

Violent Victimization in Kenya: Its Nature and Covariates

Teresa Wairimu Ndung'u

Private Sector Development Division
Kenya Institute for Public Policy
Research and Analysis

KIPPRA Discussion Paper No. 137
2012



KIPPRA IN BRIEF

The Kenya Institute for Public Policy Research and Analysis (KIPPRA) is an autonomous institute whose primary mission is to conduct public policy research leading to policy advice. KIPPRA's mission is to produce consistently high-quality analysis of key issues of public policy and to contribute to the achievement of national long-term development objectives by positively influencing the decision-making process. These goals are met through effective dissemination of recommendations resulting from analysis and by training policy analysts in the public sector. KIPPRA therefore produces a body of well-researched and documented information on public policy, and in the process assists in formulating long-term strategic perspectives. KIPPRA serves as a centralized source from which the Government and the private sector may obtain information and advice on public policy issues.

Published 2012

© Kenya Institute for Public Policy Research and Analysis

Bishops Garden Towers, Bishops Road

P.O. Box 56445, Nairobi, Kenya

tel: +254 20 2719933/4; fax: +254 20 2719951

email: admin@kippra.or.ke

website: <http://www.kippra.org>

ISBN 9966 058 02 7

The Discussion Paper Series disseminates results and reflections from ongoing research activities of the Institute's programmes. The papers are internally refereed and are disseminated to inform and invoke debate on policy issues. Opinions expressed in the papers are entirely those of the authors and do not necessarily reflect the views of the Institute.

This paper is produced under the KIPPRA Young Professionals (YPs) programme. The programme targets young scholars from the public and private sector, who undertake an intensive one-year course on public policy research and analysis, and during which they write a research paper on a selected public policy issue, with supervision from senior researchers at the Institute.

KIPPRA acknowledges generous support from the Government of Kenya (GoK), the African Capacity Building Foundation (ACBF), and the Think Tank Initiative of IDRC.



Abstract

Violent victimization among individuals is one of the policy concerns of the Government of Kenya, because it imposes economic, social and physical implications on individuals, society and the country. Establishing a more secure, social and economic living environment is therefore a key policy challenge in most developing countries. Aware of this policy concern, this study uses a Probit model to examine factors that determine violent victimization among individuals using data from the 2009/2010 Crime Victimization Survey in Kenya. In particular, the study examines the impact of individual characteristics and household characteristics on violent victimization risks (robbery, sexual assault and assault/threat). Using existent criminological theories known as routine activities/the lifestyle model, each provided explanations why and how crime and victimization are linked to individual and environmental factors; however, it is unclear whether each set of characteristics are a better rationalization for crime, thus victimization.

Analysis of the data shows that individual and household characteristics influence the risks. As expected, the likelihood of being a robbery victim increases if a person is a single male with high income, living in urban areas and with no vehicle. In relation to assault, the victimization increases considerably if the person is female, single, low income and home maker. On the other hand, the likelihood of sexual assault decreases with age and increases when a person is single and participates in recreational activities less often. Evidence from the model implies that although there are characteristics that are shared by victims, not all of them influence one's chance of becoming a victim seem significant.

The study shows that risks of violent victimization are influenced by socio-demographic characteristics. Thus, policies concerning persons at risk should not be treated as homogenous group.

Abbreviations and Acronyms

NCVS	National Crime Victimization Survey
KIPPRA	Kenya Institute for Public Policy Research and Analysis
NCVS	National Crime Victimization Survey
UNDP	United Nations Development Programme
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
SCIC	Supervisory Criminal Investigator Course

Table of Contents

<i>Abstract</i>	iii
<i>Abbreviations and Acronyms</i>	iv
1. Introduction	1
1.1 Background	1
1.2 Problem Statement	5
1.3 Objectives of the Study	7
1.4 Justification of the Problem	7
2. Literature Review	9
2.1 Theoretical Literature.....	9
2.2 Empirical Literature.....	12
3. Methodology.....	16
3.1 Conceptual Framework	16
3.2 Theoretical Framework.....	17
3.3 Analytical Framework.....	18
3.4 Data and Variables	20
4. Empirical Results and Discussions.....	22
4.1 Determinants of Violent Victimization: Probit Results.	22
5. Conclusion and Policy Recommendations	28
5.1 Conclusion	28
5.2 Policy Recommendations.....	28
5.3 Limitations and Future Research	30
References	32
Appendix	36

1. Introduction

1.1 Background

According to the United Nations Office on Drugs and Crime (UNODC), the term 'violent crime' refers to the use of force to harm, injure or abuse others. It recognizes the incidence of violent crime as a phenomenon that affects developing and developed world. The most common incidences of violent crime across the world are rape, murder, assault with intent of causing grievous bodily harm, and robbery. The United Nations and other sources imply that there are certain countries that tend to be more violent than others, hence the study of criminal victimization has become a central issue in criminology, reflecting the recognition that the experiences associated with being a victim of property or violent crime can diminish the quality of people's lives (UNODC, 2006). The ever elusive explanation for crime and deviant behaviour has for so long been the target of investigation among the world's most elite criminologists (Eric, 2010). Researchers have toiled and debated over theories of crime that would move to explain an individual's actions, his/her proneness to crime, all the way to an individual's risk of personal and property victimization. This study will move to further this continuing investigation into the causes and explanations, and the wavering levels of risk for victimization.

Crime victimization is seen as a restriction to social and economic developments of a region, and as a consequence, formulation of effective crime prevention policies seems to be a question with high economic and social returns (Barslund *et al.*, 2005). The problem of crime is multifaceted. It is political since necessary actions for fighting crime involve allocation of public resources and active participation of government; social, because it affects the quality and life expectancy of population; and economic, because it limits potential development of economies. The significant increase in crime rates and the importance of the subject has led to governments facing challenges to formulate and implement policies to prevent and reduce crime.

According to International Crime Victimization Survey (ICVS) conducted in Africa in 2001-2006, the rate of violent and property victimization rate was 30 per cent and 25 per cent, respectively. The crime justice in many African countries has, for decades, been focusing on offender oriented process as the victims were totally set aside, while

on the other hand, the offender and victims are different facets of the same social reality. That is why in African countries, the Criminal Justice System is generally perceived by the local communities as a foreign and indifferent way of solving interpersonal problematic situations because of the absence of the victim from the scene, leading to high victimization rates (Ian *et al.*, 2010).

In Kenya, crime and victimization has been on the increase over the years despite several initiatives and policies implemented to reduce crime. Kenya was ranked 136th worldwide, with the following statistics on violent crime: assault, 39.9/100,000 population; rape, 3.5/100,000, and robbery, 14.2/100,000 population. It is regarded as having relatively high levels of crime, including murder, assault, domestic violence and abuse against women (Barslund *et al.*, 2005). This permeates all facets of Kenyan society, and the violence-instilled climate appears to impact on psychological, emotional and physical well being of the entire population. Hence, Kenyans view exposure to violent crime as one of the most serious problems they face.

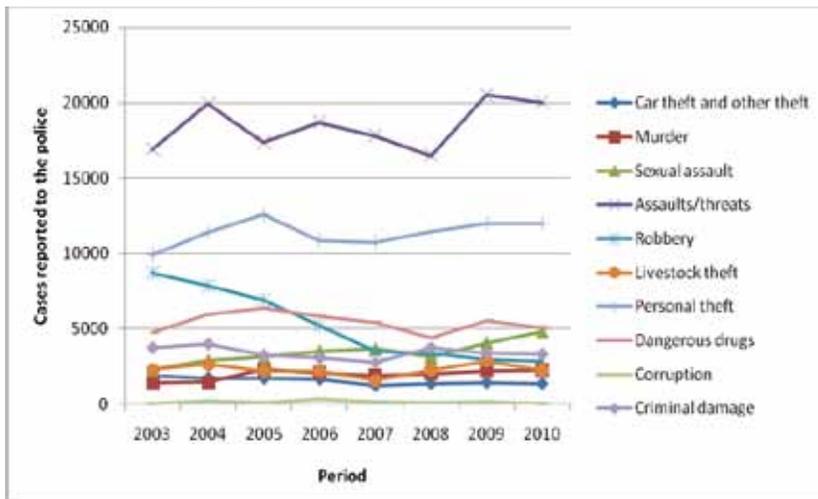
Indeed, the recent upsurge in both property and violent crime has been reported in the Kenya Police statistics and crime victimization survey. The general factors that contribute to incidences of violent crime in Kenya have been attributed to unemployment, socio-economic inequality, historical marginalization, ethnic-related conflicts, stock theft, refugees, arms proliferation and ineffective criminal justice system (Mutua, 2007; Kenya Police, 2010; Gimode, 2001; Catholic Justice and Peace Commission, 2005). Furthermore, concerns about crime and insecurity have been widely broadcast in the media, and have been a subject of discussion in various forums, including parliament.

According to UN Habitat *et al.* (2002), Kenya's crime profile resembles that of South Africa and Tanzania, with robbery, burglary, theft and assault being particularly prevalent. The crime data of the Kenya police service indicates that although the rate of crimes reported have been increasing progressively from 2003-2010, these rates are generally alarming. The police statistics show that crime rates against persons, that is, assault/threat, personal theft, robbery and sexual assault are still alarming despite the measures implemented. Thus, there is objective evidence that Kenyan citizens are vulnerable to violent crime, although incidences vary across the country and population. Further, given concerns about under reporting in relation to some offences, official crime statistics may under-represent or give minimal information about the victims of violent crime.

While officially reported criminal statistics do exist in Kenya, they are not representative of the ‘true’ criminal situation. Alternative sources of data have to be relied on in careful policy relevant research efforts. A nationally representative household survey was conducted in Kenya during 2009 and February 2010, which included a novel section on victimization on which the empirical section of this study is built. Relying on a nationally representative survey (rather than officially reported criminal statistics), where information is available at the level of individuals and households, is a potentially very rewarding research avenue to improve our understanding of victimization in developing countries.

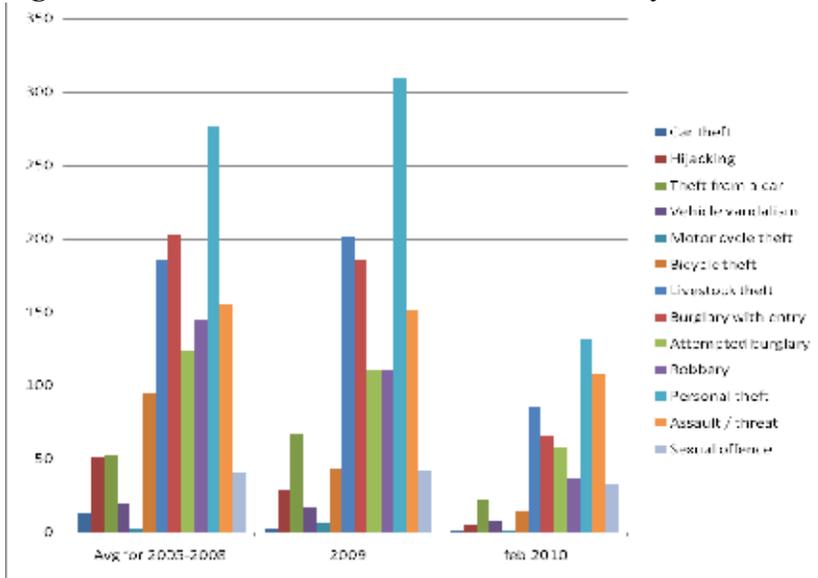
Data issues are even more serious for other types of crime and violence, where under-reporting is more prevalent. Consequently, statistics based on official police records often have little meaning, and victimization data from population-based surveys are needed to give a more accurate picture of real levels of crime among the population. Only one national victimization survey was conducted in Kenya in 2009, where a small module of national household survey asked about victimization. Figure 1.2 summarizes data from victimization survey conducted in Kenya.

Figure 1.1: Kenya police crime statistics



Source: Government of Kenya (various), *Economic Survey*

Figure 1.2: Crime victimization statistics in Kenya



Source: National Crime Victimization Survey in Kenya, 2009/2010

Summary findings from crime victimization survey conducted by KIPPRA in 2010 show that 1 out of every 3 (33%) respondents in 2009 had experienced some type of crime in the 12 months preceding the survey. Of all crime types, 52 per cent of respondents experienced property crime while 48 per cent experienced personal crime. Similar to crime data of Kenya police, the NCVS show crime victimization level, while statistics show an increase in victimization rates for different types of crime for the period 2005-2010. The most prevalent rate of violent crime is sexual assault, robbery and assault. The survey found that, on average, 11 per cent of respondents were victims of robbery, sexual assault (4.4%) and assault/threat victimization (18%).

Even with the new policies in place and the recently renewed commitment to provide a safe and secure environment for all Kenyans, the intended objectives have not been met. For instance, the economic recovery strategy aims at achieving broad outcomes to improve personal security, reduce crime, and eliminate domestic violence and sexual abuse. The goal was to ensure that institutions and agents of the government such as police, prisons and courts observe human rights and security for all citizens. The extent to which Vision 2030, UN's Millennium Development Goals (MDGs) and the highly progressive

provisions spelt by the new constitution will be actualized depend on a large measure of government's ability to create and sustain a stable and secure country.

Although there exists a great deal of discussion about the subject of victimization, there are few studies on victimization, and in this case violent victimization at the individual level. Majority of the studies analyze crime under the perspective of the criminal, but this study seeks to analyze the side of victims, verifying which characteristics an individual possesses that influence victimization. The trends in victimization in Kenya are unknown across important social demographic groups. Therefore, to respond to these gaps in our knowledge, the study uses crime victimization survey to produce national trends in incidences of violence for these demographic groups. The sub-groups were determined by social, demographic and economic variables explained by the lifestyle and routine theories of victimization.

1.2 Problem Statement

The study on crime victimization in Kenya is relevant from a national and international perspective. Within Kenya, basic elements of human rights such as freedom of movement, the preservation of personal dignity, personal security, and right to life, have been continually jeopardized by the effects of violent crime and have created a sense of fear within a majority of the population. The new constitution dispensation could also lead to potential human security challenges, which the country may be ill prepared to manage (Supervisory Criminal Investigator Course, 2011). To prevent the prospects of crime escalation, especially now that the government is preparing for the next general election in 2013, the study will focus on the vulnerable groups and areas that need to be targeted as potential problem areas as well as provide crime victim profiling and their socio-demographic characteristics that increase risks of violence.

There has been an upsurge of crime victimization in recent years, giving rise to concern of the government and the public. Data from police statistics and the victimization survey in Kenya indicates an upsurge in both property and violent crime in Kenya. In fact, the preliminary results of the victimization survey in Kenya indicate that 33 per cent of Kenyan households have experienced some form of crime directly. Worldwide statistics also indicate that Kenya ranks highly as

a high crime area. Crime victims have attained an increased level of recognition visibility. The renewed interest in the 'forgotten persons' of the criminal justice system is a combined result of several factors. Special sub-groups of victims, particularly the women and other vulnerable groups, have drawn attention both politically and socially to problems of sexual assault, domestic violence, and victim associations have formed and increased media attention by demanding more effective justice and protection for victims. This is because for the past two decades, attention was focused on crime offenders rather than victims. This social ill has led to a huge amount of research on causes of crime victimization in different countries conducted by experts, politicians and other researchers. A majority of these researches attribute it to lack of social and moral values in the society, adverse effects of the mass media, impoverished living environment and low economic growth and high inflation. All this research gives a wider picture and understanding of causes of crime, and as energy and resources are diverted to one side of the coin, and the offenders on the other side, the victims are neglected. This means that the society sees the drastic increase in crime, but fails to pay the same amount of attention to the remarkable increase of victimization rate among the population.

Unfortunately, apart from the survey conducted in Kenya on crime victimization, there is not any other research done on the victimization topic and little knowledge on the victims in general. It is of necessity therefore to conduct a study on victims so as to enable us have a more comprehensive picture of the problem. A number of researches on crime victimization in Africa, including Kenya, depend on the analysis of data collected from police official reports and the offender who committed the crime, hence drawbacks in understanding the phenomenon. In sum, while officially reported criminal statistics do exist in Kenya, they are not representative of the 'true' criminal situation. Alternative sources of data have to be relied on in careful policy relevant research efforts. A nationally representative household survey conducted in Kenya during 2009 and 2010 included a novel section on victimization on which the empirical section of this study is built. Relying on a nationally representative survey (rather than officially reported criminal statistics) where information is available at the level of individuals and households, is a potentially very rewarding research avenue, to improve our understanding of victimization in developing countries.

1.3 Objectives of the Study

The main objective of this research is to explain the concept of violent victimization in Kenya. Specifically, the research seeks to:

- (i) Identify and assess the determinants of violent victimization in Kenya;
- (ii) Investigate the association between violent victimization and socio-demographic characteristics; and
- (iii) Identify suitable policy measures to prevent crime or changing behaviour to reduce the risk of victimization.

1.4 Justification of the Problem

This study aims to address the need for information about individual victimization that cannot be obtained from officially reported data. The research also seeks to provide additional measures of incidences of violent victimization by identifying risk factors that contribute towards the probability of becoming a victim. Thus, using data from the NVSC, the research will examine the relationships between theoretically derived indicators of the respondents' lifestyle/routine activities and demographic characteristics and between these lifestyle/routine activities and the likelihood of personal victimization. Generally, the research will assess the applicability of the most significant theoretical perspectives on crime victimization and determine the extent through which these characteristics aid in understanding personal crime victimization. It will also explore the patterns of lifestyles where the research considers demographic characteristics considered in previous research: age, education, gender, income, employment and marital status. The study will go beyond a basic reading of the National Crime Victimization Survey (NCVS) results in Kenya to identify statistically what characteristics influence victimization, the relative importance of different factors, and whether they increase or decrease the likelihood of experiencing different types of violent crime.

The issue of violent crime has received little empirical analysis in Kenya. Existing studies by, for instance, Gimode (2007) and Supervisory Criminal Investigator Course-SCIC (2011) on crime victimization in Nairobi did not explicitly examine the issue of violent crime in Kenya. This study attempts to fill this gap by using an econometric technique

to examine the significance and magnitude of social, economic and demographic variables that have been identified in the literature review as possible determinants of violent crime in Kenya, so that correct policies can be developed to address specific needs of potential and actual victims.

2. Literature Review

2.1 Theoretical Literature

The lifestyle/exposure model of personal victimization developed by Hindelang, Gottfredson and Garofalo (1978) concentrated on the relations between lifestyle of the victims and the exposure to danger of being victimized. It is argued that the inclusion of certain personal and lifestyle activities increases or decreases an individual's risk of victimization. Demographic factors (age, marital status, income, education, employment and gender) affect lifestyle, that is people's routine activities such as home life, work and recreation. Lifestyle in turn affects people's exposure to dangerous places, people and times. The model and survey data shed light on the links between personal characteristics and chances that one will become a victim. Based on research focusing on victims characteristics, victims lifestyle have been identified as the greatest contributor to victimization risks. Therefore, lifestyle theory is applied to facilitate understanding and explanation of personal victimization (Meier and Miethe, 1993; Meredith, 1999; Tseloni, 2004; Fortenberry, 2009; Mustaine and Tewksbury, 1997).

Many criminologists believe that crime victim lifestyle increases a person's exposure to offenders and criminal activities (Jairam, 1998; Meredith, 1999; Tseloni, 2004). The lifestyle theory implies that people are targeted based on their lifestyle choices, which exposes them to situations in which crimes may be committed and to crime offenders. More specifically, their theory predicts that individuals, who are younger, male, unmarried, and have low income experience higher risks of being a victim. This is so because the group of people is more active in the public domain, and they use less time within the family and associate themselves more frequently with individuals who have criminal tendencies (Meier and Miethe, 1993). Drinking and taking drugs, staying out late, and association with known criminals are identified as risk factors that increase a person's likelihood of becoming a victim of crime (Mustaine and Tewksbury, 1997; Stein, 2011; Goodlin *et al.*, 2009). As a result, an individual has the opportunity of reducing the probability of becoming a crime victim by decreasing their exposure to these risk factors. The lifestyle theory holds that crime is not random but a result of a person's chosen lifestyle.

The routine activity theory is based on the premise that a crime can occur only if there is someone who intends to commit one (motivated offender), something or someone to be victimized (a suitable target), and no other person present to prevent or observe the crime (the absence of a capable guardian). When a suitable target who is unguarded comes together in time and space with a motivated offender, the potential for a crime is happening there.

The theory posits that differences in crime rates are based on changes in an individual's routine patterns and daily activities of social interaction. The theory is mainly based on two central assumptions (Miethe and Meier, 1990). First, patterns of routine activities and lifestyles are assumed to create a criminal-opportunity structure by enhancing the contact between potential offenders and victims. Second, the subjective value of a target and its level of guardianship are assumed to determine the choice of the particular crime victim. These routine activities include: employment, recreation, educational endeavours and leisure activities. The theory examined crimes as events occurring at "specific locations in space and time, involving specific persons and/or objects" (Cohen and Felson, 1979). Routine-activities theories generally acknowledge four risk factors in explaining the individual's risk of falling victim to crime: proximity to high crime areas, exposure to criminal opportunities, target attractiveness, and guardianship (Meier and Miethe, 1993). Physical proximity to high crime areas is a major factor that increases victim risk.

Living in or near an area with large numbers of potential criminals increases the likelihood of frequent contacts with these offenders, thus increasing the risks of victimization. Relatively high rates of crime should occur in larger cities. Exposure to criminal opportunities is an additional factor that increases the risk of victimization. Visiting certain places, using public transportation, and interacting with a large number of persons may be assumed to increase the frequency with which a person comes into the vicinity of potential offenders and consequentially increase one's risk of falling victim. Besides, engaging in delinquent conduct can be viewed as an important feature of a specific lifestyle that greatly enlarges the risk of being a victim. People who engage in offending behaviour put themselves into high-risk situations and associate with other offenders, enlarging their own risk of victimization.

An individual's risk of victimization is also assumed to be affected by the target attractiveness of that individual and/or his or her belongings. The higher the economic or symbolic value is, the more attractive the target, thus the higher the risk of victimization. Therefore, persons with higher income, status, and education, who probably own more valuable properties, are more attractive to criminals. They are assumed, therefore, to have a higher risk of victimization, especially of property crimes. Finally, the risk of victimization is presumed to be related to the availability of capable guardians. Leaving one's house unattended more often and getting into situations where help is unavailable, decreases the level of guardianship and consequentially increases the victimization risk.

Deviant places theory posits that high rates of crime and deviance can persist in specific neighbourhoods in spite of changes in the composition of their population (Stark, 1987). It suggests that it is not victims who encourage crime, but the socially disorganized high-crime areas where they reside puts them to risk of coming into contact with criminal offenders, irrespective of the victims' behaviour or lifestyle. To that end, residents in these neighbourhoods, most likely lower class areas, have little reason to alter their lifestyle or make safety precautions. This is because personal behaviour choices do not influence the likelihood of victimization. With deviant places theory, neighbourhood crime levels may be more important for determining the chances of victimization than individual characteristics. Deviant places are mostly those of lower economic classes, densely populated and highly transient neighbourhoods. In these areas, we often see mixed land uses that have commercial and residential properties existing side by side. More often than not, commercial establishments provide criminals easy targets for theft crime and burglary. These areas are home to people with less means, who are easy targets for crime; that is the homeless, the addicted, the mentally ill, and the elderly poor. The effect of safety precaution is less pronounced in poor areas. Residents of poor areas have a much greater risk of becoming victims because they live in areas with many motivated offenders. To protect themselves, they have to try harder to be safe than do the more affluent. In turn, it is the characteristics of the neighbourhoods and to a great extent how neighbourhoods change, that may change the level of crime.

Lastly, the social disorganization theory argues that crime rates are not evenly dispersed across time and space (Shaw and McKay, 1942). In particular, Shaw and McKay identify low economic status

(poverty and/or unemployment), ethnic heterogeneity, residential mobility, urbanization and family disruption as the key factors in social disorganization. The theory argues that communities characterized by weak interpersonal networks (both ties between persons and ties between persons and institutions), are less able to regulate the behaviour of their residents through the communication of shared values and standards for behaviour (Shaw and McKay, 1942). This lack of shared behavioural standards results in an environment of disorder, in which traditional social repressors of criminal behaviour do not function.

2.2 Empirical Literature

The theoretical arguments identify the importance of socio-demographic factors that influence an individual's susceptibility to violent crimes. Jarjoura *et al.* (1989) examined the effects of household characteristics and neighbourhood composition to explain variations on household victimization risks; that is burglary using macro and micro perspectives on victimization. They utilized data from three standard metropolitan statistical areas for analysis. Using multilevel models, the authors examined the effects of these variables on the likelihood of burglary victimization. The results revealed that a more complete understanding of factors influencing victimization risk emerge when both household and neighbourhood characteristics are included as independent variables.

A similar study was conducted by Tseloni *et al.* (2000), which explains the routine activities theories, incidence of burglary and the risk of crime across international borders. It was found that urbanization (proximity to motivated offenders) and being a single parent, were associated with increases in burglary victimization. These findings provide support for routine activities theory in the sense that urbanization will likely lead to an increase in motivated offenders or higher levels of crime, and being a single parent indicates a lower likelihood for a capable guardian to be present within the home.

Modern research has linked multiple aspects of lifestyle patterns/routine activities to victimization risks. For example, Mustaine and Tewksbury (1997) examined female and male victimization risks across three domains: work, home and leisure/public. Results indicated that individual's status and lifestyle characteristics, as evidenced by the three domains, can influence risks of victimization by changing the

amount of exposure to potential offenders. The study also highlighted the importance of considering gender and domain-specific activities in victimization analyses. The results indicated that the most influential lifestyle characteristics and behaviours on the use of self-protective measures (and thus victimization risks) are exposure to potential offenders and neighbourhood characteristics. Empirical evidence also suggests that correlates of violence differ for males and females. For example, males are more likely to be victims of aggravated assault, robbery and simple assault, while females are more likely to be victims of rape and sexual assault (Rennison, 2002). For instance, risk for female victimization in the home was determined by unemployment status, marital status, place of residence and home security, while in the work domain, female victimization risk was determined by educational status only. On the other hand, male victimization risk increased in the work place, out in public as well as at home.

Mustaine and Tewksbury (1998) noted other activities that could potentially lead to violent victimization. Their study highlighted a wide range of individual demographics (sex, race, age and marital status), daily routines (eats out frequently, leaves home often for studying, goes out walking, drinks at a bar, and goes to the shopping mall) and social community structural and contextual variables. Using a 95-item self-administered survey for a total of 1,513 college and university students in nine post-secondary institutions, their findings indicated that it is not leaving one's home and going out in public that increases risk for victimization, but where the individual goes and what they do is important to their victimization risk. For instance, specific activities like frequently eating out, drinking at a bar, or going shopping can increase risk for violent victimization.

Mustaine and Tewksbury (2000) also looked at the effects of routine activities theory variables on assault and robbery victimization. They utilized data from a college student survey and found that individuals who frequently became drunk and had disorderly neighbours were more likely to become victims of assault. Involvement in community events and activities was associated with a lower likelihood of assault victimization. These findings directly correspond with the idea behind the theory. The intoxication of individuals makes them prime target for motivated criminals. Neighbourhoods with unruly residents are arguably a measure of motivated criminals.

Other scholars (Kennedy and Forde, 1990; Miethe *et al.*, 1987; Mustaine and Tewksbury, 2000) have also explained violent victimization in terms of the actual crime itself (assault, robbery, sexual assault). In 1987, Miethe and his colleagues conducted, a study in which they used 1975 national crime survey data in order to test routine activities theory. In this research, the authors created variables that measured the occurrence of major day time activities (that is work and school) and major night time activities (going out for entertainment). A logistic regression analysis was then conducted which revealed that individuals with a higher frequency of night time activity had an increased risk for violent crime victimization (robbery and personal theft assault). It is probable that these individuals would have a higher likelihood to be in risky situations as opposed to being at school or work, which are places that promote controlled environments. However, this early study found support for routine activities theory when explaining crime specific variations.

Similarly, Cohen *et al.* (1981) concentrate on routine activities theoretical approach and indicate that marital status, employment status, residence in an urban area, and age are important predictors of lifestyle, which are related to predatory victimization risk. Moreover, studies that include daily routines and demographic characteristics have found demographic measures to be more important than those of actual activities (Miethe *et al.*, 1987; Sampson, 1987).

Sampson and Lauritsen (1990) used BCS data from 1982 and 1984 to test the routine activities approach. Their analysis used dichotomous demographic factors controlling for age, gender, marital status and college education. Exposure was measured by the number of night outs per week (0-7) and the amount of alcohol consumed in one week. Using maximum-likelihood logistic regression, they estimated the probability that respondents would suffer a personal victimization (yes/no). Their model also included information about police reported crime in an attempt to determine if deviant lifestyles are associated with victimization.

Miethe and McDowall (1993) used data from Seattle, Washington to determine the risk of violent victimization based on the routine activities of individuals. Exposure was measured as a scale from 0-3 of how many “dangerous activities” the respondent engaged in regularly. The three activities were: going to bars/nightclubs, visiting places where teens hang out and using public transit. These places represent settings

that may have more strangers, intoxicated persons and/or youth; in other words, where likely offenders might spend their time. The results of their logistic regression model showed that participating in these dangerous activities increased the probability of violent victimization. The effect of these variables was greater than either of the demographic controls. The fact that lifestyle variables had an equal or greater effect than age or gender emphasizes the link between routine activities and the risk of victimization. A shortcoming of this work was inability to compare the relative danger of the three dangerous activities. However, all the three activities were lumped into one category and authors were unable to determine which is the most dangerous in explaining violent victimization.

Meier and Miethe (1993) conclude that the two most advanced sociological theories of victimization are the lifestyle-exposure perspective and the routine activities theory. Hindelang *et al.* (1978) were among the first proponents of the lifestyle-exposure approach. They suggested that differences in the likelihood of being a victim can be explained by differences in the lifestyles of the potential victims. More specifically, their theory predicts that individuals who are younger, male, unmarried, and have low income experience higher risks of being victims. This is so because this group of people is more active in the public domain, and they use less time within the family and associate themselves more frequently with individuals with criminal tendencies.

Literature offers different fundamental explanations of the causal links behind crime victimization and the effects of individual and household characteristic on probability of becoming a victim of crime. We therefore analyze how these characteristics affect victimization risk in Kenya with an analytical framework.

A few lessons can be learnt from the above literature review drawn from different countries (mainly from developed and developing countries). First, there is a significant effect of individual, household and area characteristics on an individual's risk to violent crime. Some of these characteristics include: age, gender, employment status, education status and marital status. Secondly, from the theoretical literature, a person's lifestyle, routine activities and residential location contribute to the incidences of violent victimization.

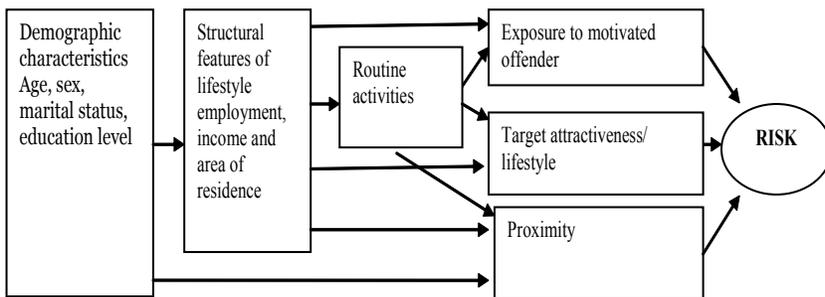
3. Methodology

3.1 Conceptual Framework

Both lifestyle and routine activities theories attempt to explain crime rates and shed light on why particular groups of individuals have higher risks of victimization than others. Differences in risks of victimization for different demographic groups based on gender, age, income and education are attributed to differences in lifestyle and routine activities that enhance individual exposure to risky places, times and potential offenders. The theories further posit that criminal intentions are translated into actions when there is a suitable person or object for victimization and absence of physical restraints that promote successful completion of predatory crime (Cohen, 1979). Offenders also seek to benefit themselves by their select victims and criminal behaviour who offer high payoff with little risk of detection, which are influenced by constraints of ability, energy and time, and availability of alternative and limited information. In addition, the victim characteristics and physical environment are considered by offenders (e.g. robbery) when selecting targets.

The central concepts underlying target selection are proximity to crime, exposure and target attractiveness. Exposure to reflect the distance between victims and large numbers of offenders is indicative of one's accessibility and visibility to crime. Persons are exposed to higher risks of robbery and assault if their lifestyle and routine activities place them in risky and vulnerable situations under particular circumstances, places and with particular kinds of people. Further, hot spots such as drinking establishments, public transport, shopping areas and other dangerous public places could increase one's exposure to crime.

Figure 3.1: Conceptual framework for analyzing risks of violent crime in Kenya



Source: Hough's framework for explaining target selection

Particular targets are selected because they have economic or symbolic value to the offender. As a measure of economic attractiveness, family income is a good indicator because it is easily recognized by offenders in most cases (through the geographic residency and general appearance of an individual). On the other hand, physical proximity to high crime areas increases the likelihood of victimization. Proximity is the physical distance between where likely targets of crime reside and areas where potential offenders are found. Living in high crime areas increases the likelihood of frequent contact with an offender, and thus increases one's risk of victimization. The fact that persons spend a majority of their time around the home, and that offenders tend to select targets in close proximity of their homes (Hindelang *et al.*, 1978) further indicates the adverse effect of living in high crime areas. Measures of physical proximity to crime include place of residence (rural or urban), socio-economic characteristics of the area (unemployment rate and income level), and the perceived safety of immediate neighbourhood (Miethe and Meier, 1990; Sampson and Woolredge, 1987).

3.2 Theoretical Framework

The theoretical framework in this study is based on theories of victimization. Lifestyle and routine activities theory is important in explaining the target selection process. The theories posit that if members of one group are selected as targets of crime more frequently than others, they must meet at least one of the four conditions; exposure to risk, guardianship, target attractiveness and proximity to crime. The differences in the four conditions can account for differences in individuals' risk of victimization, and the person who possesses each of these characteristics is vulnerable to crime. Consistent with the theories of routine activities and lifestyle, these differences in target selection factors are determined by individual's routine activities and lifestyle.

Criminal victimization theories, such as routine activities theory and lifestyles theory, emphasize the causal significance of time and place in the daily lives of ordinary citizens. Systematic variation in lifestyle choices and daily routines place persons into differential risks of criminal victimization by structuring their convergence in time and space with motivated offenders. These theories argue that habits, routines, behaviour patterns, and lifestyle choices of potential crime victims, enhance their contact with motivated offenders, thereby impacting their odds of criminal victimization. Since motivated offenders employ

rational decision making processes, they select their targets so as to maximize criminal gains and minimize costs (Miethe and Meier, 1994). Attractive targets, in the absence of guardianship, are most likely to be selected for predatory crime.

These theories stress the importance of “physical proximity to motivated offenders, exposure to high-risk environments, target attractiveness, and the absence of guardianship as necessary conditions for predatory crime” (Miethe and Meier, 1994). They integrated ideas from various opportunity and victimization theories into a single “target selection” theory of victimization. This theory stresses two key propositions. First, variation in routine activities and lifestyles influences opportunities for crime by structuring the contact between potential offenders and victims. Second, variation in the perceived value of potential crime targets and their levels of guardianship influences the choices motivated offenders make when selecting targets. Thus, daily routines and behaviour patterns may increase one’s proximity to motivated offenders and exposure to risk, while levels of guardianship and target attractiveness influence motivated offenders’ expected utility. Proximity to offenders and exposure to risk are considered “structural” features. Target attractiveness and guardianship are features of offender “choice.”

3.3 Analytical Framework

Based on the literature survey in the previous section, this study uses a probit model to identify how individual, household and area characteristics affect violent victimization. Specifically, the study uses the model to estimate the probability of susceptibility to violent victimization such as sexual assault, robbery and threats/assault, which can be explained using discrete model. The model will allow for an examination of predictive power of the explanatory variables on victimization risks and allow for considerations of conditions that better explain violent victimization risks. The binary response model will be used where the probability of being a victim of crime victimization is indicated as 1 or 0 if not a victim. The probability of an individual being victimized or otherwise is viewed as being determined by underlying general responses as follows:

Where $Y_i = \beta x_i + \varepsilon_i$; $\varepsilon_i \approx N(0, \sigma^2)$

Where Y_i is a binary dummy variable that takes the value of 1 if an individual is victimized, 0 otherwise. B is a parameter vector; x_i a vector of covariates for individual, and ε_i a normally distributed error term, with a constant variance and a mean of zero. Since we are using Probit in our current study, we can then define the binary response model by transforming βx in equation 2 into probability using a Probit model (Greene, 2002). In the Probit model, the interest lies primarily in the response probability function:

$$\text{Prob}(y_i=1/x) = P(y=1/x_1, x_2, \dots, x_k) \dots \dots \dots (3.2)$$

Where x denotes a set of explanatory variables and y denotes the binary dependent variable, with outcomes 0 and 1 as already explained. We can then define the binary response model (Greene, 2002) by transforming BX into probability that a person is a victim:

$$\text{Prob}(y_i = e^{x\beta} / 1 + e^{x\beta}) = F(X\beta) \dots \dots \dots (3.3)$$

So the probability of not being victimized is:

$$\text{Prob (non-victim)} = 1 - \text{Prob (victim)} = \frac{1}{1 + e^{x\beta}} = F(XB) \dots \dots \dots (3.4)$$

By choosing F to be the standard normal distribution, we get the probit model given by the cumulative density function of the standard normal distribution. The standard normal transformation $\Phi(\bullet)$ constrains the probability to lie between zero and one. In order to estimate the above model, we use the likelihood function given as:

$$L = \prod_i^m = \Phi(xi\beta)^y (1 - \Phi(xi\beta))^{1-y} \dots \dots \dots (3.5)$$

It is, however, more convenient to use the log likelihood function given as:

$$\text{LnL} = \sum_i \left\{ y \ln \left[\Phi(xi\beta)^y + (1-y) \ln [1 - \Phi(xi\beta)] \right] \right\} \dots \dots \dots (3.6)$$

We then look for β that maximizes the above log likelihood function. This can only interpret the sign and the significance of the coefficients when using probit model. Direct interpretation for both sign and the magnitude in relation to victimization probability can as well be estimated using marginal effects. From equation 3.3, we can derive the marginal effect for the probit model by differentiating the equation with respect to the independent variables to yield the probability density function given in equation 3.7.

$$\Delta P(y=1/X) / \delta X_k = \beta_k f(X\beta) \dots \dots \dots (3.7)$$

Where $f(\bullet) = \frac{\delta F(\bullet)}{\delta F(X\beta)}$

Whereas the marginal effects for discrete variables are computed using the formula:

$$P(y=1/X)/X_k=1 - P(Y=1/X_k=0) = F(X\beta/X_k=0) \dots \dots \dots (3.8)$$

Equation (3.8) is our selection equation, and it is the household level equivalent of the underlying latent variable model.

3.4 Data and Variables

3.4.1 Data

It should be mentioned from the onset that vast knowledge about risks of personal victimization has been obtained through the analysis of National Crime Victimization Survey (NCVS). The survey conducted in Kenya was designed to measure the extent of violent and personal victimization. By using the NCVS data, it is possible to calculate prevalence measures of personal victimization for specific individual sub-groups. Therefore, the NCVS constitutes the best available data source on risk of victimization for persons living in Kenya.

The NCVS data is used in this study. The data comes from a national representative victimization survey conducted in Kenya during 2009 and 2010 by KIPPRA, in collaboration with the United Nations Office on Drugs and Crime (UNODC) and the United Nations Development Programme (UNDP). The survey took place between 14 February and 6 March 2010, with a total of 2,964 households participating in the study. The main objective of the survey was to assist in understanding the level of both personal and household crimes, people's perceptions of safety in the community and their confidence in law enforcement agencies. The data includes measures of individual and household characteristics, perception of neighbourhood conditions and crime victimization.

3.4.2 Dependent variable

The dependent variable is violent victimization. The participants in the survey were asked whether they were victims of robbery, sexual assault or assault/threat in the past 12 months. Violent victimization is dichotomized so that those who reported being victims of any of these crimes were coded as 1, while those who did not report being victimized were coded as 0.

3.4.3 Explanatory variables

To assess the risk of violent victimization, a person's routine activities, as indicated by their lifestyle, proximity to crime, exposure to crime and the things they do to increase their personal safety, are common measures that have been used to examine the risk of being a victim of violent crime (Miethe and Meier, 1990). Using the 2009/2010 Crime Victimization Survey, there are a number of measures that can be used to assess each of these factors as they relate to violent crime. These factors include lifestyle, proximity and exposure. Lifestyle represents certain habits and behaviours that may place individuals at risk of being victimized. Previous research has used demographic characteristics such as a person's sex, gender, income and marital status, as well as more direct measures such as occupational activities (e.g. employed, student, keeping house) as indicators of lifestyle (Cohen and Felson, 1979; Miethe, Stafford and Long, 1987). Individuals with lifestyles that involve more time away from home are believed to have a higher risk of victimization. For example, younger people whose lifestyle generally involves fewer family responsibilities and more time for activities outside the home would have a greater risk of victimization than older people. Similarly, those whose main activity is working or attending school would be exposed to more risk than those with full-time family responsibilities. Five indicators of lifestyle are included in this analysis: sex, age, income, marital status, education and occupation.

Proximity to crime represents how close a person is to potential offenders. For example, the risk of victimization is greater for someone living in a community that has a high crime rate, compared to someone living in a low crime rate community. Common measures of physical proximity to crime include place of residence (rural versus urban) and the perceived safety of the immediate neighbourhood (Miethe and Meier, 1990). The measure of proximity in this analysis includes urban and rural residency.

Exposure to crime represents one's vulnerability or visibility to particularly dangerous places or situations. It has been found that those who participate in many outside evening activities increase their interaction with strangers, thereby increasing the likelihood of personal victimization (Sampson, 1987). Taking public transportation alone in the evening and frequently walking alone after dark are other measures that have been used to assess exposure to crime. The measures of exposure included in this study are number of recreational activities, use of public transport, and use of protective measures.

4. Empirical Results and Discussions

To test the relationship between each of the lifestyle, proximity, and exposure measures and the risk of violent crime victimization, probit analysis was conducted by examining the individual rates of violent crime for each of the measures. The consistency of these results with the theoretical predictions are discussed.

4.1 Determinants of Violent Victimization: Probit Results

Before proceeding to the various findings, it is important to note that all of the variables included in the logistic regression were checked for multicollinearity, and no issues were found. Appendix Table 3 presents the findings of econometric analysis on the risks of being victimized (marginal effects at the mean of the data), and the discussion that follows is organized in accordance with the three groups of determinants identified in the literature review. The table disintegrates violent victimization into three categories: robbery, sexual assault and assault/threat.

4.1.1 Lifestyle indicators

Risk of violent victimization highest among those aged 20 to 29

First, regarding lifestyle, when the effects of all factors are controlled, being young is by far the strongest predictor of violent victimization. Appendix Table 3 shows age has significant negative effect on violent victimization. In other words, younger people are more likely to be victims of violent crime than older people. The typical pattern seen is an increase and risk for those in their 20s from those aged 15-19, followed by a steady decline in risk as people age. Those aged 60 and older usually have lower victimization rates than any other age group (Lemieux, 2010). This finding indicates that younger Kenyans are not only spending more time away from home, but they spend this time participating in activities that might expose them to higher levels of risk. For example, drinking at a bar could expose them to a higher level of risk because of increased interactions with strangers or intoxicated persons. This means that the extra hour spent in this activity by those in their 20s may result in more violence and higher rates of victimization overall. The finding is consistent with the lifestyle approach that age has an enormous effect on the routine activity patterns of individuals. Most importantly, as people grow older, they begin to spend more time

at home, which lowers their exposure to risk. Thus, age appears to have a dramatic effect on lifestyle with the young spending much more time away from home and in activities with a high potential for violence.

Researchers have concluded that being a youth is a dangerous transitional period during which exposure to violence remains heightened (Shashi, 1998; Krejny, 1999; Fortenberry, 2009). Studies have identified lack of guardianship, peer pressure, alcohol and drug consumption, and family structure as the main causes of violence risks (Stein, 2011). For example, single parents do not provide necessary foundation for proper childhood development, and children of these families lack the emotional and social support, which is important for successful integration in the society. Vulnerability of these youth exposes them to join crime related gangs, heightening positions of risks (Lauritsen, 2009).

Risk of violent victimization is high on low and high income groups

There is a statistically significant indication in the data of individual income being positively related to the probability of being victimized, especially for assault. Low income group (earning less than Ksh 10,000) brings about an estimated 7 per cent increase in assault. Being poor also indicates living deprived and, therefore, high-crime rates. On the other hand, high income groups with more than Ksh 50,000 brings about an estimated 30 per cent increase in robbery. Consistent with other findings, family income reflects an individual's position in the economic structure, which is an important constraint on behavioural options (Hindelang *et al.*, 1978). Income is positively related to an individual's flexibility to adjust one's lifestyle to one's wishes, including the ability to choose where one lives, the mode of transportation, the proportion of time spent in public places and the nature of leisure activities. Therefore, the low income group may be exposed to victimization risks as these individuals, for example, stay in areas with high crimes and depend on public transport. The result also confirms Cohen *et al.* (1981) theory that the effect of income on victimization risk is highly dependent on the nature of the crime.

Risk of violent crime varies across gender

Based on the results in Appendix 3, there is an increase in risks of robbery victimization for female compared to their male counterparts. The variable 'female' has a significant positive coefficient for robbery and a significant negative coefficient for sexual assault. This implies that

being female increases the probability of robbery by close to 5 per cent, but decreases the probability of sexual assault by close to 2 per cent. Contrary to the above findings, being male increases the probability of robbery and assault/threat compared to females. Therefore, results show that using general victimization rates to describe risk overlooks the reality that different activities and types of place may expose Kenyans to varying levels of danger.

Risk of violent victimization is highest among single individuals

Being single increases the probability of violent victimization compared to married individuals. Married individuals are less likely to associate with people outside their family and immediate friends' environment, thus becoming less exposed to crime than those who are not married (Sampson and Laub, 1993; Warr, 1998). Indeed, divorce has the highest effect among all the characteristics considered in the model, whereas individuals living as a couple and widowed are non-trivial. Single (never married) individuals experience higher rates of personal victimization than married individuals, and the results suggest that a portion of these differences is caused by differences in routine activities. Single people are victimized more than married people, in part, because they go out at night more frequently than married people.

The lifestyle of a single person is quite different from that of a married person. Unlike married people, single people are searching for a mate, which means that they are more likely to be involved in the dating scene. This entails going out to bars, clubs, and other fairly high risk locations, often at night, a risky time in itself. These types of locations are associated with victimization, as is spending time out at night (Corrado *et al.*, 1980; Kennedy and Forde, 1990; Miethe *et al.*, 1987; Miethe *et al.*, 1990; Roncek and Maier, 1991). Dating also involves spending time around strangers, or at least non-family members, both of which are associated with victimization (Hindelang *et al.*, 1978). Additionally, these situations often involve alcohol or drugs.

Education level increases violent victimization risk

The relationship between violent victimization and education is less consistent. People with least amount of education report the lowest level of violent victimization. The variable education has a positive effect on violent crime, especially for robbery and assault/threat. It appears that individuals, who are educated (measured vis-à-vis those without any education), are more likely to be victimized (except for

sexual assaults). This reflects that being educated transmits a signal of being a more attractive target of crime, controlling for other factors of influence (Gaviria and Pàges, 2002). This also infers that education levels will have an influence on a person's lifestyle. The education level also determines the types of jobs to be undertaken. Tseloni (2000) examined the effects of labour stratification on crime rates and claimed that neighbourhoods comprising of secondary sector occupants have high criminal rates "not because they are composed mostly of poor people, but because of relatively large numbers of persons who have unstable jobs and perhaps weak bonds to the society through work. Meredith (1999) states that as a result of their uneven employment, they are frequently idle in a 'situation of company' that is conducive to crime, hence applicable to victims." Therefore, individuals with high levels of education will more likely be victims of crime because of the way education is believed to influence income and lifestyles.

Risk of victimization increases when a person is disabled/retired

Employment status has no significant effect on violent victimization apart from assault. The results show that individuals who are home makers are less likely to be victims of assault/threat as compared to persons who are employed. Additionally, because the marital status of individuals was included in the model, it was possible to determine that unemployment appears to counteract the increased guardianship of marriage. In general, working or keeping house are much safer activities than being unemployed. The findings of other studies also indicate that working is a safer activity than being unemployed, keeping house is safer than both activities (Lemieux, 2010).

On the other hand, persons who are disabled or retired are more likely to be victims of sexual assault. Risk factors for sexual victimization for people with disabilities has been attributed to social isolation, reliance on others for care, communication barriers, lack of resources/lack of knowledge of existing resources, poverty and lack of caregiver support.

4.1.2 Proximity

Urban residency is a risk factor for violent victimization

The study assumes that for all types of violent crime, living in an area with higher degree of urbanization would increase risk of victimization. The degree of urbanization of the place where people reside serves as an indicator of proximity to high-crime areas. The indicator of proximity has a significant positive effect on the risk of being a victim of robbery. Only

for sexual offence and assault/threat were not statistically significant. The effect of the degree of urbanization indicates that moving to a more urbanized area increases the risk of being a victim of robbery by 5 per cent. Findings from other studies have shown that urban residents pose greater risks to personal safety than rural residents (Hough, 1987). Findings show that residential instability in urban areas are plagued by negative social conditions such as unemployment, poverty and family disruption, which cause these areas to become less attractive to those more upwardly mobile residents (those with more resources and income).

4.1.3 Exposure

Using public transport increases risks of violent crime

Individuals who use public transport increase their risk of violent crime. Public transportation exists mostly in the urban areas of Kenya and is plausibly used by those who cannot afford a car. Given that family income is included in the model, it seems that a separate effect of public transportation exists perhaps by providing the scenery for violent victimization. Violent crime particularly for robbery and assault/threat, and except for sexual assault, is greater in areas where individuals do not own a car. One possibility is that these area indices reflect varying proportions of better off victims (presenting rewards for robbery) or those who are likely to travel by foot or public transport (presenting opportunities for personal contact). Visiting certain places using public transportation, and interacting with a large number of persons, may be assumed to increase the frequency with which a person comes into the vicinity of potential criminals and inevitably increases one's risk of falling victim (Cohen *et al.*, 1981; Hindelang *et al.*, 1978).

Number of evening activities slightly influences risk of violent victimization

Exposure factors continue to have a significant impact on risk of violent crime when the effects of lifestyle, proximity to crime and use of protective measures are controlled. Participating in recreational activities at least once a week decreases the risk of robbery, while participating in recreational activities less often increases risks of sexual assault. This apparent contradiction may be the result of imprecise measurements of the exposure to risk concept. For example, knowing how many nights a person is away from home says little about where they went or how long they were gone. Without this information, the

models assume everybody visits the same places for equal amounts of time. Criminology literature on leisure activities does not inform how risk varies for leisure activities in different places, and there is no device to precisely measure the exposure of risk concept.

Taking self-protective measures has no effect on violent victimization

Guardianship measures, or things people may do to increase their personal safety through door locks, have no impact on risk of violent crime when other factors are held constant. Using door locks as a protective measure was not associated with decrease in risks of violent crime. Past research has suggested that this may in fact reflect the possibility that self protective measures were undertaken as a consequence of a prior victimization experience. Unfortunately, there is no way of knowing from the survey data whether people took these precautions before their victimization or they increased their self-protective behaviour because of their victimization.

Another possible explanation may be that those who take precautionary measures to increase their safety do so because their environmental situation necessitates such behaviour, so that those in high-crime neighbourhoods may feel compelled to take safety precautions (Stein, 2011).

5. Conclusion and Policy Recommendations

5.1 Conclusion

The study is motivated by the current high levels of violent victimization among individuals and the importance of drawing policy oriented focus on the issues. It provides a deep insight into understanding the nature and determinants of violent victimization in Kenya. Failure to address these issues that make an individual vulnerable to victimization may lead to multiple risks or increase in victims of crime. Incidences of crime cannot be simplified into issues of just victims and non victims, but rather on effective ways of combating future victimization and victim services through implementation of programmes and policies that observe ways in which victimization materializes.

Even though Kenyans have become satisfied with their overall safety, many continue to worry about crime and the threat it poses to their personal safety. Results from the Probit analysis indicate that exposure and proximity to crime, being single, divorced/living as a couple, being male, educated, use of public transport and having low income were significant predictors of different types of violent crime, but the effect of these factors were not as strong as those for age. Rates of violent victimization were also higher for individuals living in urban areas compared to rural areas. It appears that the type of community, specifically its proximity to crime, is more important when predicting the risk of violent crime.

5.2 Policy Recommendations

These findings have various policy implications:

1. Mobilizing broad based support to effect changes in attitudes, policies, laws or structures: This includes formulation of community projects, which include education and training for parents, professionals, and youth audiences, as well as coalition-building to develop a coordinated community response to violence. Preventive interventions at the individual level usually involve education, awareness building or skills development designed to help individuals recognize and avoid potential violence. For example, risk of violent crime is highest among individuals who are 20-29 years old, hence programmes targeting these youths should emphasize on cognitive violence reduction strategies.

Public health approach that focuses on economic and social violence at individual and interpersonal level should be implemented. The approach should aim at preventing violence by reducing individual risk factors through top down surveillance, risk factor identification and scaling up successful intervention.

2. Urban safety and crime reduction strategies: This includes establishing a crime prevention board or coalition involving sectors such as education, health, housing, child protection and policing by coordinating the development and implementation of a strategic planning process that analyzes local crime problems, develops solutions, implements programmes and evaluates progress. Further, it is important to coordinate the implementation of effective local solutions, including guiding federal and provincial programmes that encourage local partnerships to solve crime problems.

3. Management and coordination: Effective policy formulation and implementation entails tackling the root causes of violent victimization, as well as their immediate and long term effects on the victims. Therefore, prevention and response of violence requires the development of multi-sectoral policies and guidelines. For example, other than the health sector, the education sector can also play a significant role in preventing and addressing violent victimization, especially through education policies and programmes in learning institutions. In addition, the police and the judicial systems can also play their roles by enforcing policies and laws aimed at prevention, treatment and eradication. The communities can also include prevention of victimization. It is therefore important to embrace active involvement and participation of key players, including all the relevant ministries, development partners, local and international NGOs and civil societies.

4. Financing: Policies and plans developed have not been implemented due to lack of financial support and commitment from available resources. The policies adopted should be followed by revising and developing national victimization plans and strategies. With approved strategies and plans, the government can begin to convince its key players to invest in prevention and control of violent victimization.

5. Building a knowledge base through rigorous evaluation: Lack of evidence about effective programmes to address violence leaves policy makers and programme managers without the ability to make informed decisions. Lack of data not only impedes evidence-based decision making, but also makes it more difficult to argue for increased resource

allocating to prevent and respond to violent victimization. Researchers and programmers need to collaborate on more rigorous evaluations, particularly in the area of prevention. Too often, violence initiatives have not been based on a clear hypothesis or theory about how their strategies may produce results.

6. Role of bilateral donors and multilateral institutions: International institutions can play an important role in addressing violence in Kenya. These international actors are in a unique position to encourage science-based evaluation of victimization programmes, to share the results of these evaluations, and to use those findings to promote investment in effective prevention and treatment initiatives. In addition, research on the health and socio-economic costs of gender-based violence may encourage governments to invest in prevention. Second, international actors can promote effective public private partnerships and, in particular, coalitions between governments and NGOs. Therefore, these types of associations are important for developing an effective, community or nationwide effort to reduce violence and assist victims. Further, to reduce levels of victimization against vulnerable groups lies with mobilizing all levels of the societies from government and international donors, to grass root organizations and local government. The challenge is not only to raise awareness of potential risk of violent victimization, but to maintain a long-run commitment by all these actors so as to address violent crime as a barrier to economic development, a public health problem and a violation of fundamental human rights.

5.3 Limitations and Future Research

The current study fills important gaps in literature on violent victimization utilizing a lifestyle and routine activities theoretical approach. This study utilizes information from a crime victimization data and offers a descriptive analysis of victimization in Kenya. However, several limitations within the current research need to be recognized. First, the dependent variable of violent victimization is measured as a dichotomous variable. While this measure captures whether the respondent was victimized, it does not address potential differences among respondents who have experienced multiple episodes of victimization.

While the activities of the respondents and the demographic proxies for lifestyles have varying relationships to violent victimization in this

research, only a low level of variance is explained in victimization. This indicates the need to include additional lifestyle measures to better understand the opportunities surrounding victimization experience. Moreover, the varying significance of the relationships between lifestyles/routine activities variables and violent crime across the provinces in the analysis implies characteristics specific to the provinces may be influencing the lifestyles of individuals (Tseloni *et al.*, 2004). Future victimization research needs to consider the importance of the country structure and culture, as these elements may be affecting the opportunity for victimization.

References

- Barslund, M., Rand J., Tarp F. and Chiconela J. (2005), "Understanding Victimization: The Case of Mozambique," *World Development*, Vol. 35, No. 7.
- Catholic Justice and Peace Commission (2009), "Linking Broad Constellations of Ideas: Transitional Justice," in *Transitional Justice and Development: Making Connections*, New York: Social Science Research Council.
- Clarke, C., and Milne, R. (2011), *Supervisory Criminal Investigator Course*, Police Research Award Scheme, London: Home Office.
- Cohen L., Kluegel J. and Land K. (1981), "Social Inequality and Predatory Criminal Victimization: An Exposition and Test of a Formal Theory," *American Sociological Review* 46: 505-24.
- Cohen, L. E. and Felson M. (1979), "Social Change and Crime Rate Trends: A Routine Activity Approach," *American Sociological Review* 44: 555-608.
- Eric, M. H. (2009), *Routine Activities Theory: An Empirical Test in a Rural Setting*, Carbondale: Southern Illinois University.
- Fortenberry J. N. (2009), *The Risks of Non-Fatal Violent Victimization across Individual and Structural Level Characteristics*, University of Missouri, Kansas City.
- Garviria A. and Pages C. (2002), *Patterns of Crime Victimization in Latin American Cities*, Washington, DC: Inter-American Development Bank.
- Gimode, E. A. (2001), "An Anatomy of Violent Crime and Insecurity in Kenya: The Case of Nairobi, 1985-1999," *Journal of Africa Development*, Vol. XXXVI.
- Goodlin, A. and Pages, C. (2009), "Patterns of Crime Victimization in Latin American Cities", *Journal of Development Economics* 67, 181-203.
- Government of Kenya (various), *Economic Survey*, Nairobi: Government Printer.
- Greene, W.H. (2002), *Econometric Analysis*, 5th Ed., New York: Macmillan.
- Hough, M. (1987), "Offenders Choice of Targets: Findings from Victim Survey," *Journal of Quantitative Criminology*, Vol. 3, 355-369.

- Hindelang, M. J., Gottfredson, M. R. and Garofalo, J. (1978), *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization*, Cambridge, MA: Ballinger.
- Jarjoura, R. and Douglas, A. S. and (1989), "Household Characteristics, Neighbourhood Composition and Victimization Risk," *Journal of Social Forces*, Vol. 68(2).
- KIPPRA (2010), National Crime Victimization Survey in Kenya, United Nations Office on Drugs and Crime, Available at <http://www.un.org/esa/devaccount/projects/2006/0607R.html>.
- Kenya Police Report (2011), Crime Statistics for Property and Violent Crime in Kenya, Available at <http://www.kenyapolice.go.ke/resources/CRIME%20REPORT%202011.pdf>.
- Krejny, M., Thompson, K.M., Wonderlich, S.A., Crosby, R.D., Simonich, H., Mitchell, J.E., and Donaldson, M. (1999), "Sexual Victimization, Spirituality and Psychopathology," *Journal of Child Sexual Abuse*, 13, 85-103.
- Lauritsen, J. H. and Sampson, R. J. (1990), *Shared Beginnings, Divergent Lives: Delinquent Boys to Age 70*, Cambridge, MA: Harvard University Press.
- Lemieux, A. M. (2010), *Risks of Violence in Major Daily Activities: United States*, Doctoral Dissertation, Rutgers University, Newark, NJ.
- Mayhew, P. and Van Dijk, J. J. M. (1997), *Criminal Victimization in Eleven Industrialised Countries. Key Findings from the 2006 International Crime Victims Survey*, The Hague: WODC.
- Meredith, L. Krejny (1999), Answering the Question "Who Gets Victimized?" A Study of "Recidivist" Victims, Regional Research Institute, West Virginia University.
- Miethe, T. and David, M. (1993), "Contextual Effects in Models of Criminal Victimization," *Social Forces*, Vol. 71, 741-59.
- Miethe, T. D. and Robert F. M. (1990), "Opportunity, Choice and Criminal Victimization: A Test of a Theoretical Model," *Journal of Research on Crime and Delinquency* 27:243-266.
- Meier, R. F. and Miethe, T. D. (1993), "Understanding Theories of Criminal Victimization", *Crime and Justice* 17, 459-499.
- Mikkelsen, B., John, R. and Finn T. (2005), *Understanding Victimization: The Case of Mozambique*, Denmark, University of Copenhagen.

- Mustaine, E. E. and Tewksbury, R. A. (2000), "Comparing the Lifestyles of Victims, Offenders, and Victim-Offenders: A Routine Activity Theory Assessment of Similarities and Differences for Criminal Incident Offenders," *Sociological Focus* 33(3): 339-362.
- Mustaine, E. E. and Tewksbury, R. (1997), *The Risk of Victimization in the Workplace for Men and Women: An Analysis Using Routine Activities/Lifestyle Theory*.
- Mustaine, E. E. and Tewksbury, R. (1998), "Predicting Risks of Larceny Theft Victimization: A Routine Activity Analysis using Refined Lifestyle Measures," *Criminology* 36(4), 829-858.
- Newman, G. (1999), *Global Report on Crime and Justice*, United Nations Office for Drug Control and Crime Prevention, Centre for International Crime Prevention, New York: Oxford University Press Ed.
- Rennison, C. M. (2002), *Violent Crime and Victim's Gender: An Examination of Differences in Correlates of Male and Female Nonfatal Violent Victimization in the State of Illinois*.
- Roncek, D. W. and Pamela A. M. (1991), "Bars, Blocks and Crimes Revisited: Linking the Theory of Routine Activities to the Empiricism of 'Hot Spots,'" *Criminology* 29:725-753.
- Sampson, R. J. and Laub, J. L. (1993), "Deviant Lifestyles, Proximity to Crime and the Offender-Victim Link in Personal Violence," *Journal of Research in Crime and Delinquency* 27(2):110-139.
- Sampson, R. (1987), "Personal Violence by Strangers: An Extension and Test of the Opportunity Model of Predatory Victimization," *Journal of Criminal Law and Criminology*, Vol. 78, No. 2, pp.327-356.
- Shashi J. S. (1998), "Exploring the Characteristics of Personal Victims Using the National Crime Victimization Survey," University of Maryland, College Park.
- Shaw C.R. and McKay H. D. (1942), *Juvenile Delinquency and Urban Areas*, Chicago: University of Chicago.
- Stafford, M. C. and Long R. G. (1987), "Victimization Rates, Exposure to Risk and Fear of Crime," *Criminology* 22:173- 185.
- Stark, R. (1987), "Deviant Places: A Theory of the Ecology of Crime," *Criminology*, Vol. 25, 893-909.

-
- Stein, R.E. (2011), "The Contextual Variation of Routine Activities: A Comparative Analysis of Assault Victimization," *International Journal of Humanities and Social Science*, Vol. 1, No. 10.
- Stein, R.E. (2011), "The Utility of Country Structure: A Cross-National Multilevel Analysis of Property and Violent Victimization," *International Criminal Justice Review* 2, Vol. 20 (35).
- Tseloni, A. (2000), "Personal Criminal Victimization in the US: Fixed and Random Effects of Individual and Household Characteristics," *Journal of Quantitative Criminology*, Vol. 16, No. 4, 415 – 442.
- UN-Habitat, UNDP, Safer Cities and ITDG (2002), *Crime in Nairobi: Results of a Citywide Victim Survey*, Nairobi.
- Warr, M. (1998), "Life Course Transitions and Desistance from Crime," *Criminology* 36(2): 183-216.

Appendix

Appendix 1: Victimization statistics

Period/crime	2010	2009	2005-2008	Average for 2005-2008
Car theft	1	2	13	3.25
Hijacking	5	29	51	12.75
Theft from a car	23	67	53	13.25
Vehicle vandalism	7	17	20	5
Motor cycle theft	1	6	2	0.5
Bicycle theft	14	43	95	23.75
Livestock theft	85	201	186	46.5
Burglary with entry	66	186	202	50.5
Attempted burglary	57	110	123	30.75
Robbery	37	110	145	36.25
Personal theft	131	309	277	69.25
Assault/threat	108	151	155	38.75
Sexual offence	33	42	41	10.25

Appendix 2: Correlations of violent victimization and explanatory variables

	robbery	sexual assault	assault	gender	age	marital status	income2	education	employment	location	recreation
robbery	1.0000										
sexual assault	0.0221	1.0000									
assault	0.0441	0.0882	1.0000								
gender	-0.0951	0.0838	-0.0183	1.0000							
age	-0.0536	-0.1318	-0.0434	-0.0759	1.0000						
marital status	-0.0594	-0.0674	-0.0375	0.1428	0.4820	1.0000					
income2	0.0947	-0.0467	-0.0787	-0.0371	-0.0973	-0.1296	1.0000				
education	0.1311	0.0034	0.0040	-0.1490	-0.3021	-0.2881	0.3664	1.0000			
employment	-0.0627	0.0114	-0.0374	0.0798	-0.0204	-0.0084	-0.0670	-0.1380	1.0000		
location	-0.1190	-0.0134	0.0004	-0.0054	0.2334	0.1702	-0.2456	-0.3268	0.1253	1.0000	
recreation	-0.0353	0.0223	-0.0230	0.1848	0.0626	0.1013	-0.1255	-0.1025	0.1027	0.0834	1.0000

Appendix 3: Probit results, marginal effects: Robbery, sexual assault and assault/threat

Variables	Robbery	Sexual assault	Assault/threat
Age group (20-29)			
16-19	-0.0356	0.0321	-0.0246
	-0.025	-0.0253	-0.0384
30-39	0.0287	-0.0146**	0.0203
	-0.0181	-0.0073	-0.0225
40-59	0.0032	-0.0285***	-0.0457**
	-0.0184	-0.00771	-0.0227
60+	-0.0234	-0.0318***	-0.00957
	-0.0234	-0.0072	-0.0327
Gender (Reference group – Male)			
Female	0.0530***	-0.0227***	-0.0115
	-0.0145	-0.00738	-0.0177
Marital status (Reference group – Married)			
Single	0.0470**	0.0275**	0.0604**
	-0.0211	-0.0128	-0.0268
Living as a couple	0.0695		0.289*
	-0.109		-0.158
Divorced	0.101*	0.0302	0.0937
	-0.0528	-0.0369	-0.0603
Widow/Widower	0.00285	-0.0087	-0.0277
	-0.0299	-0.0153	-0.0311
Income group (Reference group – Middle income)			
Low income	-0.0213	0.0123	0.0687***
	-0.0146	-0.0078	-0.0175
High Income	0.307**	-0.0118	-0.0395
	-0.0331	-0.0168	-0.0392
Education status (Reference group – No education)			
Incomplete Primary	0.100***	0.00907	0.112***
	-0.0387	-0.0161	-0.0359
Complete Primary	0.0984***	0.0215	0.0811**
	-0.0372	-0.018	-0.035
Secondary	0.0879**	0.00601	0.0338
	-0.0351	-0.0158	-0.034
College	0.186***	0.012	0.0407
	-0.0592	-0.0242	-0.0469
University +	0.072		0.0687

Violent victimization in Kenya: Its nature and covariates

	-0.0646		-0.0774
Occupational status (Reference group – Employed)			
Looking for work	0.0158	0.00523	0.00532
	-0.0241	-0.0149	-0.03
Home maker	-0.0135	0.0157	-0.0495**
	-0.0163	-0.0108	-0.0204
Retired/ Disabled	-0.0137	0.640**	0.000492
	-0.0337	-0.0415	-0.0449
Going to School	-0.022	-0.0173	-0.0484
	-0.0252	-0.0105	-0.0338
Other	-0.0137	0.00396	-0.00975
	-0.0179	-0.0127	-0.0239
Residential locale (Reference group – Rural)			
Urban	0.0525***		
	-0.0138		
Recreational activities (Reference group – Never)			
Almost everyday	-0.00723		
	-0.0185		
At least once a week	-0.0269*		
	-0.0144		
At least once a month	0.0168		