurious or tainted by not having controlled other variables. Finally, due to the time limits given by the University to conduct the study, it was not possible to explore all the areas under the study at length.

1.9 Assumptions of the Study

The study assumed that the officers will answer question correctly and truthfully having been assured of anonymity and confidentiality on the information that they were to provide. The study also assumed that the officers will be ready and available to answer the questions.

1.10 Definitions of Significant Terms

Crime: It is any act committed or omitted in violation of a law forbidding or commanding it and for which punishment is imposed upon conviction.

Crime reduction: is the attempt to minimize any acts committed or omitted which are in the violation of the law.

Police motivation: involves the biological, emotional, social and cognitive forces that activate police behavior. The forces may be from the outside or from the inside of an individual. Those forces that arise from the inside and outside are called intrinsic motivators and extrinsic motivators; they include personal gratification, recognition, achievement and rewards such as trophies, money, security, status or praise respectively.

Patrol: The act of moving about an area especially by an authorized and trained person or group, for purposes of observation, inspection, or security.

Police patrol officer: in the study context he or she is a law enforcement officer who is assigned to perform basic law enforcement duties and has not been assigned to a specialized assignment.

Police patrol strategy: it is the police art of planning and directing overall police operations and movements in an area. The need for planning arises due to limitations in terms of resources and variant needs of different areas.

Police job satisfaction: in the context of the study, the term job satisfaction can be defined as how the police feel about their job or their “organizational commitment” and is measured by the individual officer’s feelings towards their job.

1.11 Organization of the Study

The report is organized into five chapters. Chapter one is the introduction of the report and it involves background information to the study, research problem, objectives and research questions. Chapter two is the literature review where by the relationship between the independent

variables and dependent variables is explained at length using examples at global, regional, national and local perspective. Chapter three is the research methodology where the researcher explained the methods used to obtain findings. Chapter four discussed the interpretation and presentation of the findings while chapter five presented the discussion of findings, conclusions drawn from the findings highlighted and recommendations made.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the findings from other researchers who had carried out their research on various variables related to police patrol with specific emphasis on how those fields related to crime reduction. The purpose of the literature review was to establish the subject matter and the theoretical framework that was used as a foundation for this study. Information gained through the literature review showed specific areas within previous research that was in need of additional investigation, as well as help in identifying and articulating the knowledge gaps thus ensuring that the study was not replicating existing knowledge or reproducing technical errors. Sources of literature review included books, journals, publications and literature from the internet. The chapter is organized into six sections namely number of police officers and crime reduction, patrol strategies and crime reduction, police job satisfaction and crime reduction, police motivation and crime reduction, theoretical review and conceptual framework.

2.2 Number of Police Officers and Crime Reduction

Most economic research on crime is based on a model developed by economist Becker (1968), and he said that individuals would be less likely to commit a crime when police presence increases, because of the increased probability of detection and arrest. Becker's model also factored in the magnitude of the punishment (i.e. sentence length), which is a major public concern but was not be discussed herein. A key problem when studying historical crime rates and the size of a police force is that the relationship was not independent. Jurisdictions with more crime spend more on policing, and politicians increased police budgets when they saw or anticipated an increase in crime. This led to the paradoxical finding that police and crime levels are positively correlated, and in fact, many studies from the 1980s found no effect, or even an increase when comparing police numbers and crime rates. Economists called this the "simultaneity bias". More current studies avoided this bias by examining crime rates after the occurrence of independent events (other than increasing crime rates) that increased or decreased police deployments.

For example, Levitt (2005) observed that police increases occurred in mayoral and gubernatorial election years, but not in off-election years. He then used the timing of the elections to examine crime rates and found that a marginal increase in the police force leads to lower crime rates. More significant effects were observed after “natural experiments” were studied in the wake of terrorist attacks and alerts. The Economist magazine reported that the additional police officers deployed in the streets of London following the July 2005 attacks on the public transit system contributed to the reduced crime level in the city. Following the July 7th bombings, crime decreased by 12%, as compared to July 2004 in the cities of Camden, Hammersmith, Fulham, Lambeth, Tower Hamlets, Westminster and the City of London, where most of the additional police officers were deployed. In contrast, crime increased slightly in outer London, which did not receive as much extra protection.

In Washington DC, non-public terror alert advisories were quietly accompanied by increased police patrols in the downtown National Mall area where sensitive federal buildings (White House, Congress) were located. Klick and Tabarrock (2004) concluded that there was strong statistical evidence that more police reduced crime and concluded that an increase of approximately 50% in police presence was expected to lead to a statistically significant reduction of between 12 to 16% in the crime level. Kelling (1974), a co-author of the Kansas City Patrol Experiment remarked that it was dangerous to generalize from the study and concluded that deploying more police officers is ineffective.

During these alerts, other areas of Washington had a statistically insignificant reduction in crime. Notably, this showed that crime was not necessarily displaced from higher policed to lower policed areas. A similar study was published by economists Di Tella and Schargrodosky (2004) who examined the effects of more policing on crime following a terrorist attack on the main Jewish center in Buenos Aires showed insignificant reduction of crime. In the wake of the attack, in July 1994, all Jewish and Muslim institutions were given 24-hour police protection. The data was collected on motor vehicle thefts per block, before and after the decision to provide more police protection. They observed that the blocks that received police protection had 75% fewer car thefts than the blocks that did not have this increased level of protection.

Another “natural experiment” study was conducted by Shi (2005) who studied the Cincinnati Police department following a U.S. Department of Justice investigation of racial profiling. The intense media attention, along with a parallel Federal investigation and subsequent oversight, left officers reluctant to take enforcement action in black neighborhoods, for fear of being accused of racism. Anecdotal and activity data showed that officers cut down on their criminal law enforcement activities immediately after the increased oversight was put in place. For example, drug and liquor law violations (e.g. proactive investigations) decreased by 46% and 76%, respectively. Changes in arrests for domestic violence situations (e.g. reactive investigations) showed little effect. In other words, while the numbers of officers remained constant, the “volume” of policing in Cincinnati decreased because of the reluctance of officers to engage in proactive street policing. The result of the decreased policing was that monthly felony crime (e.g. violent and property crime) increased by 16%. Shi (2005) noted that the increase was greater for robbery, aggravated assault, burglary, and auto-theft, arguably the types of felonies which are most sensitive to policing than the rest.

There have been other studies that have examined police numbers and crime over a longer period of time to reduce the simultaneity bias. New York City has long been recognized as a community that has recovered economically and culturally because of increased public safety. Corman & Mocan (2000) analyzed 30 years of data and concluded that a 10% increase in the growth rate of police had the potential to cause a 9.4% decrease in the long-run growth rate of robberies, a 2.89% decrease in the growth rate of burglaries and a 2.72% decrease in the long-run growth rate of motor-vehicle thefts. Additionally, they found “robust evidence for the deterrent effects of arrests and police on most categories of serious felony arrests”.

Marvell and Moody (1996) collected data from 56 U.S. cities, over twenty years, and found that an increase in the number of police officers resulted in a reduction of crime in the subsequent year. They estimate that each additional officer added to a police force located in a large city prevented an average of 24 serious crimes (i.e. murders, sexual assaults, robberies, aggravated assaults, burglaries, larcenies and auto thefts). They also concluded that hiring officers in urban areas reduced crime far more than in smaller towns.

In the Netherlands, Vollaard (2005) examined victimization rates by region. He wrote, “Our estimates suggest that a substantial proportion of the decline in crime and nuisance during the period 1996-2003 is attributable to the increase in police personnel”. He estimated that a 10% increase in police resources had the potential to reduce property crime and violent crime by approximately 5% and 7% respectively. More specifically, he predicted that a 10% increase in police resources caused a decrease of 14.7% in burglaries, 7.9% in auto crimes, 6.2% in bicycle thefts, 11.7% in purse thefts, 8.6% in graffiti, 7.6% in public intoxication and 11.1% in noise nuisance. Vollaard (2005) also dispelled the “displacement of crime” concern, by aggregating the overall crime decreased on a regional basis. Similar to the U.S. study, he further concluded that the effects of more police in the Netherlands were more pronounced in urban areas.

2.3 Police Patrol Strategies and Crime Reduction

Police strategies considered herein included but are not limited to high-visibility patrol, saturation patrol, directed patrol, foot patrol, and hot spots. The purpose of these strategies was to provide officers with an understanding of strategies they could utilize during uncommitted time, when they are not answering calls for service or performing other activities (Sherman and Weisburd, 1995).

2.3.1 Hot Spots Strategies

“Hot spots” is one of the newest patrol strategies. According to Sherman and Weisburd (1995), it was a strategy similar to directed patrol because it focused on those areas in a community or on a beat that generated a disproportionate amount of calls for police activity. The idea was that a small number of addresses or places are responsible for the majority of calls for police service in an area, and if resources are focused on these areas, calls for service will be reduced and crime reduced. Hot spot policing had received substantial attention in recent years. The idea of crime “hot spots” was introduced in the late 1980s when a substantial concentration of all police calls, and especially calls for serious violent crime, were discovered to be concentrated in a relatively few “hotspots” (Sherman and Weisburd, 1995).

According to Sherman and Weisburd (1995), in one study, 50percent of all calls to the police department were concentrated in only three percent of the addresses in the city. This research and others led to the concept of intensive patrolling of high-crime areas, or hot spots. The revelation

that a very small percentage of addresses and places account for a disproportionate amount of crime has major implications for policing. A small number of targets are much easier to target for active intervention than an entire beat or neighborhood. Hot spots presented an opportunity for police to reduce calls for service and allow the entire agency to become more proactive. There has been a significant amount of rigorously applied research on hot spots policing, and the combined results indicated that it contributes to meaningful reductions of both crime and disorder (Braga and Bond, 2008; Ratcliffe, Taniguchi, Groff, and Wood, 2011). Police crackdowns which were more temporary applications of hot spots policing have been shown to work, although primarily on a short-term basis (Weisburd and Eck, 2004).

2.3.2 Foot Patrol Strategies

According to Walker (1992), foot patrol received increased attention in recent years with the advent of community-oriented policing. The idea was that by putting police officers into patrol cars we separated them from the community and therefore created disassociation between the police and the community. The goal of the new foot patrol was to reacquaint police with the community, thus providing the community with increased feelings of safety and satisfaction. Police foot patrols were not a new phenomenon; obviously, the police existed before motorized vehicles. A foot patrol “renaissance” recently occurred in an effort to both put the police back in touch with the community and to increase police presence (Walker, 1992). Foot patrol as a police strategy reemerged for a couple reasons. First, the idea that “nothing works” in police operations took hold in the 1970s. Second, the idea that the police focused more on resolving community problems and be more in touch with the community began to take hold as well. The literature on foot patrol suggests that citizen attitudes are positively affected by the strategy and some studies note crime reductions (Walker, 1992).

2.3.3 Directed Patrol Strategies

Police officers on directed patrol were given information regarding target selection, patrol strategies, and other procedures to follow while on patrol. They were “directed” as to how to spend their time and their energy. According to Cordner and Hale (1992), simply driving around (i.e., random patrol) or waiting for crime to occur was not effective and that it was possible through crime analysis to select specific targets for increased surveillance or direct specific strategies designed to apprehend criminals or reduce crime. The primary goal of directed patrol

was to reduce specific crimes in given geographic location. The technique was sometimes referred to as a meld of saturation patrol and crime analysis.

Police officers were therefore “directed” to patrol specific location for a specific period of time in an attempt to apprehend or deter specific criminal types. Directed patrol was an obvious alternative to self-directed, random, “systematically unsystematic” patrol (Cordner and Hale, 1992). Under this strategy, patrol officers were directed to spend some of their patrol time in certain areas, to adopt certain tactics, and/or to watch for certain kinds of offenses. Directed patrol theoretically addressed the traditional police role of “criminal catcher.”

Directed patrol provides patrol officers with specific directions for their activities. The traditional approach to patrol provides officers with only the general instruction to maintain patrol coverage, watch for suspicious people or events, and respond to calls for service. Directed patrol involves instructions to look for specific people or types of crimes or to patrol certain areas intensively. Cordner and Hale (1992), noted that there was available evidence indicating that the use of directed patrol could reduce the incidence of target crimes in target areas.

2.3.4 High Visibility Patrol Strategies

According to Sherman and Weisburd (1995), the goal of this tactic was to increase the visible presence of police officers in an area as the public likes to see police officers and their presence makes people feel a sense of safety and security. The assumption of high-visibility patrol was that the visual presence of officers in a community would deter individuals from committing criminal acts. High-visibility patrol can be accomplished through a variety of means. This strategy may or may not involve making additional arrests or aggressively enforcing the law. The assumption was that the mere presence of police in an area was enough to deter crime. Several attempts were made to reduce a variety of crimes and traffic offenses through the use of increased, highly visible patrols. The idea was simple more police presence, less crime. High-visibility patrol typically attempted to increase the visibility of officers.

It had become widely accepted that visible patrol despite its popularity with the public was not necessarily a particularly efficient or effective means of preventing crime. Patrols did little to

enhance prosecutorial effectiveness or the crime detection capacity of the police. Research from the US and UK showed that intensified random police patrols had no significant impact on crime rates and were scarcely noted by offenders or the general public (Kelling *et al.*, 1974; Clarke and Hough, 1984). Studies of intelligence-led patrol activities, targeted at crime ‘hot spots’ produced more positive results (Sherman and Weisburd, 1995). Patrols may have benefits that indirectly impact on crime, by enhancing a community’s capacity to mobilize its own resources of social control or by encouraging a greater flow to the police from the public of information on which the police rely for detection. Recent research had highlighted the limitations on the police’s capacity to deliver patrols, estimating that police officers spent almost as much time in the police station (43 per cent of their time) as they do on the streets. Only 17 per cent of police officer time was actually spent on reassurance patrol (PA Consulting Group, 2001). Most patrolling was not done on foot but conducted from a car, in part as officers are required to patrol vast areas.

An experimental study in Britain of the effects of increasing the level of foot patrol showed no reductions in crime (Weatheritt, 1991), while evaluation studies of rapid response, police patrols and follow-up investigations by detectives produced positive results (Clarke & Heal, 1979; Greenwood, Chaiken and Petersilia, 1977; Moore, 1992). Sir Robert Peel established his police in London as a means of providing an ‘unremitting watch’ (Shearing, 1996) through visible patrol. Criminals would be deterred through this system of surveillance, knowing that their chances of being caught and punished were high. Yet, despite the longevity of the deterrence doctrine, the evidence on whether the practice of foot Patrol actually deterred crime had been weak. Following on from the Kansas City Preventative Patrol Experiment finding that vehicle-based patrol had no significant impact on crime rates (Kelling *et al.*, 1974), the Newark Foot Patrol Experiment did much to cement the view among many criminologists that varying the dosage of uniformed patrol had no quantifiable impact on crime (Kelling, 1981). Varying foot patrol levels across 12 Newark, New Jersey beats resulted in no significant differences between treatment and control beats for recorded crime or arrest rates, though treatment areas did show improvements in community fear of crime (Pate, 1986).

Further studies followed, ranging in magnitude and scope. For example, four foot patrol officers in a business district of Asheville had the same, apparently negligible, impact on recorded crime

as the 300 officers moved to foot patrol as part of the Boston Police Department's 1983 Patrol Reallocation Plan (Bowers and Hirsch, 1987; Esbensen, 1987). Notwithstanding this lack of evidence, foot patrol became "the most popular and widely implemented component of community policing" (Rosenbaum and Lurigio, 1994). Even if many police departments adopted foot beats more to address community relations and fear of crime than for any direct crime deterrence benefits (Cordner, 1986; Jim, Mitchell, and Kent, 2006). The National Research Council review of police policy and practices summarized foot patrol as an unfocused community policing strategy with only weak to moderate evidence of effectiveness in reducing fear of crime (Skogan and Frydl, 2004).

Since these early foot patrol studies, criminologists have gained more nuanced understanding of criminal behavior within spatial and temporal contexts. For instance, both Routine Activity Theory (Felson, 1987) and Crime Pattern Theory (Brantingham and Brantingham, 1984) identified a place as a fundamental component of the requirements of a crime, the centrality of which environmental criminologists adopted as a potential avenue along which to promote crime control opportunities. It was widely understood that crime clusters within highly specific geographic locations, commonly termed 'hotspots'. Crime hotspot was the accepted term for what was originally described as a cluster of addresses (Sherman and Weisburd, 1995), widened to include the possibility of street intersections and public space (Buerger, Cohn, and Petrosino, 1995). The term now generally defined as a geographical area of higher than average crime, which is an area of crime concentration, relative to the distribution of crime across the whole region of interest (Chainey and Ratcliffe, 2005). With the growth of crime mapping, crime hotspots had become significant loci for focused police activity. Nagin (2010), recently pointed out that effective deterrence stems from a tangible and direct prospect of detection, and that focused policing at crime hotspots had probably effective as it tangibly and directly increases apprehension risk at the hotspot by substantially increasing police presence. What emerge from the review is that police can effect marked reductions in crime, but usually only in cooperation with other agencies and only if they adopt strategies which are in stark contrast to those dictated by the professional law enforcement model (Moore, 1992).

2.4 Police Job Satisfaction and Crime Reduction

The variables that was put into more focus included pay, perception of a fair promotional system, job meaningfulness, and officer's perception of adequate training, performance reviews and feedback, and officer's perception of leadership. The problem that drove the research variable was that having a dissatisfied police officer was bad for three things; the officer themselves, the police department where they work, and the community that they serve. An officer routinely was caught up in the "war" on crime, often viewing it as an unwinnable battle, causing most officers to have a distrusting view of the world outside the blue uniform. Good job satisfaction offered many positive benefits to both the police employee as well as the police organization (Carlan, 2007). In fact, one could argue that the community as a whole was better off if the police officer was satisfied with his or her job.

The effects of outside stress, such as crime and violence, could be doubled when the officers have to deal with interior stress, such as poorly perceived leadership, insufficient pay and raises, and an inequitable promotion system. These exterior and interior factors are what could be described being the products of the dual factor "theory of motivation" (House and Wigdor, 1967). This theory was developed by Herzberg (1959) who stated that "job satisfaction consisted of two separate independent dimensions: the first was related to job dissatisfaction and the second dimension to job dissatisfaction". The interior factors that cause both satisfaction, and dissatisfaction needs to be identified and weighed, and from that new ideas can be developed on how to combat the dissatisfaction and improve satisfaction.

Since the inception of the first police department in the United States in 1751, there had been many attempts to dissect and discuss what exactly contributes to a police officer's satisfaction with their job. Many researchers over the years had looked at both the actual job factors, such as violence, long shifts, and the inherent danger, while others had sought to find what organizational factors affected officers. Violanti and Aron (1993) listed two major categories that cause officers the most stress "organizational and inherent police stressors." They define organizational stressors as those "that are predicated by police administration" and inherent stressors as "those that generally occurring in police work which have the potential to be psychologically or physically harmful to officers". The question of this research that was asked

was what organizational, or internal factors contributed to the overall satisfaction an officer had with their job.

Herzberg's two factor theory of motivation of 1959 best described what led to both satisfaction and dissatisfaction in the workplace. He stated that advancement, growth, achievement, recognition, and the work itself could lead to satisfaction, while supervision, salary, policy, and work conditions could lead to dissatisfaction. Through their application of Herzberg's theory to the organization of police work Zhao, Thurman, and He (1999) sifted through the various factors in an effort that might have proved useful explaining job satisfaction among the police. They focused on what House and Wigdor (1967) called the dissatisfaction factors, e.g. "company policy and administration that promotes ineffectiveness". In their approach of determining how job satisfaction could be derived from a police officer, Zhao, Thurman, and He (1999) discovered that the concept was still relatively fresh with very limited published articles which treated job satisfaction as a dependent variable pertain directly to policing. Through their review of previous research they discovered that there were often variables that had tried to be applied to what led to job satisfaction for an officer that was education, ethnicity, gender, and years of service and/or rank.

In his review of what led to job satisfaction for a police officer, Buzawa (1984) ran into a lack of previous research as literature of working life had not provided a consistent explanation of how job satisfaction was developed. Buzawa added a fifth variable to the mix, deciding that marital status played an important role in adding to an officer's satisfaction with their job. He eventually came to find out that other factors led to satisfaction and listed such factors as advancement, job fulfillment, and leadership as specific elements that directly contributed to satisfaction. Walker (2007) linked accountability to job satisfaction and he looked in-depth at how supervision by first-line supervisors and regular performance evaluations and the policies that coincided through an "evidence-based policy movement". While he did not do much as to perform research by testing hypotheses, he instead reviewed previous work, and postulated particular research and evaluation questions that could be used to improve certain areas within an organization. Crank and Caldero (1991) took a different route and utilized self-report surveys from officers in order to "identify their principal sources of stress" within medium-sized organizations. They hoped

their research “would provide insight into the extent to which sources of stress cited by officers in the present research are similar to stressors identified in related big-city research.

According to Vila, Morrison, and Kenney (2002), who examined how work-hour policies and practices affected an officer’s performance, health, and safety and how they could be better managed to increase the officer’s satisfaction. They stated that police work often swings unpredictably from monotonous routine and numbing boredom to dynamic, fact-starved, and confusing situations that made extreme physical, mental, and emotional demands on officer. They also claimed that biologically insensitive shift rotation schemes affect an officer with regards to accumulated stress and fatigue. National Institute of Justice (NIJ) findings in an effort to see what kind of effect the excess fatigue and stress had in relation to officer performance. McElroy, Morrow, and Wardlow (1999) looked at the various career models (two-stage and three-stage) to determine which one was applicable in describing the career of a police officer and what factors could affect an officer’s “work-related attitudes”. Their work was an effort to step away from previous research on “personality issues” and instead focused on the conflicts that came from within an organization, not from within the officer. In an older study McManus (1970) sought to connect the effects of training and how it truly affected an officer’s performance and whether or not it tied in to affecting their satisfaction as well. Lastly Mas (2006) looked at how an officer’s pay (both pay structure and raises) could be directly linked to performance and satisfaction.

The last commonly examined factor in job satisfaction levels was experience. Intuitively, it seemed the longer an officer worked at a department, the lower his or her job satisfaction level. Other studies revealed an increase in job satisfaction over the years and through promotions (Carlan, 2007). In 1968, Frederick Herzberg found that work environment was the factor that influenced job satisfaction levels the most (Herzberg, 1968) though unfortunately, very little research had been done in this area, particularly with police departments (Zhao *et al.*, 1999). Some of these work environment factors included achievement, recognition for achievement, the work itself, responsibility, and growth and advancement (Herzberg, 1968). Conversely, work environment factors that lead to job dissatisfaction included company policy, supervision,

relationship with supervisor, and work conditions (Herzberg 1968). It was evident that police officer's work environment played an important role in his or her job satisfaction level.

2.5 Police Motivation and Crime Reduction

Research had shown that highly motivated workers produced better results or outcomes (Luthans, 1999). It was therefore necessary and important to have motivated police officers to enhance quality services. As explained, motivation as a process starts with a physiological or psychological deficiency or need that activates behavior or a drive that is aimed at a goal or incentive. Motivation could be in terms of financial rewards and non-financial rewards. Rewards, as defined by Bratton (1999), referred to all forms of financial returns, tangible services and benefits an employee received as part of an employment relationship. According to Searle (1990), rewards could be categorized into two broad areas, namely, intrinsic rewards and extrinsic rewards. Bandura (1996) noted that human behavior could not be fully understood without considering the regulatory influence of rewards. Luthans (1999) also emphasized the importance of rewards for organizational success.

Non-financial motivation refers to non-monetary rewards/ benefits. These types of rewards do not involve direct payment of cash and they can be tangible or intangible e.g. encouraging the employees by providing them with autonomy in their job and participation in decision making, assigning challenging duties, improving working conditions and recognizing good work lead to motivated officers (Kovach, 1999). Several studies have been conducted on non-financial motivations and some of these studies and appreciation of work done and interesting work were ranked high for example; Vroom (1964) conducted a series of researches where employees consistently ranked items such as "full appreciation for work done", "feeling on things", and "interesting work" as being more important to them than the traditional incentives. Kovach (1980) later replicated above findings. In the research carried out by Kovach, industrial employees were asked to rank ten "motivational rewards" factors based on personal preferences and the appreciation of the work done represented most preferred and the rest being the least preferred. These factors were ranked as follows; full appreciation of work done, feeling of being, sympathetic help with personal problems, job security, good wages and salaries, interesting work, promotion & growth, employees loyalty, good working conditions and tactful discipline.

Lindler (1998) study to identify the job factors important to employees found out that none of them was close to monetary motivation. The eight factors were job satisfaction, pride in organization, relation with fellow workers, relations with superiors, treatment by management, opportunity to use ideas, opportunity to offer suggestions at work and appreciation of one's efforts. In addition, study conducted in a public sector organization in Tanzania suggested that employees valued non-monetary rewards as much as monetary rewards (Wilfred, 2007). The employees claimed that the usage of non-monetary rewards was inadequate in their organization.

According to Zhao, Thurman, and He (1999), employees preferred job related non-monetary rewards more than social or any other tangible non-monetary incentive. Financial motivation refers to direct extrinsic incentives like higher pay for increased productivity to workers. Hygiene factors like corporal punishment and fines were also utilized to discourage poor performance (Wren, 1994). According to Wren (1994), the 1800's witnessed the start of profit sharing to motivate workers. It assumed that workers were motivated principally by the prospect of monetary rewards (Landy, 1989). Traditionally police and other law enforcement agencies have retained an authoritarian style of leadership by punishment approach to motivate until recent times (More, Wegener and Miler, 2003).

2.6 Theoretical Review

The study was guided by Routine Activity Theory that was proposed by Felson and Cohen (1979) and Rational Choice Theory by Clarke and Felson (1993). According to Felson (1994), he said that a crime occurs when a suitable target and a potential offender meet at a suitable time and place lacking capable guardianship. These are the minimal elements and conditions for a crime to occur. The term 'suitable target' can refer to a person, a business or other premises, a vehicle, or a particular consumer product perceived in a particular way. If the crime was a burglary of a business premises, then a 'suitable target' could be premises which are believed to contain cash, or products with a high re-sale value. If the crime was street robbery then a 'suitable target' may be a person who was perceived to carry things of value, be unarmed and be unlikely to fight back. The capable guardianship that may prevent a crime was similarly flexible, and again was a question of perception as much as fact. A guardian could be anyone depending on the circumstances. The term did not just refer to the police or a CCTV camera. A guardian could be an office worker whose window overlooked a street and who might be thought to be

looking out. Crime could be reduced if perceived target suitability was decreased or, conversely, its security increased. A missing element means that no crime could occur there and then. Consequently, routine activity theory reminded us that a crime requires more than just a potential offender; it required a suitable target and a conducive environment. Once it is acknowledged that crime required suitable targets and environments, these elements could be shaped in ways that reduce or prevent crime.

The study was also guided by the Rational Choice Theory that stated that offenders choose among criminal and non-criminal alternatives. According to Clarke and Felson (1993), he said that rational choice theory adopts a utilitarian belief that man was a reasoning actor who weighs means and ends, costs and benefits, and makes a rational choice. Most active offenders were 'adolescent limited', that is, they cease substantial offending as maturity kicks in (Moffitt, 1993). Some have changes of perspective which led them to desist while others don't (Maruna, 2001). The point was that the criminal career (like others) was a seething mass of moment to moment and day to day decisions. Sometimes they are quick decisions that are not thought through or are based on imperfect information or perception while sometimes the decisions are impaired by alcohol or drugs. Hence although these may be viewed by most people as bad decisions they nevertheless seemed 'rational' when they were made by the offender often called 'bounded' rationality because, although such decisions do not necessarily appear rational, they are founded upon a platform of weighing, however roughly, the various perceived costs and benefits involved. The choices can be influenced by either police on patrol.

2.7 Conceptual Framework

The relationship between the independent and the dependent variable is demonstrated in the diagram below. The independent variable in this study are number of police officers, police patrol strategies, police working conditions and police motivation, while the dependent variable is crime reduction. The moderating variable will be police attitude and the intervening variables will include drug abuse, police education level and corruption.

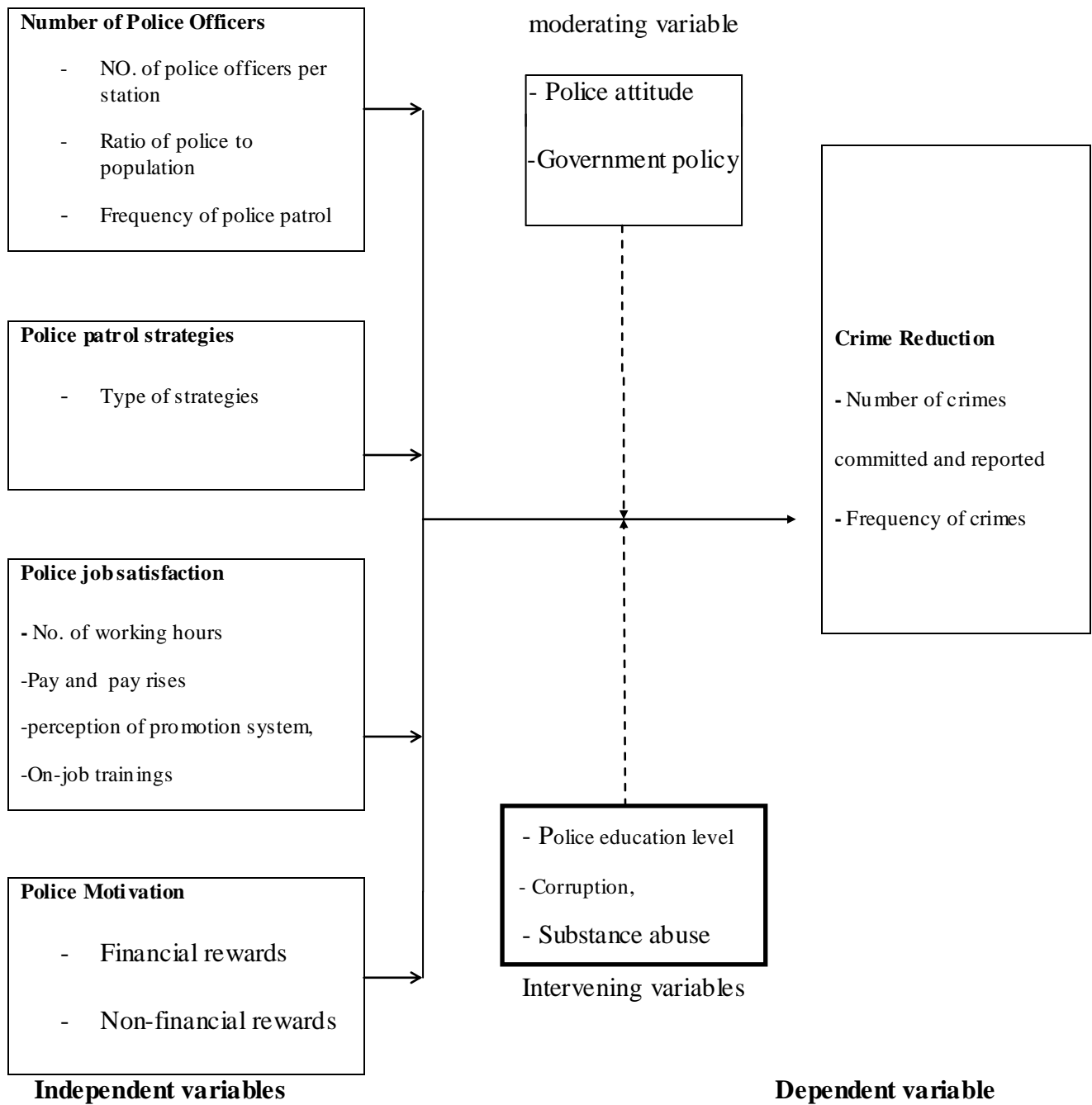


Figure 1: Conceptual frame work

2.8 Summary

Chapter two presented the theoretical review, the relevant literature to the study and the conceptual framework. Previous researches were discussed so as to see the gaps in the literature in the area of police patrol and crime reduction.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter reviews the research design and methodology used to conduct this study. It presents the variables for testing the research questions and the research methodology was described in detail, including research instrument, validity and reliability of the instrument, data collection, and the data analysis method.

3.2 Research Design

The research problem was studied through a non-experimental cross sectional survey design. Across sectional survey allowed the data to be collected from a relatively large number of officers at a particular time (Kothari, 2004). The reason for choosing this design was because it allowed for exposure and outcome to be assessed at the same time among individuals (Mugenda and Mugenda, 1999). The research design enabled generalization of the findings to a larger population. The study findings could therefore be generalized to all officers in the County. The main focus of this study was quantitative data, however qualitative approach was also used in order to gain a better understanding and possibly enable a better and more insightful interpretation of the results from the quantitative study.

3.3 Target Population

The target population of this study was 120 police officers in Imenti South District which is in Meru County and has two police stations and seven police posts with approximately 93 Constables, 15 Corporals, 5 Sergeants, 5 Inspector and 2 Superintendents as shown in Table 3.1. The officers served a population of about 179, 604 residents according to the 2009 population census and the district had an area of approximately 661.4km². The police stations and police posts included Nkubu police station located in Taita location, Mitunguu police station located in Kaurone location, Maraa police post in Kiringa location, Igoji police post in Igoji location, Keria police post in Nkumbo location, Kinoro police post in Kinoro location, Kiangua police post in Kiangua location, Tharene police post in Lower Kithangari location and Murungurune police post in Kithangari location. The population of 120 officers was taken as census, meaning all

police officers in the population were studied. Since a census was undertaken no sampling was done.

Table 3.1: Target Population

Category (Rank)	Population	Percentage (%)
Superintendent	2	2
Inspector	5	4
Sergeant	5	4
Corporal	15	12.5
Constable	93	77.5
Total	120	100

Source: Nkubu Police Station, 2013

3.4 Research Instrument

The research instrument that was used to collect data was self-administered structured questionnaires for officers in the ranks of superintendent, inspector, sergeant, corporal and constable. The questionnaires were designed to comprise two sections with open ended and closed questions. The first part was designed to determine the socio-demographic characteristics of the respondent, while the second part consisted of questions where the four variables were focused on. A questionnaire was used as it relatively took a short time to collect information from a large portion of a group, officers could fill the questionnaires at their own free time and the responses gathered was in a standardized way, thus making questionnaires more objective.

3.5 Pilot Study

A pilot study was carried out in the neighboring Meru Central District that had two police stations and five police posts and they included Kariene police station, Gaitu police station, Uruku police post, Mujwa police post, Kiamuri police post, Chaaria police post and Githongo police post. The pilot study involved officers in the rank of Superintendent, Inspector, Sergeant, Corporal and those in the rank of Constable. From a population of about 78 officers comprising of 28 female officers and 50 male officers working in two police stations and seven police posts in Meru Central district, a sample of 30 officers was selected from the different ranks. Two Superintendents were sampled purposively so as they could provide relevant data concerning

administrative duties. The other 28 officers were randomly selected from different ranks as follow; 2 Inspectors (1 male and 1 female), 1 male Sergeant, 5 Corporals (3 males and 2 females), 20 Constables (12 males and 8 females). The pilot data was not included in the actual study.

3.6 Validity of the Research Instrument

In designing an instrument that would yield content validity all domains of indicators which were found relevant to the concept being measured were included. The domains of indicators were listed down by Officer Commanding Police Division and his deputy as professionals and experts in the crime field. But due to the inability to come up with all the possible indicators the researcher went further to sample the indicators. According to Mugenda and Mugenda (2003), sampling validity is employed so as to circumvent the problem associated with content validity. This is because it may be impossible to construct an instrument that comes up with all the possible items that might influence crime reduction and hence representative samples of indicators from the domain of indicators of the concept were selected. Sampling validity was employed to measure the degree to which data collected using a particular instrument represented a specific domain or content of a particular concept.

3.7 Reliability of the Instrument

Test-retest method was used to enhance reliability of the instrument. Reliability in research is influenced by random errors. Random errors may arise from inaccurate coding, ambiguous instructions to the subject and bias. To reduce the random errors, test-retest method was used. The instrument was prepared and administered to the participants and the scores recorded. After about one week the same instrument was administered again to the same group and the scores was recorded again. The scores from both testing periods were correlated and the Pearson's correlation coefficient obtained.

3.8 Methods of Data Collection

Data was collected using self-administered structured questionnaires for officers in the ranks of superintendent, inspector, sergeant, corporal and constable. The questionnaires were taken physically at the officers' work station that is in police stations and police posts for officers to

complete and hand them back. Nevertheless, some of the officers were not in a position to complete the questionnaire immediately and thus the questionnaires were left with the officers and picked up later. The structured questions were used in an effort to conserve time and money as well as to facilitate in easier analysis as they were in immediate usable form; while the unstructured questions were used so as to encourage the respondent to give an in-depth and felt response without feeling held back in revealing any information. Each questionnaire was coded for the purpose of matching returned and completed questionnaires with those that were delivered to the officers.

3.9 Data Analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. Collected data was organized to attach meaning applicable to the research questions and research objectives. The data was then coded to enable the responses to be grouped into various categories and every objective data was analyzed both qualitatively and quantitatively using the statistical software package SPSSv16.0. The first sets of statistical analyses that were conducted included descriptive statistics for the socio-demographic information. For the independent variables in this study, frequency and percentage tables including the number of participants who were within each category were created to illustrate the distribution of the participants. Summary statistics for each of the different facets used in the analysis procedure were conducted to examine the frequency that the participant selected a particular answer. For the continuous variables in the study, the summary statistics were presented by the mean and standard deviation which illustrated the spread of the responses that were observed. Pearson's correlations of different variables were done to ascertain the strength and direction of the association as well as linear regression analysis of the extent independent variables influenced depend variable.

3.10 Operationalization Table

Table 3.2: Operational Definition of Variables

Objective	Type of variable	Indicators	Measurement scale	Research instruments	Methods of data analysis
To establish the influence of the number of police officers on crime reduction in Imenti South district.	Independent Variable No. Police officers	No of police officers police, population ratio No of patrols	Ordinal scale Ratio scale Ordinal scale	Questionnaire	Descriptive(mean, standard deviation, correlation)
To examine the influence of police patrol strategies on crime reduction in Imenti South district	Independent Variable Police patrol strategies	Types of patrol strategies	Nominal scale	Questionnaire	Inferential (correlation)

To assess the influence of police job satisfaction on crime reduction in Imenti South district.	Independent Variable Police job satisfaction	No. of working hours, Salary, Promotion system	Ordinal scale Ordinal scale Ordinal scale	Questionnaires	Descriptive (mean, standard deviation, correlation)
To examine the influence of police motivation on crime reduction in Imenti South district	Independent Variable Police motivation	- Financial -Non financial rewards	Ordinal scale and Nominal scale	Questionnaires	Descriptive(correlation)
	Dependent Variable Reduction of crime	Number of crimes committed and reported Frequency of crimes	Ordinal scale	Questionnaires	Descriptive (mean, standard deviation, correlation)

3.11 Ethical Consideration

All writings that were not my original work were clearly cited to ensure plagiarism was not committed. Due to sensitivity of some information that was collected, the information was handled with utmost propriety to avoid respondent physical or even psychological harm. Data were presented as collected and no effort was made to alter the data to either suit the researcher,

the respondent or any institution. The officers filled the questionnaires out of their own will and none of them were forced and no efforts were made whatsoever to fake or alter data that was collected. Upon completion of the study the findings were shared with the relevant stakeholders.

3.12 Summary

In this chapter the researcher explained the way in which the research was conducted, the research design used, the target population, methods of data collection and how data was analysed. The chapter also explained the type of research instrument that was used, the procedure that was used, how reliability and how validity was achieved. Ethical considerations have also been explained and how they were achieved.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter discusses data analysis, the interpretation of data and presentation of the findings. In the first stage demographic data was analysed to provide a description of the respondent population by variables of: age, tenure, sex, marital status, education level and salary. In the second stage data from the four variables: number of police officer, police patrol strategies, police job satisfaction and police motivation. The researcher made use of frequency tables and percentages to present data.

4.1.1 Police officers response rate

The study targeted a population of 120 officers who were police officers in Imenti South district; out of the 120 officers 103 responses were obtained. When the data was cleansed, 6 questionnaires were found to be incomplete and could not be used in the analysis thus making 97 useful responses. This represented an 80.8% response rate which is way above the recommended response rate of 75% and above.

Table 4.1: Police officers rank

Rank	Frequency	Percent
Superintendent	2	2.1
Inspector	3	3.1
Sergeant	2	2.1
Corporal	11	11.3
Constable	79	81.4
Total	97	100.0

Out of the 97 officers who filled and returned useful questionnaires, majority of the officers were constables as shown in Table 4.1, 2.1% of the officers were Superintendents, 3.1% of the officers were Inspectors, and 2.1% of the officers were sergeants while 11.3% of the officers were Corporals.

4.2 General Information

In order to determine the general information of the officers' data on age, tenure, sex, marital status, educational level and income was requested.

4.2.1 Age of police officers

In seeking to know officers age group they were asked to indicate their ages.

Table 4.2: Police officers Age

Age (Years)	Frequency	Percent
26 or Less	13	13.4
26 - 33	19	19.6
34 - 41	37	38.1
42 – 49	21	21.7
50 and Above	7	7.2
Total	97	100.0

From the research findings shown in Table 4.2 13.4% of the officers indicated that they were 26 years and below in age, 19.6% were aged between 25 and 34 years, 38.1% were aged between 35 and 44 years, 21.7% were aged between 45 and 54 years and 7.2% were aged 55 years and above. From these findings majority of the officers were between 35 years and 44 years. This is because most of the recent recruitments of officers have witnessed a reduction of the number of officer recruited due to the elevation of the entry grade from D (plain) to C (plain).

4.2.2 Employment period of officers (tenure)

In seeking to know the number of years the officers have been employed a frequency and percentage were computed. The results of the computation are shown in Table 4.3

Table 4.3: Police officers tenure

Employment Period (Years)	Frequency	Percent
2 or less	14	14.4
3 - 6	19	19.6
7 - 10	32	33.0
11 – 14	23	23.7
15 and above	9	9.3
Total	97	100.0

The results indicated that 14.4% of the officers had worked for less than 2 years, 19.6% had worked between 3 and 6 years, 33.0% had worked for between 7 and 10 years, 23.7% had worked between 11 and 14 years while 9.3% had worked for more than 15 years. From these findings we can deduce that majority of the officers had worked between 7 and 10 years.

4.2.3 Sex of the police officers

Data on proportion of male and females working in Imenti South was presented in frequencies and percentages table computed as shown in Table 4.4.

Table 4.4: Police officers sex

Sex (Gender)	Frequency	Percent
Male	74	76.3
Female	23	23.7
Total	97	100.0

The results showed that majority of the officers were male while female officers were 23.7%. From these findings it is evident that gender rule has not been attained in the police staffing was evident in Imenti South District data

4.2.4 Police officers marital status

Officers marital status were analysed in terms of their frequencies and percentages as shown in Table 4.5.

Table 4.5: Police officers marital status

Marital Status	Frequency	Percent
Single	23	23.7
Married	49	50.5
Separated	16	16.5
Divorced	5	5.2
Widowed	4	4.1
Total	97	100.0

The results showed majority of the officers were married, 23.7% of the officers were single, 16.5% of the officers had separated with their spouse, and 5.2% of the officers had divorced their spouse while 4.1% officers had lost their spouse. From these findings we can deduce that the number of those who are single, the ones who have separated or divorced their spouse is high and it can be attributed to the nature of their job in terms of their long working hours which lead to family breakage.

4.2.5 Police officers education level

The officers educational level were analysed as shown in Table 4.6.

Table 4.6: Police officers education level

Educational Level	Frequency	Percent
Primary	3	3.1
Secondary	61	62.9
Diploma	18	18.6
Graduate	11	11.3
Post Graduate	4	4.1
Total	97	100.0

The study found out that majority of the officers have attained the secondary educational level, 3.1% of the officers had attained primary educational level, 18.6% of the officers had attained diploma educational level, and 11.3% of the officers have attained graduate educational level

while 4.1% of the officers had attained post graduate educational level. It is thus evident that majority of the police officers have attained a secondary educational level.

4.2.6 Basic salary of police officers

The officer's basic salary was analysed and presented in form frequencies and percentages.

Table 4.7: Police officers basic salary

Basic Salary (Ksh)	Frequency	Percent
15,000 or less	4	4.1
16,000-25,000	27	27.8
26,000-35,000	43	44.3
36,000-45,000	15	15.5
46,000 and above	8	8.3
Total	97	100.0

From the findings majority of the officers earn a basic salary of between Ksh 26,000 and 35,000 which was represented by 44.3% as shown in Table 4.7 while 27.8% of the officers earn between Ksh 16,000 and 25,000, 4.1% of the officers earn below Ksh 15,000, 15.5% of the respondent earn between Ksh 36,000 and 45,000 while 8.3% of the officers earn above Ksh 46,000.

4.2.7 Correlation of basic salary and number of years officers have worked

Correlation to ascertain the direction and strength of the association of basic salary and number of years officers have worked was computed.

Table 4.8: Correlation of tenure of officers and basic salary

		Tenure		Basic Salary
Pearson Correlation	Tenure	Pearson Correlation	1	.345**
		Sig. (2-tailed)		.001
		N	97	97
Basic salary	Basic salary	Pearson Correlation	.345**	1
		Sig. (2-tailed)	.001	
		N	97	97

** . Correlation is significant at the 0.01 level (2-tailed).

The findings shown in Table 4.8 indicated that a correlation of tenure of officers and basic salary variables produced a weak positive correlation .345. This means that as one variable increases in value, the second variable also increase in value. Similarly, as one variable decreases in value, the second variable also decreases in value. And because Sig. (2-tailed) is indicated by .001, we can conclude that there is a strong statistically significant correlations between the two variables. That means that, tenure of officers and basic salary variables have a positive or negative directional relationship with each other.

4.2.8 Correlation of rank of officers and educational level

Correlation to find out the strength and direction of association between educational level and rank of officers in Imenti South district was computed.

Table 4.9: Correlation of educational level and rank of officers

		Education level	Rank of Officers
Pearson Correlation	Education Level	Pearson Correlation	1
		Sig. (2-tailed)	-.402**
		N	.000
Rank of Officer		Pearson Correlation	1
		Sig. (2-tailed)	-.402**
		N	.000

** . Correlation is significant at the 0.00 level (2-tailed).

The association produced a weak negative correlation of = -.402 as shown in Table 4.9. This means that as one variable increases in value, the second variable decreases in value. Similarly, as one variable decreases in value, the second variable also increases in value. And because Sig. (2-tailed) is indicated by .000, we can conclude that there is a strong statistically significant correlations between the two variables.

4.2.9 Correlation of educational level and basic salary of officers

Correlation to find out the strength and direction of the association between educational level of and basic salary of officers in Imenti South district was computed as shown in Table 4.10

Table 4.10: Correlation of educational level and basic salary of officers

		Education level	Officers Basic Salary
Pearson Correlation	Education Level	Pearson Correlation	1
		Sig. (2-tailed)	.194
		N	.057
Basic Salary		Pearson Correlation	1
		Sig. (2-tailed)	.194
		N	.057

The association produced weak positive correlation .194. This means that as one variable increases in value, the second variable increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. And because Sig. (2-tailed) is indicated by .057, we can conclude that there is a weak statistically significant correlations between the two variables. That means that, educational level of officers and basic salary variables have a positive or negative directional relationship with each other.

4.3 Number of police officers and crime reduction

The study was purposed to reveal the extent to which the number of police officers in Imenti South district influenced crime reduction. The number of police officers was looked into in terms of the sufficiency to man road blocks, conduct patrols and meet the populations security needs.

4.3.1 Does Imenti South have enough police officers to reduce crime

In seeking to know if the number of police officers in Imenti South district was enough to reduce crime a likert scale was used to rate their agreement on number of officers.

Table 4.11: Imenti South have enough police officers to enhance crime reduction

Extent Respondent Agree or Disagree	Frequency	Percent
Strongly disagree	33	34.0
Disagree	54	55.7
Neither agree nor disagree	7	7.2
Agree	3	3.1
Total	97	100.0

From the findings 34% and 55.7% of the officers strongly disagreed and disagreed respectively that the District has enough police officers to reduce crime as shown in Table 4.11, while 7.2% of the respondent neither agreed nor disagreed. Only 3.1% of the officers agreed that there were enough police officers to reduce crime.

4.3.2 Crosstabulation between number of officers and patrol frequency

A crosstabulation between number of police officers and frequency of officer’s patrol was computed and the findings are presented in Table 4.12

Table: 4.12 Crosstabulation between number of officers and frequency of police patrols

		Officer	Police	Patrols	
		Daily	Weekly	Others	Total
Police officers are enough	Strongly disagree (Count)				
	(%)	60.6%	21.2%	18.2%	100%
	Disagree				
	(%)	64.8%	25.9%	9.3%	100%
	Neither agree nor disagree				
	(%)	71.4%	28.6%	0%	100%
	Agree				
	(%)	66.7%	33.37%	0%	100%
Total		63.9%	24.7%	11.3%	100%

The findings indicated that 60.6% of those officers who strongly disagreed that the district had enough police officers went for patrol daily, 64.8% of those officers who disagreed that the district had enough officers went for patrol daily, 71.4% of the officers who neither agreed nor disagreed went for patrols daily while 66.7% of those who agreed that the district had enough police went for patrol daily. In total 63.9% of officers went for patrols daily while 24.7% went for patrol weekly.

4.3.3 Chi-square tests between number of officers and frequency of patrols

The Chi-square test was conducted to measure the discrepancy between what is observed and what is expected in terms of number of officers in Imenti South district and the frequency of police patrol.

Table 4.13 Chi-Square tests between number of officers and frequency of patrol

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.159	6	.789
N of Valid Cases	97		

The Chi-square test produced Pearson Chi-square value of 3.159 at 6 degree of freedom as shown in Table 4.13 and the two-sided asymptotic significance of the chi-square statistic was found to be 0.789 which is more than 0.1 meaning the difference are due to chance.

4.3.4 Correlation of number of police officers and crime reduction

In seeking to find out the strength and direction of the association between number of police officers and crime reduction in Imenti South district Pearson correlation was computed.

Table 4.14: Correlation of number of police officers and crime reduction

		Number of Officer	Crime Reduction
Pearson	Number of	Pearson Correlation 1	-.067
Correlation	Officers	Sig. (2-tailed)	.514
		N	97
		Pearson Correlation -.067	1
	Crime Reduction	Sig. (2-tailed)	.514
		N	97

The correlation produced a weak negative correlation -.067 as shown in Table 4.14. This means that as one variable increases in value, the second variable decreases in value. Similarly, as one variable decreases in value, the second variable also increases in value. And because Sig. (2-tailed) is indicated by .514, we can conclude that the relationship is not statistically significant.

4.4 Police patrol strategies and crime reduction

The study was purposed to reveal some of the patrol strategies employed to curb crime in Imenti South District as well as review the effectiveness of the strategies.

4.4.1 Rating of police patrol strategies in terms of their effectiveness

On the rating of police patrol strategies in terms of their effectiveness the officers rated the strategies effectiveness.

Table 4.15 Rating of Police Patrol Strategies

Extent the Patrol is rated	Police	Patrol	Strategies	
	Hot Spot Patrol	Foot Patrol	Directed Patrol	Highly Visible Patrol
Strongly disagree (Count)				
(%)	10.3%	10.3%	13.4%	26.8%
Disagree (Count)				
(%)	28.9%	17.5%	39.2%	28.9%
Neither agree nor disagree (Count)				
(%)	18.6%	14.4%	15.5%	11.3%
Agree (Count)				
(%)	28.9%	41.2%	26.8%	22.7%
Strongly agree (Count)				
(%)	13.4%	16.5%	5.2%	10.3%
Total	100%	100%	100%	100%

From the findings in Table 4.15 on hot spot patrol effectiveness, 10.3% and 28.9% of the officers strongly disagreed and disagreed respectively while 28.9% and 13.4% agreed and strongly agreed respectively. 18.6% were not sure. On foot patrol effectiveness, 10.3% and 17.5% of the officers strongly disagreed and disagreed respectively while 41.2% and 16.5% agreed and strongly agreed respectively. 14.4% were not sure. On directed patrol effectiveness, 13.4% and 39.2% of the officers strongly disagreed and disagreed respectively while 26.8% and 5.2% agreed and strongly agreed respectively. 15.5% were not sure. On highly visible patrol effectiveness, 26.8% and 28.9% of the officers strongly disagreed and disagreed respectively while 22.7% and 10.3% agreed and strongly agreed respectively. 11.3% were not sure.

4.4.2 Means and standard deviations of patrol strategies

The study was intended to show the extent of the effectiveness of patrol strategies.

Table 4.16 Means and standard deviations of patrol strategies

Patrol Strategies	Mean	Standard Deviation
Hot Spot Patrol	3.06	1.24
Foot Patrol	3.36	1.243
Directed Patrol	2.71	1.154
Highly Visible Patrol	2.98	1.421

From the findings in Table 4.16, the officers agreed with a mean and a standard deviation that hot spot patrol strategy, foot patrol strategy and highly visible patrol strategy were most effective patrol strategies. They polled a high mean 3.06, 3.36 and 2.98 respectively. Directed patrol strategy was reported as the least effective with the least mean score of 2.71.

4.4.3 A Cross tabulation between role played by patrol strategies and challenges facing their implementation

A crosstabulation of data between the role played by patrol strategies and challenges facing the patrol strategies was done to find out if there was any relationship.

Table: 4.17 Crosstabulation between Patrol Strategies Roles and their Implementation Challenges

Role played by patrol strategies	Lack of Patrol car	Outdated equipments	Bad roads	Communication network	Limited Officers	Total
Crime detection (Count)						
(%)	11.1%	11.1%	11.1%	11.1%	55.6%	100%
Crime prevention (Count)						
(%)	39.1%	13.0%	8.7%	13.0%	26.1%	100%
Crime reduction (Count)						
(%)	27.3%	9.1%	13.6%	13.6%	36.4%	100%
Total	29.6%	11.1%	11.1%	13.0%	35.2%	100%

The findings shown in Table 4.17 indicated that among the officers who indicated crime detection as the role played by patrol strategies, 55.6% of them indicated that limited number of

police officers is the major challenge. They also indicated that lack of patrol cars, lack of modern equipments, bad roads and poor communication networks were challenges at 11.1%. Officers who indicated crime prevention as the role played by patrol strategies, 39.1% of them indicated lack of patrol cars as the major challenge. They also indicated, 26.1% that limited number of police officers is a challenge, 13.0% indicated lack of modern equipments and poor communication network as challenges faced and 8.7% indicated bad roads as the challenge. Respondent who indicated crime reduction as the role played by patrol strategy indicated that limited number of police as a major challenge at 36.4%. They also indicated bad roads and poor communication network as challenges faced at 13.6% and lack of patrol cars at 27.3% while lack of modern equipments was indicated at 9.1%. Overall the respondent indicated limited number of officers and lack of patrol cars as challenges at 35.2% and 29.6% respectively.

4.4.4 Chi-square tests for role played by patrol strategies and challenges facing their implementation

A Chi-square test to measure the discrepancy between what was expected and what was observed in terms of the role played by patrol strategies in Imenti South district and the challenges facing their implementation was computed.

Table 4.18 Chi-Square tests for patrol strategies roles and their implementation challenges

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.832	8	.789
N of Valid Cases	97		

The Chi-square produced a Pearson Chi-square value (p-value) of 3.832 at 8 degree of freedom as shown in Table 4.18. The two-sided asymptotic significance of the chi-square statistic was 0.789 which is more than 0.1 meaning the difference is due to chance.

4.5 Job satisfaction and crime reduction

The study was purposed to reveal the extent to which the police officers are satisfied with their jobs in terms of their working hours, their pay and their promotional systems.

4.5.1 Correlation of job satisfaction (working hours) and crime reduction

Correlation to find out the strength and direction of the association between job satisfaction in terms of working hours and crime reduction in Imenti South district was computed.

Table 4.19: Correlation of job satisfaction (working hours) and crime reduction

		Crime reduction Officers working hours		
Pearson	Crime	Pearson Correlation	1	-.021
Correlation	Reduction	Sig. (2-tailed)		.838
		N	97	97
		Pearson Correlation	-.021	1
	Working hours	Sig. (2-tailed)	.838	
		N	97	97

From the findings in Table 4.19 a weak negative correlation was produced. Although not significantly different from 0 because the p-value of 0.838 is greater than 0.10. This suggests that efforts should not be focused on job satisfaction in terms of working hours because there isn't an appreciable effect on the reduction of crime.

4.5.2 Correlation of job satisfaction in terms of fair pay (salary) and crime reduction in Imenti south

In seeking to find out the strength and direction of the association between job satisfaction in terms of fair pay and crime reduction in Imenti South district correlation was computed.

Table 4.20: Correlation of job satisfaction in fair pay (salary) and crime reduction

		Crime reduction Fair pay (salary)		
Pearson	Crime Reduction	Pearson Correlation	1	-.064
Correlation		Sig. (2-tailed)		.532
		N	97	97
	Fair pay (salary)	Pearson Correlation	-.064	1
		Sig. (2-tailed)	.532	
		N	97	97

From the findings in Table 4.20 a weak negative correlation was produced. Although not significantly different from 0 because the p-value of 0.532 is greater than 0.10. This suggests that efforts should not be focused on job satisfaction in terms of fair pay because there isn't an appreciable effect on the reduction of crime.

4.6 Motivation and crime reduction

The study was purposed to reveal the extent to which the officers feel motivated by the financial and non-financial motivators as well as the how they perceive their housing conditions.

4.6.1 Means and standard deviation of financial and non-financial motivators

In seeking to know the extent to which financial and non-financial aspects motivates the police officers were requested to rate how much there are motivated.

Table 4.21 Means and standard deviation of financial and non-financial motivators

Financial and Non-financial motivators	Mean	Standard Deviation
Salary (money)	3.81	1.074
Job security	3.70	1.129

From the findings in Table 4.21, the respondent agreed with a mean of 3.81 and standard deviation of 1.074 that salary (money) motivated the officers more than job security. Job security polled a mean of 3.70 and a standard deviation of 1.129.

4.6.2 Correlation of police motivator in terms of housing conditions and crime reduction in Imenti south

In order to find out whether a motivator in terms of housing conditions is correlated to crime reduction in Imenti South district correlation between the two was conducted.

Table 4.22: Correlation of housing conditions and crime reduction

		Crime reduction	Housing conditions
Pearson	Crime Reduction	Pearson Correlation	1
			-.133
Correlation		Sig. (2-tailed)	.195
		N	97
	Housing	Pearson Correlation	-.133
	conditions	Sig. (2-tailed)	.195
		N	97

The findings in Table 4.22 show that crime reduction and housing condition of officers' variables produced a weak negative correlation of -.133. Although not significantly different from 0 because the p-value of 0.195 is greater than 0.10. This suggests that efforts should not be focused on motivator in terms of housing condition because there isn't an appreciable effect on the reduction of crime.

4.6.3 Influencer of crime reduction

In seeking to find out some the influencer of crime reduction the officers were requested to indicate what they view as most influencer of crime reduction in the district.

Table 4.23: Response of police officers on influencer of crime reduction

Influencer	Frequency	Percent
Police motivation	22	22.7
Number of police officers	18	18.6
Police job satisfaction	17	17.5
Police patrol strategies	9	9.3
Court sanctions	14	14.4
Community policing	17	17.5
Total	97	100.0

The findings in Table 4.23 showed that majority of the officers indicated that police motivation influences crime reduction at 22.7%, 18.6% indicated that number of police influence crime reduction, 17.5% agreed that police job satisfaction and community policing influenced crime at

the same rate, 14.4% indicated that court sanctions influenced crime while 9.3% of the officers indicated that police patrol strategies influenced crime reduction.

4.6.4 Regression analysis of independent variables on dependent variable

In this study, a linear regression analysis was conducted to test the influence among variables (independent) on crime reduction variable (dependent). The researcher used statistical package for social sciences (SPSS V 16.0) to code, enter and compute the measurements of the linear regressions.

Table 4.24 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409	.156	.119	1.024

a. Predictors: (Constant), motivation (job security), patrol strategies, job satisfaction (salary), number of police officers (police population ratio)

The four independent variables that were studied, explained 15.6% of the crime reduction as represented by the R^2 . This therefore means that other factors not studied in this research contribute 84.4% of the crime reduction.

Table 4.252: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	17.818	4	4.454	4.246	.003 ^a
	Residual	96.512	92	1.049		
	Total	114.330	96			

a. Predictors: (Constant), motivation (job security), patrol strategies, job satisfaction (salary), number of police officers (police population ratio)

b. Dependent Variable: crime reduction

The significance value is 0.003 which is less than 0.05 thus the model is statistically significant in predicting how motivation (job security), patrol strategies, job satisfaction (salary), number of police officers (police population ratio) affect crime reduction. The F critical at 5% level of significance was 4.246.

Table 4.26: Coefficients of independent variables

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	4.168	.769		5.423	.000
Job satisfaction (salary)	.179	.102	.170	1.762	.081
Motivation (job security)	-.108	.094	-.112	-1.152	.252
Patrol strategies	-.278	.236	-.113	-1.177	.242
Number of police officers	-1.292	.364	.345	-3.547	.001

a. Dependent Variable: crime reduction

The linear regression model assumes that there is a linear, or "straight line," relationship between the dependent variable and each predictor. This relationship is described in the following formula.

$$y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

$$y = 4.168 + 0.179X_1 - 0.108X_2 - 0.278X_3 - 1.292X_4$$

Where

y – denotes crime reduction

b₀ – denotes a constant (4.168)

X₁ . denotes job satisfaction (salary)

X₂ . denotes motivation (job security)

X₃ . denotes patrol strategies

X₄ . denotes number of police officers

The regression equation above has established that taking all factors into account (motivation (job security), patrol strategies, job satisfaction (salary), number of police officers (police population ratio) and changing the factors by 1 unit, crime reduction will be 2.669. The findings presented also show that taking all other independent variables at zero, a unit increase in job satisfaction (salary) would lead to a 4.347 increase in the crime reduction (4.347 reduction in crime) and a unit increase in police motivation (job security) would lead to a 4.06 increase in the crime reduction (4.06 reduction in crime). Further, the findings shows that a unit increase in police patrol strategies would lead to a 3.89 increase in the crime reduction (3.89 reduction in

crime). In addition, the findings show that a unit increase in the number of police officers would lead to a 2.876 increase in the crime reduction (2.876 reduction in crime).

This infers that job satisfaction (salary) contributed most to crime reduction followed by motivation (job security), police patrol strategies and the number of police officers (police population ratio).

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions based on the four specific objectives of the study. The collected data was analyzed and interpreted in line with the objectives of the study which included: to establish the influence of the number of police officers on crime reduction in Imenti South district; to examine the influence of police patrol strategies on crime reduction in Imenti South district; to assess the influence of police job satisfaction on crime reduction in Imenti South district; to establish the influence of police motivation on crime reduction in Imenti South district.

5.1.1 Summary of the Findings

The study found that the four independent variables that were studied explained 15.6% of the crime reduction as represented by the R^2 . This means that other factors not studied in this research contribute 84.4% of the crime reduction. The study found that majority of police officers in the area were male 76.3% while female were 23.7% of the respondent. Most of this officers were Constables 81.4%, Corporals 11.3% while 3.1% were Inspectors, 2.1% Sergeants and 2.1% Superintendents. The study also found out that majority of the officers, 38.1% were aged 34-41 years, 21.7% were aged 42-49 years, 19.6% were aged 26-33 years, 13.4% were aged below 26 years while the rest were 50 years and above. The study also found out that majority of the officers earned between Ksh 16,000 and 35,000 in terms of basic salary. The study also found out that majority of the officers 62.9% had a secondary education, 11.3% had graduate level education while 3.1% had a primary education. The study further found out that most of the officers 50.5% were married, 23.7% were single, 16.5% were separated, 5.2% were divorced while 4.1% were widowed.

Table 5.1 Summary of the Findings

Objective	Findings
1. To establish the influence of the number of police officers on crime reduction in Imenti South District.	The study also found out 55.7% and 34% disagreed and strongly disagreed respectively that the District had enough police officers. The study also found out that though the number of police officers is small 63.9% of the officers were involved in daily patrols. The study further found out that a unit increase in the number of police officers would lead to a 2.876 increase in the crime reduction.
2. To examine the influence of police patrol strategies on crime reduction in Imenti South District.	The study revealed that hot spot patrol strategy and foot patrol strategy are two of the most effective patrol strategy as most officer agreed and strongly agreed on their effectiveness at 28.9%, 13.4% and 41.2%, 16.5%. The study also found out that most officers agreed with a mean of 3.36 and 3.06 that foot patrol and hot spot patrol were effective respectively. The study also revealed that lack of patrol cars and limited numbers of officers are the greatest challenges at 29.6% and 35.2% respectively that face the implementation of the patrol strategies. The study further showed that a unit increase in police patrol strategies would lead to a 3.89 increase in the crime reduction.
3. To assess the influence of police job satisfaction on crime reduction in Imenti South District.	The study found that police are not satisfied with their salary and working hours. The study also found that a correlation of salary with crime reduction produced a weak negative correlation of -0.064 that was not significantly different from 0. The study found that a correlation of the working hours with crime reduction produced a weak negative correlation of -0.021 that was not significantly different from 0. The study further found out that taking all other independent variables at zero, a unit increase in job satisfaction (salary) would lead to a 4.347 increase in the crime reduction.
4. To establish the	The study revealed that financial motivators are highly ranked than

<p>influence of police motivation on crime reduction in Imenti South District.</p>	<p>non-financial motivators by officers. The study further revealed that the respondent agreed with a mean of 3.81 and 3.70 that salary motivates them more than job security. The study also found out that a correlation of housing conditions and crime reduction produced a weak negative correlation of $-.133$ that was not significantly different from 0. The study found out that police motivation influenced crime at 22.7%, number of police officers 18.6%, police job satisfaction 17.5%, police patrol strategies 9.3%, courts sanctions 14.4% and community policing influenced crime reduction at 17.5%. The study further found out that a unit increase in police motivation (job security) would lead to a 4.06 increase in the crime reduction</p>
--	--

5.2 Discussions of Findings

Majority of the officers were aged between 35 and 44 years, and as the age decreased the number of officers reduced this was due to the fact that recent recruitments have seen elevation of the entry mark from D (plain) to C (plain) and this has led to less officers being employed. The study established that majority of the officers represented by 76.3% were males and thus it was clear from the officers that the gender rule had not been met. We can deduce that the third gender rule having not being met in many national institutions, the police service has not been left out. A correlation between tenure of officers and basic salary variables produced a weak positive correlation which means that as the more the officer stays in their job the more their basic salary. The correlation was weak because a number of officers who had not stayed for long in the service were able to earn more than the colleagues who had been in service for a long time due to illegal promotions which were witnessed in the service. The promotions depended on ones connections, what the officers could offer and who they know. A further correlation between educational level of officers and their rank produced a negative weak correlation. This was because most the officers after getting employed did not further their education while those who had connections or had god-fathers were promoted at the expense of those who furthered their education thus demoralizing those intending to further their education.

5.2.1 Number of Police Officers

The study found that the number of police officers affect crime reduction to a very small extent. A closer look at the area which is about 661.4km² with a population of 179,604 residents according to the 2009 population census is patrol by a mere 120 officers. This translates to around 1,500 residents per officer and about 5.5km² to be patrolled by one officer. This revealed that the officers are severely under staffed, leading to long work hours and reduced leave days. Other than for purpose of increasing the number of police officers to prevent them from being over worked the study found no significant crime reduction as a result of increasing the number just like what Kelling (1974), a co-author of the Kansas City Patrol Experiment remarked that it was dangerous to generalize from the study and conclude that deploying more police officers is ineffective. The study also found that the number of police officers in a particular area is an important aspect as the number translates to a big margin the number of arrests made in that area though that does not necessary mean crime reduction. It was found out that though the number of police officers in the District is small majority of the officers are involved in daily patrols. Those who are exempted from patrols include the females who are expectant and those who are not scheduled for patrol duties. It was also found out that the scheduling of those officers to undertake patrols duties or to man road blocks favours certain officers. It was also found out that most of those arrested end up facing court sanctions which also help to influence crime reduction.

The study found out that number of police officers and court sanctions were some of the influencers of crime reduction which correlates with what Becker (1968) predicted that individuals would be less likely to commit a crime when police presence increases, because of the increased probability of detection and arrest. Becker's model also factored in the magnitude of the punishment (i.e. sentence length). It was also found out that the area does not have enough police officers and due to the small number of officers in the area most of officers end up working for more hours beyond the recommended hours. Contrally to Levitt (2005) findings that marginal increase in the police force leads to lower crime rates the study found out that a correlation between number of police officers and crime reduction produced a weak negative correlation meaning an increase in number of police officers would lead to a decrease in crime reduction while a reduction in number of police officers would lead to an increase in crime

reduction. This is also contrarily to what Klick and Tabarrock (2004) concluded that there was strong statistical evidence that more police officers reduced crime and concluded that an increase of approximately 50% in police presence is expected to lead to a statistically significant reduction of between 12 to 16% in the crime level.

5.2.2 Police Patrol Strategy

The study revealed that hot spot patrol strategy and foot patrol strategy are two of the most effective patrol strategy as most officer agreed and strongly agreed on their effectiveness while directed patrol strategy and highly visible were found to be less effective. These correlates with the findings of (Braga and Bond, 2008; Ratcliffe, Taniguchi, Groff, and Wood, 2011) who having undertaken significant amount of rigorously applied research on hot spots policing, and the combined results indicate that it contributes to meaningful reductions of both crime and disorder. Hot spot patrol strategy was found to be effective as most crime are concentrated in one area just as (Sherman and Weisburd, 1995) discovered that substantial concentration of all police calls, and especially calls for serious violent crime concentrated in a relatively few “hotspots”. The study also revealed that lack of patrol cars and limited numbers of officers are the greatest challenges that face the implementation of the patrol strategies. Contrarily to the findings of an experimental study in Britain by (Weatheritt, 1991) on the effects of increasing the level of foot patrol which showed no reductions in crime this study found out that patrol strategy are able to reduce crime.

5.2.3 Police Job Satisfaction

The study found that police are not satisfied with their salary and working hours. The finding was in agreement with Vila, Morrison, and Kenney (2002), who examined how work-hour policies and practices effects an officer’s performance and how they needed to be better managed to increase the officer’s satisfaction. The working hours should be better managed to give the officers time to relax and socialize. The long working hours with limited leave days were also found to cause instability of those who are married leading to separation while those who were single were taking long to marry due to long working hours which reduce the socializing time. The study also found that a correlation of the salary and working hours with crime reduction produced negative correlations. The job satisfaction mechanism used to satisfy the officers is not felt by them thus it’s not influencing crime reduction. Mas (2006) looks at how an officer’s pay

(both pay structure and raises) can be directly linked to performance and satisfaction, this coincides with what this study found that pay affects police satisfaction and in turn influence their performance.

5.2.4 Police Motivation

The study revealed that financial motivators are highly ranked than non-financial motivators by officers. The officers' potential can be realised by motivating them. According to Bandura (1996) he noted that human behavior cannot be fully understood without considering the regulatory influence of rewards. The study also found that a correlation of the housing conditions with crime reduction produced negative correlations. This is because housing conditions offered to the officers are not acceptable to officers and thus have little or no effect on crime reduction. Contrarily to the findings of this study that financial motivators are ranked higher than non-financial motivators, Vroom (1964) found that employees consistently ranked items such as "full appreciation for work done", "feeling on things", and "interesting work" as being more important to them than the traditional incentives. Lindler (1998) study to identify the job factors important to employees found out that none of them was close to monetary motivation which is also contrarily to what this study found out.

5.3 Conclusions of the study

The study concludes that Imenti South District does not have enough number of police officers to patrol and enhance crime reduction. In addition the numbers of officers in service are mostly male. The study concludes that a unit increase in the number of police officers would cause a 2.876 increase in crime reduction. Therefore the study concludes that number of police officers influences crime reduction. The study can also conclude that most police officers work for long hours as 63.9% of the officers go for patrols daily despite their small number.

The study also concludes that hot spot patrol strategy and foot patrol strategy is more effective than highly visible patrol strategy and directed patrol strategy. Further the study concludes that lack of patrol cars and limited numbers of police officers are the greatest challenges that face the implementation of the patrol strategy. The study also concludes that a unit increase in police patrol strategies would lead to a 3.89 increase in the crime reduction. Therefore the study concludes that patrol strategy influences crime reduction.

The study also concludes that most officers are not satisfied with their working hours as the work for long hours and their salary as they are poorly paid. When working hours and salary are correlated with crime reduction weak negative correlation is obtained. The study concludes that a unit increase in job satisfaction (salary) would lead to a 4.06 increase in the crime reduction. Therefore the study concludes that police satisfaction influences crime reduction.

The study further concludes that police officers feel more motivated by financial motivators than non-financial motivators as the financial motivators produced a higher mean than non-financial motivators. The study also concludes that the housing conditions are in a bad state while other officers share rooms depriving them of their privacy. Further it was revealed a weak negative correlation was obtained when housing conditions and crime reduction were correlated. The study concludes that a unit increase in police motivation (job security) would lead to a 4.347 increase in the crime reduction. Therefore the study concludes that police motivation influences crime reduction.

5.4 Recommendations of the study

From the findings and conclusions of this study, the following recommendations were found important in the relation to influence of police patrol on crime reduction. The study established that the number of police officers in the district is not enough to enhance significant crime reduction and this is causing the officers on the ground to work for long hours. This study therefore recommends addition of more police officers to enhance crime reduction and consequently lead them to work for recommended hours. The study also recommends that in the process of employing more officers, more female applicants be considered to enhance the gender rule.

The study also found that hot spot patrol and foot patrol were most effective and lack of patrol cars as well as limited number of police officers were found as major challenges in the implementation of patrol strategies. This study therefore recommends training and capacity building to police officers on the patrol strategies as well as provision of more patrol cars.

The study further found that police officers were not satisfied with their working hours and salary. Considering the work the police officers undertake this study recommends that the

officers' salary be increased and more officers be employed to bridge the gaps that currently exist and to ensure that they do not work for very long hours.

The study lastly found out that police officers feel more motivated by financial motivators than non-financial motivators. The study also found that the officers housing conditions are in bad state and some officers even share rooms. This study therefore recommends that more financial motivator be used to reward the officers as well as non-financial motivators. This study also recommends that more houses to be built for officers to improve their housing conditions and necessary arrangements be made to avoid sharing of houses so as to enhance officers' privacy.

Generalization of the findings of the study should be done bearing in mind that data collected was from Imenti South District in Meru County, Kenya, only. Other parts of the country could generate different findings.

5.5 Suggestions for Further Studies

The study suggests further study on influence of police officers corruption on crime reduction and a longitudinal study on influence of police patrol on crime reduction to access the effects of police reforms being implemented. The study also suggests further study on the influence of leadership of police officers on crime reduction. The research will reveal inputs and methods employed by certain police leaders posted in areas that have been hit by an upsurge of criminal activities and thus act as guide for other police leaders who would undertake similar future assignments.

REFERENCES

- Bandura A, (1999). *Social foundation of thought and action*, NJ, Prentice Hall, p.228.
- Becker, G. (1968).Crime and punishment: An economic approach: *Journal of Political Economy*.
- Bittner, E. (1970). *The functions of the police in modern society*. New York: Aronson.
- Bowers, W. J., & Hirsch. H. J. (1987). The impact of foot patrol staffing on crime and disorder in Boston: An unmet promise. *American Journal of Police* 6: 17-44.
- Braga, A. A., & Bond, B. J. (2008). *Policing crime and disorder hot spots: A randomized, controlled trial*. *Criminology*, 46, 577-607.
- Bratton J., & Gold J. (1999). *Human resource management: Theory and practice*, 2nd ed., Hound Mills, Palgrave, p. 239.
- Buerger, M. E., Cohn, E. G., & Petrosino, A. J. (1995). *Defining the 'hot spots of crime': Operationalizing theoretical concepts for field research*. In John E Eck and David Weisburd (eds.), *Crime and place*. Monsey, NY: Criminal Justice Press.
- Buzawa, E. (1984). *Determining patrol officer job satisfaction: Criminology*, 22(01), 61-81.
- Carlan, P. E. (2007). The search for job satisfaction: A survey of Alabama policing. *American Journal of Criminal Justice* 32: 74-86.
- Chaiken, J. M, Lawless, M., & Stevenson, K. (1975). *The impact of police activity on crime: Robberies on the New York City subway system*. *Urban Analysis*, 3, 173-205.
- Chaiken, J. M., Lawless, M. W., & Stevenson, K. A. (1974). *The Impact of Police Activity on Crime: Robberies on the New York City Subway System*. New York. NY: Rand Institute.

- Chainey, S., & Ratcliffe, J. H. (2005). *GIS and Crime Mapping*. London: John Wiley and Sons.
- Clarke, R. V. G., & Heal, K. H. (1979). Police effectiveness in dealing with crime: some current British research, *The Police Journal* LII (1):24-40.
- Cordner, G. W. (1986). Fear of crime and the police: An evaluation of fear reduction strategy. *Journal of Police Science and Administration* 14: 223-233.
- Cordner, G. W., & Hale, D. C. (1992). *What works in policing?* Anderson Publishing.
- Corman, H., & Mocan, Ni. (2000). A time-series analysis of crime, deterrence, and drug abuse in New York City: *The American Economic Review*, Vol. 90, No. 3.
- Crank, J., & Caldero, M. (1991). The production of occupational stress in medium-sized police agencies: a survey of line officer in eight municipal departments. *Journal of criminal justice*, 19, 339-349.
- Dahmann, J. S. (1975). *Examination of Police Patrol Effectiveness*. McLean, VA: MitreCorporation.
- Di Tella, R., & Schargrodsky, E. (2004). Do police reduce crime? Estimates using the allocation of police forces after a terrorist attack". *The American Economic Review*, Vol. 94, No. 1.
- DiIulio, J. J. (1995). Arresting ideas: Tougher law enforcement is driving down urban crime, *Policy Review*, Number 74.
- Esbensen, F. (1987). Foot patrols: Of what value? *American Journal of Police* 6: 45-65.
- Felson, M. (1987). *Routine activities and crime prevention in the developing metropolis: Criminology* 25: 911-932.

Felson, M. (1994). *Crime and everyday life*. Pine Forge Press, Thousand Oaks: California.

Felson, M. (1998). *Crime and everyday life*. 2nd Edition. Pine Forge Press.

Felson, M. (2002). *Crime and everyday life*. 3rd Edition. Sage: Thousand Oaks, California.

Felson, M., & Clarke, R. V. (1996). *Redesigning hell: Preventing crime and disorder at the port authority bus terminal*' In Clarke R. V. (ed) *Preventing mass transit crime*. Monsey NY: Criminal Justice Press.

Felson, M., & Clarke, R. V. (1998). *Opportunity makes the thief: practical theory for crime prevention*, Police Research Series paper 98. London: Home Office.

Greenwood, P. W., Chaiken, J. M., & Petersilia, J. (1977). *The Criminal Investigation Process* (Lexington Mass.: Lexington).

Hertzberg, F. (1968). One more time: How do you motivate employees? *Harvard Business Review* 46: 53-62.

Hesseling, R. (1994). *Displacement: A review of the empirical literature*. Crime Prevention Studies 3, ed Clarke R. V. Monsey, NY: Criminal Justice Press.

House, R., & Wigdor, L. (1967). *Herzberg's dual-factor theory of job satisfaction and motivation: A review of the evidence and a criticism*. Personnel psychology, 20(4).

Jacob, B., & Lefgren, L. (2003). Are idle hands the devil's Workshop? Incapacitation, concentration, and juvenile crime, *The American Economic Review*, Vol. 93, No. 5.

Jim, J., Mitchell, F. N. & Kent, D. R. (2006). Community-oriented policing in a retail shopping center. *Policing: An International Journal of Police Strategies & Management*.

- Kelling, G. L. (1981). *The Newark Foot Patrol Experiment*. Washington, DC: Police Foundation.
- Kelling, G., Tony, P., Duane, L., Charles, B. (1974). *The Kansas City Preventive Patrol Experiment: A Summary Report*. Washington, DC: Police Foundation.
- Klick, J., & Tabarrok, A. (2004). Using terror alert levels to estimate the effect of police on crime, *American Law & Economics Association Annual Meetings*.
- Koenig, D. J. (1991). *Do Police Cause Crime?* (Canadian Police College).
- Koper, C. (1995). Just enough police presence: Reducing crime and disorderly behavior by optimizing patrol time in crime hot spots. *Justice Quarterly Journal*, 12, 649–672.
- Kothari C. R. (2004). *Research methodology: Methods and techniques* (2nd revised edition), New Age International (P) Ltd.
- Kovach, K. (1980). Why motivational theories don't work. *S.A.M Advanced Management Journal*, Spring.
- Kovach, K. (1999). *Employee motivation: Addressing a crucial factor in your organization's performance*. Human Resource Development. Ann Arbor, MI: University of Michigan Press.
- Kyckelhahn, T. (2011). *Justice expenditures and employment, FY 1982-2007 – Statistical Tables*. Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.
- Landy, F. J. (1989). *Psychology of work behavior*. Pacific Grove, California, Brooks/Cole Publishing Company.
- Levitt, S. (1997). Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime, *The American Economic Review*, Vol. 87, No. 3.
- Levitt, S. (2002 & 2005). Using electoral cycles in police hiring to estimate the effect of police on crime: Reply, *The American Economic Review*, Vol. 92, No. 4.

- Lindner, J. (1998). Understanding employees motivation. *Journal of extension*.36 (3).
- Luthans F., & Stajkovic A. D. (1999). *Reinforce for performance: The need to go beyond pay and even rewards*. Academy of Management Executive, Vol. 13 No 2, pp. 49-57.
- Marvell, T., & Moody, C. (1996). Specification problems, police levels, and crime rates, *Criminology Journal*, Vol. 34, No. 4.
- Mas, A. (2006). Pay, reference points, and police performance, *Quarterly Journal of Economics*, vol121(3, Aug), 783-821.
- McElroy, J., & Morrow, P. (1999). A career stage analysis of police officer work commitment. *Journal of criminal justice*, 27(6), 507-516.
- Moore, M. H. (1992). *Problem-solving and community policing*.in M. Tonry and N. Morris (eds.), *Crime and justice: A Review of Research*15:99-158 (Chicago: University of Chicago Press).
- More, H. W., Wegner, F.W., & Miller, L.S. (2003). *Effective police supervision*, Cincinnati. Anderson Publishing Co.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative & qualitative approaches*, Olive M. Publication.
- National Commision on Productivity. (1973). *Advisory group on productivity in law enforcement: Opportunities of improving productivity in the police service*. Washington D. C.
- PA Consulting Group.(2001). *Diary of a Police Officer*. London: Home Office.

- Pate, A. M. (1986). *Experimenting with foot patrol: The Newark experience*. In Dennis P. Rosenbaum (ed.), *Community Crime Prevention: Does it Work?* Newbury Park, CA: Sage.
- Ratcliffe, J., Taniguchi T., Groff, E. R., & Wood, J (2011). *The Philadelphia foot patrol experiment: A randomized controlled trial of police effectiveness in violent crime hotspots*. *Criminology*. 49(3):795-831. 2011.
- Rosenbaum, D. P., & Lurigio, A. J. (1994). *An inside look at community policing reform: Definitions, organizational changes, and evaluation findings*. *Crime and Delinquency*.
- Scott, M. S. (2004). *The benefits and consequences of police crackdowns*, Response Guide No. 1 U.S. Department of Justice-COPS, Diane Pub Co.
- Searle, J. G. (1990). Manage people not personnel, motivation and performance appraisal, *Harvard Business Review*, Dec. page 42.
- Shearing, C. (1996). *Reinventing policing: Policing as governance*.
- Sherman, L. & Weisburd, D. A. (1995). *General Deterrent Effects of Police Patrol in Crime 'Hot Spots': A Randomized, Controlled Trial*. *Justice Quarterly* Vol 12: 625-648.
- Shi, L. (2001). *Does Oversight Reduce Policing? Evidence from the Cincinnati Police Department after the April 2001 Riot*.
- Skogan, W. & Frydl, K. (2004). *Fairness and effectiveness in policing: The evidence*. Washington, DC: Committee to Law and Justice, Division of Behavioral and Social Sciences and Education.
- Vila, B., Morrison, B., & Kenney, D. (2002). *Improving shift schedule and work-hour policies and practices to increase police officer performance, health, and safety*. *Police quarterly*.

- Violanti, J. & Aron, F. (1993). *Sources of police stressors, job attitudes, and psychological distress*, *Psychological Reports*, 72 (3), 899-904.
- Vollaard, B. (2005). 'Police numbers up, crime rates down', CPBNetherlands Bureau for Economic Policy Analysis.
- Vroom, V. (1964). *Work and Motivation*, London, John-Wiley and Sons.
- Walker, S. (2007). *Police accountability: current issues and research needs*. National Institute of Justice, 1-38.
- Walker, S., (1992). *The Police in America*. New York, NY: McGraw-Hill.
- Weatheritt, M. (1991). *Community policing: Rhetoric or reality?* in J.R. Greene and S.D. Mastrofski *Community policing: Rhetoric or reality* (New York: Praeger).
- Weisburd, D., & Eck, J. (2004). What can police do to reduce crime, disorder and fear? *The Annals of the American Academy of Political and Social Science*, 593, 42-65.
- Wilfred U., L. (2007). *Non Financial Motivation as Strategy for Improving Performance of Police* (The case Study of Police Force Headquarter in Tanzania)
- Wilson, J. Q., & Kelling, G. E. (1982). *Broken Windows: The Police and Neighborhood Safety*, Atlantic Monthly.
- Wren, D. (1994). *The evolution of management thought*, New York, John Wiley & Sons Inc.
- Wuyi O., & Eboe H. (2006). *Budgeting for the military sector in Africa: The processes and mechanisms of control*, Oxford University Press.
- Zhao, J., Thurman, Q., & He, N. (1999). *Sources of job satisfaction among police officers: A test of demographic and work environment models*. *Justice Quarterly*, 16(1), 153-173.

APPENDICES

APPENDIX I: Questionnaire for Police Officers

Introduction

In order to accurately analyze the results of the following survey it is necessary to obtain the following information. The information collected will be used to assess the influence of police patrol on crime reduction in Imenti South District. Thereafter, the findings of this study will be used to give recommendations to the law enforcing agencies in particular the National Police Service on ways of reducing crime through effective and efficient patrols. All information provided by you will be confidential as this questionnaire is anonymous and thus you are not required to identify yourself. All ethical issues will be considered during the study period.

The questionnaire is divided into two sections, the first section mainly focused on socio-demographic information while the second section is addressed to gather available data on police patrol and crime reduction broken down into some of its determinants.

NB: (Tick and write where appropriate)

Date: **Code:**

SECTION 1

A. SOCIO-DEMOGRAPHIC INFORMATION.

1. Indicate your age group

Less than 25 years	25-34 years	35-44 years	45-54 years	Above 55 years

2. How many years have you been employed as a police officer?

Less than 2 years	3-6 years	7-10 years	11-14 years	Above 15 years

3. Sex

i) Male

ii) Female

4. Rank

Superintendent	Inspector	Sergeant	Corporal	Constable

5. Indicate your marital status

Single	Married	Separated	Divorced	Widowed

6. Indicate your educational level you have attained

Primary level	Secondary level	Diploma level	Graduate level	Post graduate level

7. What is your basic salary per month in Ksh?

Below 15,000	16,000-25,000	26,000-35,000	36,000-45,000	Above 46,000

SECTION 2

B. NUMBER OF POLICE OFFICER AND CRIME REDUCTION.

8. Imenti South District has enough police officers to patrol the district to enhance crime reduction.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

9. In your view is the large number of police officers deployed to man road blocks affecting crime reduction in any way?

no

yes If yes, please indicate how many officers are sufficient to man a road block effectively

.....

10. How often are you involved in conducting police patrols?

Once a day (Daily)	
Once a week (Weekly)	
Other specify

11. Is the police population ratio sufficient to reduce crime in Imenti south District?

no

yes If no, please indicate what can be done to enhance crime reduction

.....

12. Are police patrols carried out on a daily basis?

no

yes If yes, please indicate how it is helping in crime reduction

.....

.....

If no, please explain why police patrol are not carried on a daily basis

.....

.....

13. Comment on the number of police officers in Imenti South district in relation to crime reduction

.....

.....

C. PATROL STRATEGIES AND CRIME REDUCTION.

14. Rate the four patrol strategies below in terms of their effectiveness

Type of patrol strategy	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Hot spot patrol					
Foot patrol					
Directed patrol					
Highly visible patrol					

15. Are you aware of any patrol strategies specifically designed to reduce crime by your agency (National Police Service)?

no

yes If yes, please indicate which strategies

.....

.....

16. Which patrol strategy would you recommended for Imenti South district and why?

.....

.....

17. Do patrol strategies play any role in reducing crime in Imenti South district?

no

yes If yes, please indicate in summary which role they play

.....
.....

18. Do you face any challenges while implementing any of the above patrol strategies?

no

yes If yes, please indicate which some of the challenges you face are

.....
.....

D. JOB SATISFACTION AND CRIME REDUCTION.

19. Generally you are satisfied with the number of your working hours per day

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

20. The number of your working hours has an effect on your family stability

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

21. You receive a fair pay compared to the rate at which crime reduce

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

22. What else do you think could be done in order to improve job satisfaction at your area of operation?

.....
.....

23. Comment on fairness of your promotional system.

.....

.....

E. MOTIVATION AND CRIME REDUCTION.

24. What do you perceive as some of the sources of motivation in your daily work assignments or in the work place?

.....

.....

25. Please indicate how much the following financial and non-financial factors motivates you towards your work of crime reduction

Financial and non-financial factors of motivation	No effect	Pleased but not much change	Moderately increases my drive	Highly increases my drive and enthusiasm	Very Highly increases my drive and enthusiasm
Salary(money)					
Job security					

26. Are you motivated by your Housing conditions?

no

yes **If no indicate what changes you would recommend?**

.....

.....

27. In your own opinion for the period you have worked in Imenti South District is crime reducing?

no

yes **If yes, please indicate some of the influencers of crime reduction**

.....

.....

THANK YOU!

APPENDIX II: Letter of Transmittal

**DAVID MWANGI GATOTO,
P.O BOX 5356 -00200,
NAIROBI.
CELLPHONE NO.: 0721 257179 /0735 965352
Email: mdgatoto@gmail.com**

23rd May 2013

TO WHOM IT MAY CONCERN

I am a student at the University of Nairobi, Department of Extra Mural studies undertaking Master of Arts degree in Project Planning and Management. I am carrying out a study titled “Influence of police patrol on crime reduction in Imenti South District” in partial fulfillment of the requirement for the award of the degree.

The study is aimed at assessing the influence of number of police officers, police patrol strategies, police job satisfaction, police motivation on crime reduction. The data obtained in this study will be used to deliberate on the best way forward to improve police patrols in the district. It is hoped that the findings will be used to give recommendations to the law enforcing agencies, in particular the Police Service on matters concerned with staffing, motivating the officers and improving the working condition to enhance job satisfaction of police officers so as to help them reduce crime through effective and efficient patrols.

The officers of this study will be the police officers working in Imenti South District. The data will be collected using questionnaire whereby information regarding the police patrol will be obtained. I therefore assure the officers that all comments, responses and information they provide will be anonymous and will be treated confidentially. Your participation in this study will be on voluntary basis and all ethical issues will be put into consideration.

Thank you for your assistance with this research.

Yours faithfully,

David Mwangi Gatoto.

APPENDIX III: Authority to Undertake Research

**OFFICER COMMANDING POLICE DIVISION,
IMENTI SOUTH DISTRICT,
MERU COUNTY.**

23rd May 2013

TO WHOM IT MAY CONCERN

The bearer of this letter has been authorized to collect data from all police officers in Imenti South District on a study he is undertaking titled “Influence of police patrol on crime reduction in Imenti South District”. You are therefore requested to give him maximum cooperation as the area of interest is relevant on what we do and the information you shall give will not only help enrich the outcome of the research but may also be incorporated in the on-going police reforms.

Please assist him to achieve his objective.

Yours faithfully,

Officer Commanding Police Division.

C.C

Officer Commanding Station