UNIVERSITY OF THE WITWATERSRAND

SCHOOL OF HUMAN & COMMUNITY DEVELOPMENT

A PROFILE OF RAPE DURING RESIDENTIAL ROBBERIES IN GAUTENG, SOUTH AFRICA BETWEEN 2002 AND 2012

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DECLARATION

I, Jacqui Leigh Chowles, declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university

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Date _____

ABSTRACT

Despite the often publicised occurrence of residential robberies being accompanied with additional forms of violence there is a limited amount of research exploring these forms of intersecting violence, specifically within the South African context. The latest statistics released by the South African Police Service (2015) indicate that residential robberies are continuing to increase. The co-occurrence of rape in such residential robberies is under-studied. Therefore, the aim of this study was to explore and describe a profile of residential robberies that are accompanied by rape in Gauteng, South Africa between 2002 and 2012. This was done by exploring the temporal, sociodemographic and situational factors related to reported instances of this crime. The study consisted of cases obtained by the Crime Administration System (CAS). The study focused specifically on instances of reported residential robbery, in Gauteng. Overall there were 68178 cases analysed, with 1104 cases containing instances of reported co-occurring rape. The initial descriptive results indicated that specific variables significantly influence the co-occurrence of rape during a residential robbery. Whereby, there has been a significant increase in the proportion of rapes co-occurring within the 2002 to 2012 period Additionally, binary logistic regression analysis showed that Black females between the ages of 12 and 17 years are the demographic group most at risk when other situational factor are additionally present. Other findings of the regression indicate that there is an increased risk of a rape co-occurring during the residential robbery; over the weekend, between the hours of 00:00 and 06:59 and when no firearm is used as the method of entry or during the residential robbery. Overall, the study present significant findings related to this specific co-occurring crime and a number of areas that can be further explored in relation to the co-occurrence of rape during residential robbery and other forms of co-occurring violence, specifically in the context of South Africa

Keywords: violence, rape, residential robbery, crime, co-occurrence

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CHAPTER 1: INTRODUCTION, RATIONALE AND AIMS

1.1 Introduction

Residential robberies in South Africa are frequently portrayed as especially violent and accompanied by other forms of violence, such as rape. Despite the fact that these types of crimes often headline newspapers and crime reporting in the country, very little systematic research focused on better understanding residential robbery has been undertaken in South Africa. This is not true of the isolated offence of rape, which has been prioritised for studying and intervention by the criminal justice and health sectors. The fragmentation of these sectors together with the apparent tendency for understanding forms of violence in isolation rather than explore the very many instances of their co-occurrence means that robbery-rape has not been systematically studied in South Africa. This is concerning; given that even in single small studies the analysis of police data shows that between four and nine percent of residential robberies are accompanied by a rape (Newham, 2008; Vetten et al., 2008). Even under the well-documented conditions of under-reporting of crimes in the country, this implies that a sizeable share of South Africa's rape pandemic remains under-explored based on the context in which it occurs. This study represents a first step in addressing this by providing the first profile of reported residential robbery-rape in South Africa.

1.2 Definition of concepts

Based on the above rationale there are a number of terms related to the study that are important to understand from the outset.

1.2.1 Violence

"The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al., 2002 pg. 5).

1.2.2 Instrumental violence

The use of violence for a practical purpose (Bruce, 2010; Felson, 2002; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011)

1.2.3 Expressive violence

A violent act that is committed based on the perpetrators emotions with no economic gain, (Bruce, 2010; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011; Levi & Maguire, 2002)

1.2.4 Gratuitous violence

Violence that is 'unprovoked' (Foreman-Peck & Moore, 2010) or violence that has gone further than is necessary in order to obtain the goal of the crime.

1.2.5 Co-occurring violence

When more than one form of violence occurs in a single incident (Hamby & Grych, 2013).

1.2.6 Residential robbery

An instrumental crime with the aim of gaining a financial reward. Additionally, residential robbery, according to the SAPS is a contact crime thus involves the perpetrator making use of a direct threat or a form of violence against the victim (Newham, 2008).

1.2.7 Rape

"Any person ("A") who unlawfully and intentionally commits an act of sexual penetration with a complainant ("B"), without the consent of B, is guilty of the offence of rape" (SAPS, 2013b, pg. 10).

1.2.8 Compelled rape

"Any person ('A') who unlawfully and intentionally compels a third person ('C'), without the consent of C, to commit an act of sexual penetration with a complainant ('B'), without the consent of B, is guilty of the offence of compelled rape (SAPS, 2013, pg. 10).

1.2.9 Sexual violence

This form of violence consists of 59 types of sexual offences as can be found in the Sexual offences and Related Matters Amendment act of 2007. These offences can range from sexual harassment to rape (Vetten, 2014)

1.2.10 Offence

"An act or omission punishable by law" (Criminal Procedure Act 51 of 1977, 2014)

1.2.11 Crime

When a perpetrator has been charged and found guilty of an offence (Criminal Procedure Act 51 of 1977, 2014). However, in the context of this report crime and offence are used interchangeably as the CAS does not indicate in which cases a perpetrator/s have been charged.

1.3 Rationale

Violence has been described as a major health and social problem around the world and in South Africa (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002). For example, in 2000, 1.6 million people died as a result of violence. In South Africa, on commencement of this study, there were 16259 cases of murder, just over a four percent increase from the previous year, with this increasing to 17805 cases in the 2014/2015 reporting period. However, in the same time period the number of reported sexual offences have shown a decrease whereby the 2012/2013 period had 66387 sexual offences reported by the South African Police Service (2013a) compared to the 2014/2015 reporting period where there were 53617 cases reported (South African Police Service, 2015) which illustrates a reduction in the number of reported sexual offences. While much of this violence is interpersonal and takes place between familiars, at least two percent of murders and between four and nine percent of rapes are reported to accompany residential robberies (Newham, 2008; Vetten et al., 2008). While residential robberies only constitute a small proportion of the overall robbery-rape burden, residential robberies and burglaries are featured as the most feared crimes in South Africa (Statistics South Africa, 2015). This fear is perhaps driven by the fact that, at the commencement of the study, residential robbery was amongst the only crimes reported to be increasing in the country. Whereby, based on the 2011/2012 and 2012/2013 reports publically released by the South African Police Services (SAPS, 2013a), residential robberies, with or without other forms of violence being used, is defined as a violent contact crime where victims are present when a housebreaking occurs and thus the perpetrators may use a threat or act of violence to ensure victim cooperation (Newham, 2008), increased by 7.1 percent to 17 950 cases. Furthermore, the latest statistics released by the South African Police Service (2015) indicate that the number of reported residential robberies is still on the increase with a 5,2% between the 2013/2014 and 2014/2015 reporting period. Furthermore, in the 2014/2015 period 40,3% of these residential robberies occurred in Gauteng thus making it the province with the highest proportion of residential robbery in South Africa (SAPS, 2015). The accompanying forms of violence in these cases may include rape.

This proportion forms part of the broader pandemic of sexual violence in the country. For the 2006/2007 period there were 52617 cases of rape reported (CSVR, 2009), furthermore in South Africa, as previous mentioned, the rate of sexual offences increased by 2.9 percent to 66387 cases from 2011/2012 to 2012/2013 (SAPS, 2013a) but in the 2014/2015 period has decreased to 53617 (SAPS, 2015). Although there has been a decrease the number of reported sexual offences this still very high in comparison to other countries and these rates are likely to be higher, as rape and other sexual offences are amongst the most under reported crimes in South Africa (Jewkes, 2009). Much of what is known about rape shows that somebody known to the victim most often perpetrates the offence and therefore this form of rape has justifiably been prioritised for research and intervention. However, very little is known about stranger rape of which the majority of robbery-rape by inference forms a significant part of this form of rape. Thus a better understanding will both further our understandings of the nature of residential robberies in South Africa but perhaps most importantly address a significant gap in the growing body of literature on sexual violence, including rape, in the country. Ultimately, this elaboration of our understandings of residential robbery-rape may prove valuable for informing crime prevention policies and measures to decrease the crime rate in South Africa.

1.4 Aim and objectives

The aim of this study is to describe a profile of residential robberies that are accompanied by rape in Gauteng, South Africa between 2002 and 2012. This aim is guided by the following objectives:

1. To describe the sociodemographic characteristics of perpetrators of reported residential robberies that are accompanied by rape in Gauteng, South Africa between 2002 and 2012.
2. To describe the sociodemographic characteristics of victims of reported residential robberies that are accompanied by rape in Gauteng, South Africa between 2002 and 2012.
3. To describe the temporal profile of reported residential robberies accompanied by rape in Gauteng, South Africa between 2002 and 2012

4. To describe the correlates of reported residential robberies accompanied by rape in Gauteng, South Africa between 2002 and 2012 in comparison to those residential robberies unaccompanied by rape for the same time period in the same location.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Violent crime is a complex issue that has been studied by a number of disciplines, each of which confirms that it has significant psychological and social consequences (Bowman et al., 2008). However, the majority of research tends to focus specifically on each type of crime in isolation. Thus in order to understand the characteristics related to the use of rape in residential robberies we need to examine various factors and theories associated with violence, robbery and sexual violence such as rape.

2.2 Violence

The World Health Organisation (WHO) defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al., 2002 pg. 5).

As a way to understand all the various levels of factors associated with increasing and individual's propensity for violence or possibility of being a victim of violence the WHO adapted Bronfenbrenner's' (1992) ecological systems theory in order to develop an ecological model of violence (Krug et al., 2002). This model outlines the complex interaction between individual, relationship, community and societal risk factors associated with violence. Thus, it is a useful framework with which to group the very many factors and the levels that have been implicated in violence in the substantial literature on the topic. The model is provided in Figure 1 below.

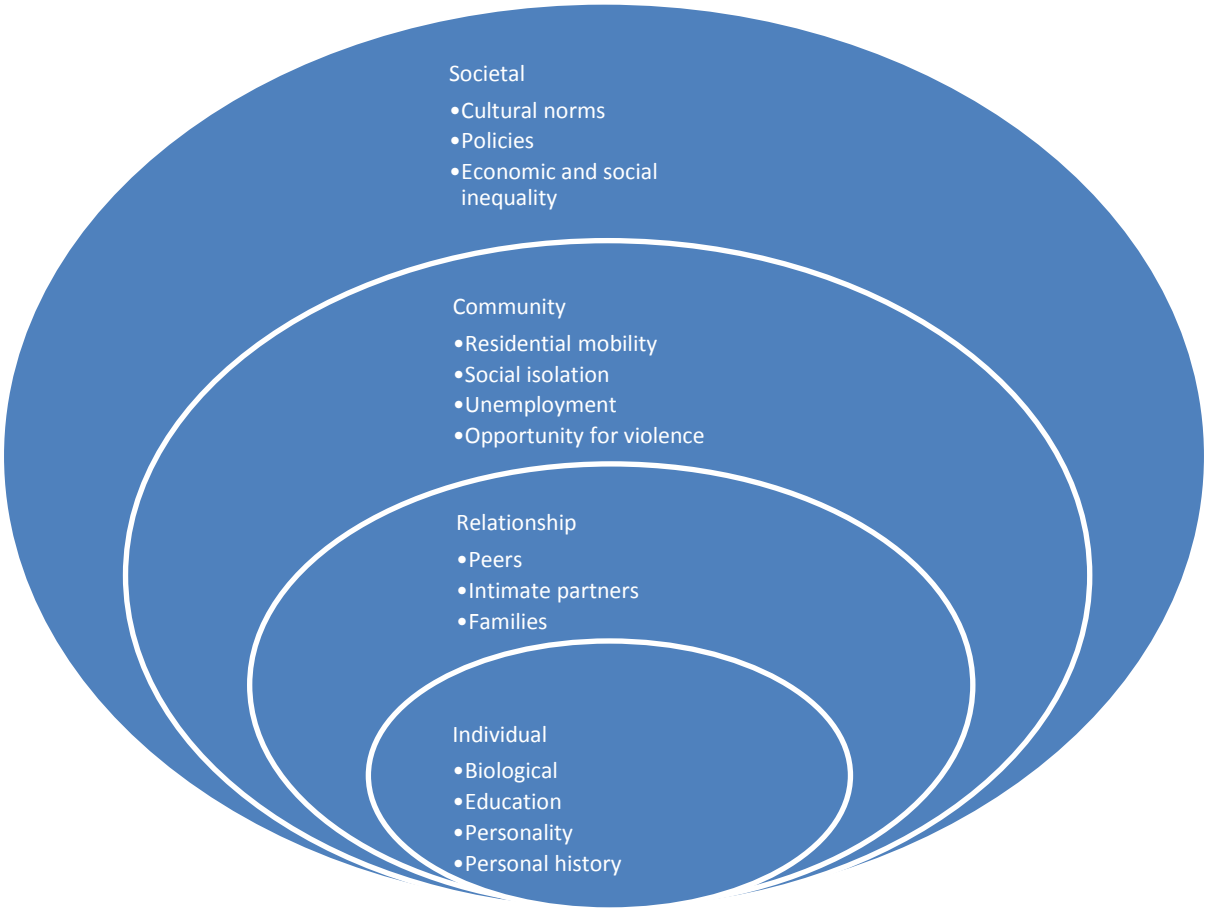

Figure 1: Ecological framework of violence (Krug et.al., 2002)

2.2.1.1 Individual factors

At the individual level risk factors for violence include an individual's biological factors and personality characteristics such as impulsivity and temperament (Krug et al., 2002). Demographic characteristics such as males being more likely to be perpetrators of violent crime (The Centre for the Study of Violence and Reconciliation (CSVR), 2008a) and that individuals in lower socioeconomic conditions are at an increased risk of being victims and perpetrators of violence (Krug et al., 2002). Additionally, a low education level, substance abuse and a history of abuse and exposure to violence puts an individual at an increased risk of being both a perpetrator and victim of violence (Krug et al., 2002). In support of this the General Aggression Model (GAM) proposes a social cognitive framework, that was extended later to include elements of biology, personality development, social processing, basic cognitive processing and decision-making processes that are integrated within the individual to predispose individuals to commit acts of violence (DeWall, Anderson & Bushman, 2011). This model has been critiqued

as placing too great an emphasis on exposure to violence being the main mechanism that causes individuals to act violently (Ferguson & Dyck, 2012). This model essentially states that an individual who is exposed to violence will act out violently and leaves no space for situational factors that may facilitate or hinder such violence. Additionally, research has found that alcohol may interact with an individual's personality thus increasing an individual's likelihood of acting aggressively in a given situation, especially if they may already have a predisposition to acting violently (Abbey, 2011). Whereby, studies that have been conducted have shown that the increased availability of alcohol can be related to increased levels of various forms of criminal activity (Gronqvist & Niknami, 2014). This is particularly significant within the South African context where alcohol consumption amongst South African men is ranked amongst the highest globally, thus often increasing their risk of committing or being a victim of interpersonal violence (Ramsoomar & Morojele, 2012). However, alcohol not only acts as a possible risk factor for an individual perpetrating a crime but may also increase an individual's risk of being the victim of a crime as the individual may then potentially be seen as an easier target (Zinn, 2010). Furthermore, biological factors such as frontal and temporal lobe dysfunction (Gontovsky, 2003) and increased testosterone levels (Englander, 2003) may increase an individual's propensity for violence.

2.2.2 Family level factors

These individual risk factors will then interact with individual's relationship influences. These relationship risk factors include families, intimate partners and peers that either influence an individual to act violently, commit acts of violence against the individual or put the individual at an increased risk of being a victim of violence (Krug et al., 2002). For example; research has shown that an individual who has either absent or delinquent parents and is influenced by criminally inclined siblings and peers or, is a member of a gang, may increase the individuals' likelihood of being involved in various forms of criminal activity (Mutingh & Gould, 2010). Whereby their criminal activity may begin with minor crimes such as vandalism and other petty crimes to more serious crimes such a robbery and then murder as time progresses (CSVR, 2008a). Even if the parent is 'present' they may often be unaware of the type of activities that their child is participating in outside of the home and even when finding out that the child has been involved in delinquent behaviour, may not intervene in a manner that will reduce the risk of the child continuing this behaviour (Tolan, Gorman-Smith & Henry, 2003). Furthermore, gang

membership may promote deviant and violent behaviour in the individual beyond what they would be willing to participate in if they were on their own (Tolan et al., 2003). Very importantly is that the individuals' family support and emotional cohesiveness can act as protective factors against the influence of negative peer and gang influence (Zimmerman, Steinman & Rowe, 1998). This is especially important in the context of South Africa where there are roughly 100000 child-headed households, no parental influences or numerous instances where parents are absent or far away in order to earn money in order to support their families. Thus, there is an increased influence in the individual's life from peers thus potentially increasing the burden of crime in South Africa (Skinner, Sharp, Jooste, Mfecane & Simabayi, 2013; Mturi, 2012).

2.2.3 Community level factors

The third interacting level is that of community influence. This includes the characteristics of the school, workplace and neighbourhood of the individual. Increased risk factors include communities with high levels of unemployment, decreased institutional support, increased opportunity for violence and exposure to violence, social isolation and high population density (Krug et al., 2002). Lower socio-economic status has been strongly associated with increased levels of crime; this is because it is often associated with poverty, lower education levels and increased substance use (such as alcohol) of which are strong risk factors for committing criminal offences (Abalone, Kivivouri, Martikaine & Salmi, 2012; Wolf, Gray & Fazel, 2014; WHO, 2014). Relative Deprivation Theory suggests that economic needs will act as a motivator in committing crimes in order to obtain an economic gain (Stolzenberg, Eitle, D'Allessio, 2006). This resonates with Rational Choice Theory that posits that the act of committing violence or any criminal activity is the result of weighing up the pros and cons of committing the act and determining if the benefit of the outcome is greater than any potential costs (Cornish & Clarke, 1986 as cited in Wolf, Gray & Fazel, 2014). For example, in instrumental forms of violence and crime, where there is a specific outcome required such as robberies where a financial reward is desired (Felson, 2002), for example the individual may require a means to obtain some form of material gain in order to provide for his/her family. This is a particularly large influence on criminal activity in the context of South Africa, where there is such a high rate of economic inequality and poverty. However, this does not account for the high levels of violence often utilised by perpetrators when committing such crimes (CSVR, 2008b).

2.2.4 Societal level factors

Lastly are the societal level risk factors. These are the factors and influences that may allow for violence to continue by filtering down and influencing factors within the other levels as well as being influenced by factors at the other levels, thus illustrating the bi-directional relationship of the factors influencing violence. Factors at the societal level include influences such as policies that continue to enforce economic and social inequality, cultural norms that tolerate and perpetuate violence and norms that enable patriarchy and male dominance (Krug et al., 2002; Wolf, Gray & Fazel, 2014). Specifically, within South Africa due to the legacy of apartheid there are high levels of income inequality. Even though national policies have been put in place since 1994 in an attempt to correct this, there is still an ever increasing level of economic inequality within the country (Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009). Additionally, in South Africa there are deficits in the criminal justice system with regards to the apprehension and conviction of perpetrators of criminal behaviour (Altbeker, 2007). Due to this low conviction rate it has been suggested that perpetrators of criminal activities have reduced fears and beliefs of being caught and convicted of the offence. Whereby, for example, Zinn's (2010) research suggested that the majority of the convicted perpetrators in his study had committed numerous other crimes before being apprehended by the police. Thus, potentially creating a perception amongst criminals that they are unlikely to be apprehended and convicted for their offence therefore potentially creating the belief that committing a criminal offence is low risk and that the reward of this is higher than the risk of being caught for committing the offence (Zinn, 2010).

Furthermore, at this level there is the concept of a subculture of violence where violence is accepted as a societal norm. This allows individuals to believe that violence will be accepted and tolerated (Felson, 1994). Linked to this at the societal level, there is the influence of mass media as a contributor to increased violent behaviour (Felson, 1996; Powell, Mercy, Crosby, Dahlberg & Simon, 2008). The effect of mass media on violence has been investigated and understood in numerous ways and has provided contradictory results. However, they do provide some conceptual ways of attempting to understand mass media's influence on violence, such as suggesting that the increased violence portrayed in the media gives 'permission' for individuals to act violently as well as justifying the use of violence in specific situations. This is in conjunction with the belief that this increased exposure desensitizes individuals to violence

(Felson, 1996). Thus these aspects may contribute to a social norm that facilitates the use of violence by individuals (Powell, Mercy, Crosby, Dahlberg & Simon, 2008).

Thus, this level of explanation does not discriminate between an individuals' propensity for different forms of violence, just that an individual is more likely to act violently in any given situation than non-violently (Felson, 1994; McGlion, Schreck, Stewart & Ousey, 2011). This is largely applicable in South Africa, where before the end of apartheid individuals were exposed to and suffered institutional violence for years, and after the end of apartheid this exposure to violence remained, it was just shifted from being political violence to being seen as criminal violence (Schonteich & Louw, 2001).

2.2.5 Theoretical challenges to the ecological model

The WHO model is useful for understanding the multiple levels of influence on violence. There are, however challenges to this model, that will be further elaborated on in the section below. An outline of these challenges is that firstly, it does not particularly differentiate between the various motivations for behaving violently. Furthermore, it does not usefully account for how the various levels interact. Additionally, none of the frameworks or theories attempting to account for the various forms of violence perpetrated, are able to effectively explain the co-occurrences of violence during which multiple forms of violence and motivations overlap, thus according to most theories there are very specific risk factors and motivations associated with each form of violent behaviour and crime.

2.2.5.1 Motivations for violence

The motivations for violence are commonly understood to be instrumental, expressive and gratuitous. Instrumental violence is defined as the use of violence for a practical purpose i.e. the threat of violence by the perpetrator to get a victim to do what they want or committing a violent crime with a specific goal in mind such as a financial reward (Bruce, 2010; Felson, 2002; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011). In comparison, expressive violence is understood as a violent act that is committed based on the perpetrators emotions with no economic gain, i.e. when a perpetrator attacks another individual based on anger or frustration (Bruce, 2010; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011; Levi & Maguire, 2002). Lastly gratuitous violence is understood as violence that is 'unprovoked' (Foreman-Peck & Moore, 2010) or violence that has gone further than is necessary in order to obtain the goal of the

crime i.e. torturing an individual when the sole purpose is to kill them without getting anything from them (Porter, Woodworth, Earle, Drigge & Boer, 2003). The definitions of gratuitous violence have however been critiqued and it has been suggested that gratuitous violence should rather be understood as a form of violence low on both instrumental and expressive motivations (Bruce, 2010). Thus, it will be elaborated throughout the literature that these motivations cannot be as easily isolated and differentiated from one another in instances of violence, especially when forms of violence co-occur.

2.2.5.2 Relationships between levels

Although the WHO ecological framework does suggest that different influences may play a role at different periods over the course of an individual's life and how these various factors may interact and influence various other aspects of the individuals life that may then further increase their risk of becoming either a victim or perpetrator of violence. However, this framework or the theories within the ecological framework are unable able to fully account for the different situations in which violence occurs, specifically multiple forms of violence. For example, these theories help to explain why an individual might have an increased propensity for violence, but are unable to explain why it is that in robberies, with perpetrators that have the same assumed propensity for violence, there is not always a violent outcome. A low socioeconomic status is only able to be used as a risk factor to explain that an individual is more likely to behave in a violent manner, but there needs to be situational triggers that cause an individual to act out violently. Furthermore, these situational characteristics are additionally what translate a risk for violence into violence itself (Collins, 2012). Therefore, it is necessary to focus on the situation of the crime and not only the individual characteristics of the perpetrator. Opportunity theorists suggest that it is necessary to examine the motivation of the perpetrator, who and how suitable the targets are and if there is anyone present that can prevent the violation (Cohen & Felson, 1979). For example, younger and older females that are alone are likely to be less resistant, in comparison to a group of strong males, and thus have an increased chance of being targeted with regards to certain types of violence and crime such as robbery (Lafree & Birback, 1991; Zinn, 2010).

2.2.5.3 The co-occurrence of violence

Lastly, the ecological framework and theories of violent and criminal behaviour do not adequately accommodate for more than one form of violence to be perpetrated at a time. This is largely because most violent crimes are studied in isolation from others. Recently however, Hamby and Grych (2013) argue for the co-occurrence of violence where risk factors can increase and individual's possibilities of being the victim of multiple forms of crimes or the perpetrator of multiple crimes. For example, polyperpetrators will commit violent, non-violent, sexual or non-sexual crimes (Blokland & van Walk, 2008 as cited in Hamby & Grych, 2013). This is because an individual that characteristically has a propensity for violence will have that propensity from one situation to another; therefore, it is both the individual's intrapersonal characteristics and the situational factors that interact to potentially produce a violent outcome (Hamby & Grych, 2013). Furthermore, the violence perspective that Felson and colleagues (1994) propose suggests that individuals who have an underlying tendency towards violence and crime will have this tendency for most criminal and violent activities and will not be 'specialised' in a specific form (Felson et al., 1994). This is further supported by a study that CSVR on the profile perpetrators of violence in South Africa whereby the majority of the 20 participants admitted to being involved in previous criminal and violent behaviour, including violence towards women, before being incarcerated (CSVR, 2008a). Additionally, a strong predictor of violent and criminal behaviour is having previously been convicted of a crime, thus suggesting that even though an individual has been imprisoned for violent or criminal offence they are likely to commit a similar offence once released (Aaltonen et al., 2012). In essence, by starting to understand co-occurrence of criminal behaviour we can better understand violence and how to reduce it. One such instance in which the co-occurrence framework is particularly useful is residential robbery.

2.3 Residential robberies

Residential robberies are defined by the SAPS as an instrumental crime with the aim of gaining a financial reward. Additionally, residential robbery, according to the SAPS is a contact crime thus involves the perpetrator making use of a direct threat or a form of violence against the victim (Newham, 2008). Whereby, until 2002 residential robberies were recorded by the SAPS under the category of "robbery with aggravating circumstances" thus grouping it together with various other forms if robbery. Furthermore, in order to an offence to be classified as a residential

robbery there is the requirement that at least one individual be present in the house. If there is no one present, the crime with then be classified as a burglary.

However, in contrast to the definition of a robbery being an instrumental crime, the use of violence in these residential robberies, is potentially more often than not an act of expressive violence where the perpetrator acts in a violent manner, as an emotional response to either a threat or out of frustration (Feshbach, 1964 as cited in Thijssen & Ruiter, 2011). For example, a perpetrator may be unaware that anybody is home when breaking in and upon being discovered by the home owners may feel threatened and therefore act out violently. In some cases, the use of violence in home invasions is an instrumental act, whereby the perpetrators had the intention of injuring the victims in order to gain something from them (Felson, 2002; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011), for example beating the owner up in order to get them to open the safe. Largely the use of violence in home invasions is an expressive response to situational interactions such as victim resistance (Felson & Steadman, 1983, Thijssen & Ruiter, 2011).

However, these distinctions are often blurred in practice. For example, how do we make sense of the fact that forms of expressive violence often accompany residential robberies that are considered to be a type of instrumental violence? Does the ecological framework provide any effective pointers to responding to this question? While the framework may valuably describe risk for violence, it does little to shed any light on the situational factors that might translate this risk into violence itself. In other words, what differentiates the different levels of violent outcome when the risk factors that explain it appear uniform? This is an important question in the context of the much-publicised uses of violence in residential robberies when the acquisition of property appears to be the primary motivator.

Very little is known about residential robberies in South Africa except for limited research undertaken by Newham (2008, 2010) and Zinn (2010). Zinn's (2010) research was conducted on a very small sample of 13 individuals who had been convicted of residential robbery. However, even though a small study it does help highlight factors related to residential robberies within the South African context. His results are in-line with that of Newham's research with regards to the time of day and number of perpetrators; he does however mention the use of rape during these residential robberies which will be discussed further on. Additionally, he explores more about how the victims of the robberies are selected which is primarily related to the "easiness" of the

robbery. Whereby, they often target women and individuals who are inebriated as they are seen as easier to overpower during the robbery. In addition to this is the amount of information they have about the residence, such as the level of security and will survey the house for a period in order to determine the routine of the individuals and to see how many people may live in the house. This helps highlight how situational factors may not only impact the outcome of the residential robbery in relation to an additional form of violence being used, but that situational factors also help determine the occurrence of the residential robbery.

In Newham's (2008, 2010) research done on South African residential robberies it was found that 75% are committed by two or more perpetrators, between 92% and 97% of perpetrators, in the relevant studies, used firearms during the robbery. The main motivational factor for the residential robberies is that of economic gain, the majority of which were for luxury expenses, therefore they targeted their victims carefully based on their assumed wealth. The majority of the robberies were carried out in the evening when the victims were home because the alarms would be off, to gain easier access into the house, and the televisions on so the victims would be unlikely to notice a disturbance. Additionally, the majority of the convicted robbers interviewed admitted to being perpetrators of other criminal activities, which supports Hamby and Grych's (2013) theory of co-occurrence. This preliminary data provides at least a point of departure for better understanding residential robbery. Newham's' (2008) research however does not compare residential robberies in which there were no accompanying acts of violence with the different forms of co-occurring violence, which are clearly indicated in the initial analysis, where two percent of residential robberies are accompanied by murder and between four and nine percent of residential robberies are accompanied by rape (Vetten et al., 2008). Within the purview of this study, one critical form of co-occurrence is rape.

2.4 Rape

According to the Sexual Offences Amendment Act of 2007 rape is defined as "any person ("A") who unlawfully and intentionally commits an act of sexual penetration with a complainant ("B"), without the consent of B, is guilty of the offence of rape" (SAPS, 2013b, pg. 10), thus not limiting it to instances of rape against women. Additionally, the Sexual Offences Amendment Act defines Compelled rape as "any person ('A') who unlawfully and intentionally compels a third person ('C'), without the consent of C, to commit an act of sexual penetration with a

complainant ('B'), without the consent of B, is guilty of the offence of compelled rape (SAPS, 2013, pg. 10). Furthermore, rape is defined as "physically forced or otherwise coerced penetration- even if slight- of the vulva or anus, using a penis, other body parts or an object" (Krug et al., 2002, pg. 149).

2.4.1 Theories of rape

There are a number of sometimes irreconcilable accounts for the perpetration of the act of rape. In the following section we examine the main theories that attempt to explain the occurrence of rape. These are combined into the evolutionary theory, feminist theories, and masculinity theories. Additionally, this section will examine whether these theories can then sufficiently account for and explain the co-occurrence of rape during residential robberies.

2.4.1.1 Evolutionary theory

According to the evolutionary perspective (Shields & Shield, 1983; Thornhill & Thornhill, 1983) rape is not seen as pathological, but rather an adaptive function of human evolution. Whereby an individual will examine the factors such as availability, quality (age, health and fitness of the female) and potential resistance of the victim. The costs, of the rape, such as; energy expenditure, potential harm from victim resistance and retribution after the rape, are compared to the potential benefits of producing an additional offspring. This is more likely to occur when the male is unsuccessful at normal courtship or in countries where females have an increased vulnerability. This theory also suggests that greater levels of genetic relationships decrease the likelihood of rape (Shields & Shield, 1983; Thornhill & Thornhill, 1983). This theory however does not sufficiently take into account all the other psychological and contextual influences and differences that may contribute to the perpetration of rape (Ward & Siegert, 2002). The Evolutionary theory could account for the co-occurrence of rape during residential robberies by considering both the acquisition of property and sex as adaptive. However, this can potentially only explain a portion of the instances where both criminal activities take place but does not sufficiently account for instances in which elderly women and men are raped during the residential robbery or when females may be the perpetrators of the rape.

2.4.1.2 Feminist theories

Although it is difficult to aggregate the various social theories that identify as feminist, in general feminist theories explain sexual violence against women as the result of a patriarchal society

whereby men use sexual violence as a way of asserting their dominance over women (Felson, 2006; South & Felson, 1990) and intimidating them (Brownmiller, 1975 as cited in Shields & Shields, 1983). Additionally, the underlying motivations for rape are violence, power, hostility and anger rather than any sexual desire. Thus, suggesting the levels of rape within a society will depend on power dynamics between sexes, such as high levels of patriarchy and when there are increased levels of patriarchy within the society that there are increased levels of gender-based violence (Sanday, 1981 as cited in Sields & Shields). This theory however almost complexly ignores any sexual motivation in committing an act of sexual violence such as rape. Based on this, are there potentially situational factors within a residential robbery that may contribute to the, potentially male, perpetrator(s) needing to assert their power and dominance over the victim and selecting rape as a method of enabling this.

2.4.1.3 Masculinity

Rates of reported rape are particularly high in the South African context. According to CSVR (2008c), the majority of causes fall around the ideals of masculinity in the country where men have sexual entitlement, how women endorse these beliefs and the perceived loss of masculinity due to changing gender roles and social class. These causes are however mostly related to acts of intimate partner violence, non-stranger rape and sexual violence within South Africa rather than on gender-based violence in general. Thus, this theory does not sufficiently identify contributors to the understanding of the perpetration of stranger rape, especially when used in conjunction with another crime. As can be seen, the vast majority of sexual violence research is on intimate partner violence and non-stranger acts of sexual violence, therefore very little research on instances of stranger rape and sexual violence has been produced. There is an equally limited amount of research on male victims of rape and why men would rape men. This is largely associated with the social beliefs of masculinity and that men cannot be raped, yet it is something that occurs at both a non-stranger and stranger level (Turchik & Edwards, 2012). This creates a challenge in understanding why a male may be raped during a residential robbery, as there is also the potential of this occurring.

2.4.1.4 Further perspectives on rape

Felson (2006) argues against feminist theory by pointing out a study on rapists, where only 45% of perpetrator's reported having a sexual motivation for committing the rape. Felson (2006) thus

puts forward that a violence perspective is just as applicable in understanding sexual violence and that individuals who commit rapes and other forms of sexual violence are in essence criminals and are just as likely to commit other crimes. Furthermore, it has been suggested that rape shares far more characteristics with other forms of violent crime than with sexual intercourse (Griffen, 1979) as well as there being common risk factors for the perpetration of violent crime in general, compared to different risk factors for non-violent criminal activity (Felson & Lane, 2010). For example, factors associated with committing a non-partner rape include peer pressure, gang membership and the use of alcohol or another substance (Gronqvist & Niknami, 2014; Jewkes et al., 2006) which are both risk factors for the perpetration for various forms of violent behaviour and criminal activity.

Felson's theory is further supported by the report compiled by CSVR (2009) that suggests that the high rates of sexual violence in South Africa may also potentially be related to the increasing rates of overall violence within South Africa, where 52% of perpetrators arrested for sexually violent acts have previous convictions for violent behaviour (CSVR, 2009). This further supports the idea that some individuals are more prone to violent and criminal acts and do not necessarily differentiate them. Within the research on stranger rape there is the concept of there being different themes of interaction between the victim and the perpetrator (Lundrigan & Mueller-Johnson, 2013). One specific theme that is in line with the criminological perspective is the "more general criminal style of interaction". In these instances, the perpetrator participates in other criminal activities, such as theft, which then suggests that the perpetrator may have previously participated in other criminal activities (Chambers, Horvath & Kelly, 2010).

Additionally, another aspect that the other theories due not sufficiently account for is when males are the victims of rape, which is a largely under researched area (Pino & Meier, 1999). The majority of the research in this area has been focused on the use of rapes and sexual violence in prison settings whereby rape is generally used as a method of asserting power and often has no sexual motivation, which is then strongly associated with masculinity theory. Furthermore, outside of the prison setting the focus has been similar to that of female sexual violence, whereby the majority of the literature is on instances of non-stranger rape. What is in line, and in some instances worse, with research on female sexual violence is the under reporting of instances of male rape (Walker, Archer & Davies, 2005). In addition to this, male stranger rape is often

characterised by greater levels of violence than female rape (Stermac, Del Bove & Addison, 2004). Thus, instances of stranger rape that involve male victim's further supports the criminological perspective by considering rape as an additional form of violence that is at the perpetrators disposal.

Felson's (2006) violence perspective, thus takes into account the idea that the perpetration of rape cannot be sufficiently explained by a purely sexual motivation or as an act to assert masculine dominance. This further supports Hamby and Grych's theory of co-occurrence, thus suggesting that individuals who commit residential robberies are just as likely to perpetrate other forms of violent and criminal activity. Therefore, suggesting that it may be the situational characteristics rather than the individual characteristics, of the specific residential robbery, that may influence whether an instance of rape is likely to co-occur.

2.5 Rape in Residential Robberies

Residential robbery is studied as an instrumental form of violence aimed at acquiring property while rape is considered an expressive type of violence through which power is demonstrated in the act of sexual violence. In South Africa, these forms of violence often interact to produce complex forms of violence with a range of different outcomes. These differences however have not been explored in the South African context. Studies in the United States (U.S.) have however attempted to compare these outcomes. According to these studies, the use of sexual violence in home invasions can be understood in one of two ways; firstly, is that it is an instrumental act (Felson, 2002; Feshbach, 1964 as cited in Thijssen & Ruiter, 2011) where the main aim of the home invasion is the sexual violence and can thus be said to have a sexual motivation (Felson, 2006). This however is not a sufficient explanation, because if the primary objective is rape the residential robbery is not necessarily needed, thus suggesting that the perpetration of rape in residential robberies may not initially be out of a sexual desire by the perpetrator but rather that it is triggered by situational factors. Therefore, the better explanation is that it is and expressive act (Feshbach, 1964 as cited in Thijssen & Ruiter, 2011) and a way to assert dominance (Felson, 2006; South & Felson, 1990) if the situation requires it. Additional forms of violence and assault are likely to occur in a robbery when there is increased level of resistance from the victim/s (Woodhams & Cooke, 2013). Targeted studies of residential robbery-rape have found some significant differences between these and residential robberies where no rape occurs. The

presence of a younger female may increase the risk of a rape co-occurring as research has shown that in rapes committed with robberies the victims tend to be younger than victims of only robberies (Felson, 2006). This in conjunction with other research, where 45% of rape victims are between the ages of 13 and 22 and 63% of rape victims are aged 17 to 48 (CSVR, 2009). Additionally, 75% of residential robberies in South Africa are committed by two or more perpetrators (Newham, 2008, 2010) and 90% of rapes involving two or more perpetrators are committed by strangers (CSVR, 2009). Research has suggested that an instance of rape is more likely to occur if the 'leader' motivates the idea to rape (Woodhams, Cooke, Harkins & da Silva, 2011). Furthermore, although not explored in depth Zinn (2010) raises that of the perpetrators of residential robbery that he interviewed two committed a rape. In these two instances the perpetrators explained that the rape was used purely as a form of intimidation and violence, however the study did not go into more detail with regards to the rape in these two instances. However, when interviewing all the participants with regards to the use of rape during the robbery that stated that if there was more than one perpetrator the "leader" would often be against members raping during the robbery for fear that it would increase the risk of them being caught and convicted for the offence.

2.6 Conclusion

Much of the literature on rape describes sexual violence between victims and perpetrators known to each other. There has been very little research on those acts of rape that predominantly involve strangers. One highly publicised and sensationalised example of such acts involves rapes committed during the course of a residential robbery in South Africa. Despite the salience of this form of crime in public consciousness there has been no systematic study of residential robbery-rape in South Africa. This project represents a first attempt at providing a profile of this much publicised but under-studied form of violent crime. Its results should pave the way for a stronger understanding of the sociodemographic, temporal and situational factors that characterise the use of rape during residential robberies. These factors include; understanding the influence that the victim's age, race and perceived wealth may have on increasing the risk of being a victim of rape in a residential robbery and what the influence of the accused/s age and race have on perpetrating this form of criminal activity. Additionally, the influence of the perceived wealth of the residence, the presence of another victim and the number or perpetrators on the occurrence of rape taking place. Lastly what role the day of the week and time of the robbery play in

influencing the outcome of rape in residential robberies, for example are instances of rape more likely to occur over weekends, a time period that is associated with increased alcohol. This information is much needed for an increased understanding of the perpetrator, victim and situation, as well as for the development of interventions and preventative measures.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

The following section outlines the methodology specific to this research that will allow us to achieve the objectives put forward. Specifically, this includes the research design, sampling rationale, detailed outline of the procedure, and how the ethical considerations were addressed.

3.1 Research Questions

1. What sociodemographic, temporal and situational factors characterise the use of rape during residential robberies?
2. Which factors predict the occurrence of rape as an outcome during residential robbery?

3.2 Research Design

The nature of the data utilised in the study was purely numerical thus making it quantitative research (Howell, 2012). Furthermore, it was a secondary retrospective case review (Featherman, 1980). This is due to the fact that the data used was not collected directly by the researcher but rather obtained from a public database. Comparisons between the robbery-rape and non-robbery-rape outcomes were explored, where possible.

3.3 Sample and Sampling

To best profile the use of rape in residential robberies the sample for the study consisted of cases from the Crime Administration System (CAS). The CAS is an electronic police data system that is linked to police stations across South Africa that case dockets are uploaded onto. It includes all the information relating to the reported crime; such as the province in which the crime occurred, year, type of crime, date, beginning time, ending time, day of the week, method of entry used, instruments used, whether there was a firearm used during the residential robbery, number of victims, victim race, victim gender, victim age, number of accused, accused race, accused gender, accused age, property stolen and if a vehicle was stolen.

The current dataset consists of all cases of aggravated robbery from 2002 to 2012. For the purposes of this study the inclusion criteria were limited to cases of residential robbery between 2002 and 2012 in Gauteng. Gauteng was specifically selected as between 37 and 44 percent of nationwide residential robberies occurred in the province between 2008/2009 and 2012/2013 respectively. The 2002 and 2012-time period was selected to provide a sufficient time period to examine potential alterations in the patterns of residential robberies accompanied by rape, as well

as being able to examine the most recent characteristics of this form of violent crime. Due to previous research indicating that only a small percentage of reported residential robberies are accompanied by rape the 10-year period was also selected in order to provide the researcher with a sufficient number of cases to enable a more in depth analysis, in order to meaningfully address the aims of the research. By selecting this specific dataset and inclusion criteria we were able access to numerous cases, within Gauteng, that contain the various temporal, sociodemographic and situational variables that we wished to examine as potential characteristics in the use of rape during residential robberies.

By using data from the CAS we are able to access a large number of crimes, specifically cases of residential robbery, from Gauteng which allowed us an overall view of these crimes in the province over a period of time between 2002 and 2012, additionally because only one dataset was used the information gathered in each case was uniform and the variable entries standardised. However, this dataset was not without its limits; in some cases, there was information missing. This was potentially due to either the case docket not being completely uploaded onto the CAS or that the other details were unknown to the individual reporting the crime, this was accounted for when analysing the data.

Therefore, based on some of the limitations in using secondary data there were certain variables that were excluded due to the way they were recorded into the database. One such being the number of victims, whereby, cases were recorded multiple times with different case numbers or the same case number, whereby the duplicate cases could not be easily identified and removed without potentially removing cases that would add to the research. Additionally, cases were recorded differently based on the police station that the crime was reported at. Therefore, it was decided to exclude this variable in order to ensure a limited amount of potential bias in the analyses and results by excluding the same case being included more than once in the analyses. Thus, the focus of the study became residential robberies only affecting one individual. Based on this the final sample consisted of 68178 cases of reported residential robbery, that had only one victim, within Gauteng from 2002 to 2012. The 68178 cases consisted of 67074 cases of residential robbery without a reported incident of rape and 1104 cases of reported residential robbery with the co-occurrence of a rape. Furthermore, of these 68178 cases within the data provided for the research there were 57050 cases overall where the perpetrator(s) information

(number, age, race and gender) was unknown. Based on this, the perpetrator variable was also excluded from analyses as the limited amount of data available would potentially bias the results.

3.4 Data

Due to the nature of the research and the dataset being used the CAS database was our primary source of data. Thus the only measure was the data obtained from the CAS that matches the criteria previously discussed. The data includes 27 variables pertaining to the case, these are province in which the crime occurred, year, type of crime, date, beginning time, ending time, day of the week, method of entry used, instruments used, victim race, victim gender, victim age, number of accused, accused race, accused gender, accused age, property stolen, presence of a fire arm and vehicle details.

3.5 Procedure

The CAS dataset, as part of a larger study, was sourced from the SAPS in accordance with their internal research protocols; the data is publically available subject to formal request through the Promotion of Access to Information Act 2 of 2000. Internal ethical clearance was obtained by the University of the Witwatersrand internal ethics committee; certificate number MACC/14/005 IH. The CAS data was kept in an encrypted file on the researcher's computer.

As the research is part of a larger research project the data was cleaned and coded for standardisation by a statistician. Once the data was cleaned and coded it was obtained by the researcher who then conducted the analyses.

3.6 Data Analysis

The study data was extracted from an existing database and stored as a csv file. The data cleaning process consisted of removing all cases that had large amounts of missing information. This was due to there being numerous values that the different variables could take on based on number of levels within each variable and the current unpredictability related to the crime in question. Therefore we could not possibly estimate the values in these cases. Thus we did not want to risk biasing our data or decreasing its reliability (Howell, 2012). The data was then recoded and then entered into the Statistical Package for the Social Sciences (SPSS) for the statistical analysis of the data so as to answer the research questions presented above.

Descriptive and summary statistics were run, for all cases of residential robbery that met the studies inclusion criteria, in order to produce the appropriate measures of central tendency and variance. Cross-tabulations, together with chi-squared tests of association were used to examine possible relationships between the variables in the instances of residential robbery with the occurrence of rape and those without. Where possible, variables were also layered and the same analyses run in order to group demographic and temporal data to better understand the groupings involved in accounting for the significant associations. Further analysis was run comparing situational characteristics of instances of residential robbery that involved rape versus those that did not by fitting a binary logistic regression model with the presence/absence of rape as the outcome variable (McCullough & Nelder, 1989).

3.7 Ethical considerations

The data has been obtained from the SAPS CAS database which is publically available. Therefore, there was no direct contact with any of the participants. The data contained no names or identifying information. Raw data was only available to the researcher, statistician and the researcher's supervisor, and during data processing was kept in an encrypted file on the researcher's private computer. The raw data will be destroyed in five years or subsequent to any successful publications of the research.

Due to the nature of what is being investigated and the potential influences it can have, the dissemination of the research findings is essential. Therefore, the research report will be available on the University of the Witwatersrand's library system, which can be obtained through the typical library access procedures. The researcher and supervisor's contact details are also outlined should any other queries related to the research remain outstanding.

There are however other ethical implications inherent in the way that the report is formulated and disseminated. Therefore; the researcher would need to be continuously cognisant of these possibilities, and be careful with how the results are worded, and offset any claims of causality by explicitly stating the limitations of the research design.

CHAPTER 4: RESULTS

4.1 Introduction

There were only 1104 cases of reported residential robbery that were accompanied by a co-occurring rape, affecting one individual, in the data set. This indicates that 1.6% of residential robberies, with one individual included co-occurring rape in Gauteng between 2002 and 2012.

As previously mentioned, this is small percent of rapes, within the South African context, is one that an inadequate amount is known about. Therefore, overall based on the percentage of reported rapes that occur during reported residential robberies there is a significantly smaller likelihood of it occurring than purely a residential robbery. Due to this, the primary aim of the analysis is exploratory in nature in order to begin to understand if there are any sociodemographic, temporal and situational factors that may contribute to the occurrence of these reported rapes during a residential robbery. Lastly, based on this the results of the analyses are explored in two sections; the first is in relation to describing the data, and where applicable comparing instances of rape versus no rape, in relation to specific variables within the dataset. The second section is the results for the Binary logistic regression model in order to explore whether certain variables are better able to predict this co-occurrence once other variables are controlled for.

4.2 Temporal, sociodemographic and situational factors

Temporal, socio-demographic and situational factors were described by variables including year, month, yearly quarter, day of the week, time of the day, the gender of the victim, the race of the victim, age of the victim, if there was a firearm present, the method used to obtain entry , if there was property stolen and lastly if a vehicle was stolen. A .05 level of significance was used throughout that various analyses, where applicable.

4.2.1 Year

A Chi-square test of association was performed to explore the relationship between the reported occurrence of rape during a residential robbery and the year. The relationship between these variable was significant χ^2(10, N=68178) = 50.848 = p<.001. The ratio of robberies against rape-robberies was also assessed by year.

Table 1: *Overall residential robberies with the co-occurrence of rape from 2002- 2012*

Year	No Rape	No Rape (%)	Overall No Rape (%)	Rape	Rape (%)	Overall Rape (%)	Total	Proportion	Total Rape (%)
2002	4626	6.90	6.79	42	3.80	0.06	4668	110:1	0.90
2003	4815	7.18	7.06	58	5.25	0.09	4873	83:1	1.19
2004	4879	7.27	7.16	66	5.98	0.10	4945	74:1	1.34
2005	5465	8.15	8.02	78	7.07	0.11	5543	70:1	1.41
2006	6987	10.42	10.24	101	9.15	0.15	7088	69:1	1.43
2007	6836	10.19	10.03	138	12.50	0.20	6974	50:1	1.98
2008	7302	10.89	10.71	135	12.23	0.20	7437	54:1	1.82
2009	7409	11.05	10.87	109	9.87	0.16	7518	68:1	1.45
2010	6952	10.36	10.20	133	12.05	0.20	7085	52:1	1.88
2011	5825	8.68	8.54	122	11.05	0.18	5947	48:1	2.05
2012	5978	8.91	8.77	122	11.05	0.18	6100	49:1	2
Total	67074			1104			68178	61:1	1.62

The analysis for the year indicates a gradual increase in both the proportion and percentage of reported residential robberies with the co-occurrence of rape. In 2002 only one in 110 residential

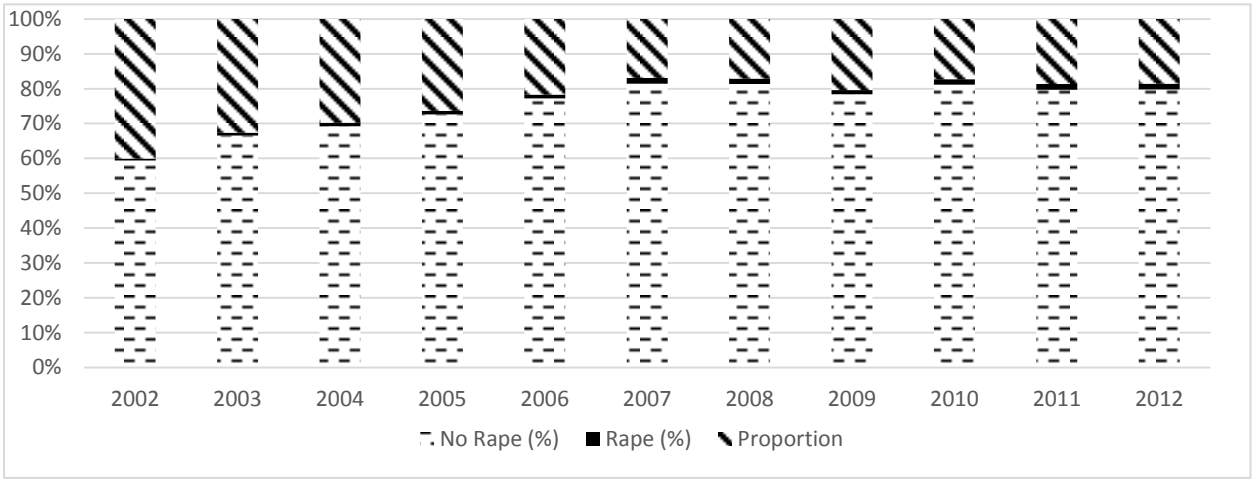

Figure 2: 100% stacked column graph of overall percentage and proportion of residential robberies with the co-occurrence of rape from 2002-2012

robberies had a reported instance of rape in comparison to 2012 where one in 49 residential robberies involved a co-occurring rape (Table 1 and Figure 2).

This indicates that at the end of the time period there was roughly a 100% increase in the number of reported rapes during residential robberies. Overall, this suggests that the number of reported rapes during residential robberies has statistically increased over the time period that was analysed, as can be seen in Figure 2.

4.2.2 Month and yearly quarter

It is commonly assumed that the motive for residential robbery is the acquisition of property for financial gain (Newham, 2008). Therefore, based on this the suggestion is that residential robberies would increase during certain time periods of the year, mostly towards the end of the year, when individuals may experience increased levels of financial strain and therefore potentially perpetrate crimes that allow them to attain some degree of financial reward. Based on this, the monthly data was recoded into quarters. The aim of this being to explore if the last quarter (October – December) had the highest level of residential robberies and if the same trend could be noted with the levels of reported rape during residential robberies for this same period.

Table 2: *Overall residential robberies with the co-occurrence of rape based on yearly quarter*

Year quarter	No Rape	Rape	Total
January to March	15891	290	16181
April to June	16417	243	16660
July to September	17081	280	17361
October to December	17685	291	17976
Total	67074	1104	68178

A Chi-square test of association was performed to explore the relationship between the reported occurrence of rape during a residential robbery and the yearly quarter. The relationship between these variable was not significant χ^2(11, N=68178) = 5.743 = p=.125. This indicates that based on the data that there is no influence of the yearly quarter on whether an incidence of rape is likely to co-occur during a residential robbery.

Based on the above analysis and examining the data it was determined that the months should be analysed individually to explore if there are then specific months that may potentially determine the co-occurrence of rape during residential robberies rather than specific time periods of the year.

Table 3: *Overall residential robberies with the co-occurrence of rape based on month*

Month	No Rape	Rape	Total
January	4908	77	4985
February	5348	92	5440
March	5635	121	5756
April	5144	74	5218
May	5760	90	5850
June	5513	79	5592
July	5731	104	5835
August	5829	84	5913
September	5521	92	5613
October	5992	75	6067
November	6136	102	6238
December	5557	114	5671
Total	67074	1104	68178

A Chi-square test of association was performed to explore the relationship between the reported occurrence of rape during a residential robbery and the month of the year. The relationship between these variable was significant χ^2(11, N=68178) = 25,330 = p =.008. This suggests that the month of the year may be related to whether a rape may co-occur during a residential robbery. March had the highest instances of reported rape during a residential robbery; however, this is the month with the 6th highest overall reported residential robberies. While robberies increase towards the end of the year, there appears to be no obvious trend in the proportion of robberies that were accompanied by rape (see figure 3).

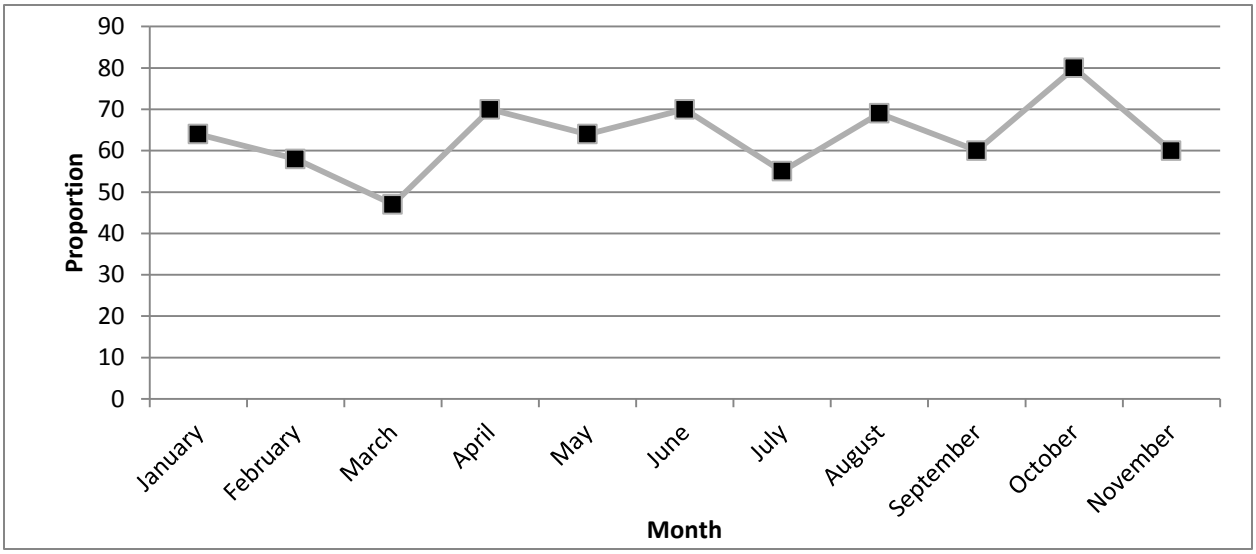

Figure 3: Overall proportion of residential robberies with the co-occurrence of rape based on month

4.2.3 Day of the week

The following table describes the number of residential robberies for the 2002-2012 time periods with regards to the day of the week that the reported incident occurred and whether there was a reported instance of rape during the residential robbery.

Table 4: *Overall residential robberies with the co-occurrence of rape based on the week day*

Day	No Rape	Rape	Total
Sunday	6866	174	7040
Monday	8504	135	8639
Tuesday	9816	137	9953
Wednesday	10514	136	10650
Thursday	10856	142	10998
Friday	11690	162	11852
Saturday	8828	218	9046

A Chi-square test of association was performed to explore the relationship between the reported occurrence of rape during a residential robbery and the day of the week. The relationship between these variable was significant χ^2(6, N=68178) = 91.460 = p <.001. This suggests that there are specific days that have an increased likelihood of a potential rape occurring during the

residential robbery. Based on the proportion of rapes on specific days it can be suggested that a residential robbery on a Saturday or Sunday have a greater chance of a rape co-occurring in comparison to the other days of the week.

In order to explore this further the data was recoded to divide the days into two groups; weekdays (Monday – Friday) and group two being the weekend (Saturday to Sunday).

Table 5: *Overall residential robberies with the co-occurrence of rape based on the time of the week*

Time of the week	No Rape	Rape	Total
Weekend	27384	554	27938
Weekday	39690	550	40240

A Chi-square test of association was performed to explore the relationship between the reported occurrences of rape during a residential robbery on a weekday versus a weekend. The relationship between the variables was significant x^2 (1, N=68178) = 39.298 = p<.001. Thus, based on the data, that either a weekday or a weekend may increase the risk of a rape co-occurring during a residential robbery. In order to explore the direction of this relationship the proportions of residentially robberies to rapes during these two periods was calculated. In addition to this, due to there being only two categories an odds ratio was calculated.

The results for the odds ratio (OR = 1.451 95% CI 1.291-1.631 p<.05) suggest that there is an increased risk of a rape co-occurring during a residential robbery occurring are greater over the weekend in comparison to during the week. This can be stated with a level of confidence as the lower limit of the 95% confidence interval is still greater than one.

4.2.4 Time of the day

The following results relate to exploring if there are specific time periods of the day that may potentially increase the likelihood of a rape co-occurring during a residential robbery.

Table 6: *Overall residential robberies with the co-occurrence of rape based on the time of day*

Time of day	No Rape	Rape	Total
00:00 - 6:59	23924	734	24658
07:00 - 11:59	11854	74	11928
12:00 - 18:59	10885	64	10949
19:00 - 23:59	20411	232	20643

A Chi-square test of association was performed to examine the relationship between the reported occurrence of rape during a residential robbery and the time of day that the robbery took place. The relationship between the variables was significant x^2 (3, N=68178) = 465.311 = p<.001. This suggests that there are potentially specific times of the day that increase the likelihood of a rape occurring during a residential robbery. In examining the results, it can be suggested that the highest risk time is between 00:00 and 06:00 for both reported residential robberies and reported residential robberies with the co-occurrence of rape, with 36.17% of the overall reported residential robberies, with and without the co-occurrence of rape, occurring during this time period. Proportionally, for the current data, during this time frame, one in every 33 reported residential robberies had the reported co-occurrence of a rape. This is followed by the 18:00 – 00:00 time period whereby for every 88 reported residential robberies there was one reported case of a residential robbery that involved rape, which may suggest that this time frame has roughly half the risk of rape occurring. Even though 30.43% of the overall reported residential robberies occur during this time frame, which is not dramatically less than the 00:00 – 06:00 time frame. This is in comparison to the 06:00 – 12:00 and 12:00 – 18:00 time periods showing a significantly lower rate of reported co-occurring rapes, with roughly only one in every 160-170 residential robberies having a reported rape co-occurring.

An odds ratio was done combining the night time groups (19:00 – 23:59 and 00:00 – 06:59) and the day time groups (07:00 – 11:59 and 12:00 – 18:59). The results suggest that the risk of a rape

co-occurring with a residential robbery are over three times higher (OR=3.535 95% CI 2.960-4.222 p<.05) during the night time period in comparison to the daytime period.

4.2.5 Day of the week and time

Based on the two preceding results it can be suggested that on their own both day of the week and time of the day may potentially play significant roles in determining if there is the co-occurrence of rape during a residential robbery, based on this a layered analysis was conducted. Therefore, a Chi-square test of association was performed to examine the relationship between the reported occurrences of rape during a residential robbery, the time of day that the robbery took place and the day of the week. The relationship between the variables was significant x^2 (6, N=68178) = 91.460 = p<.001.

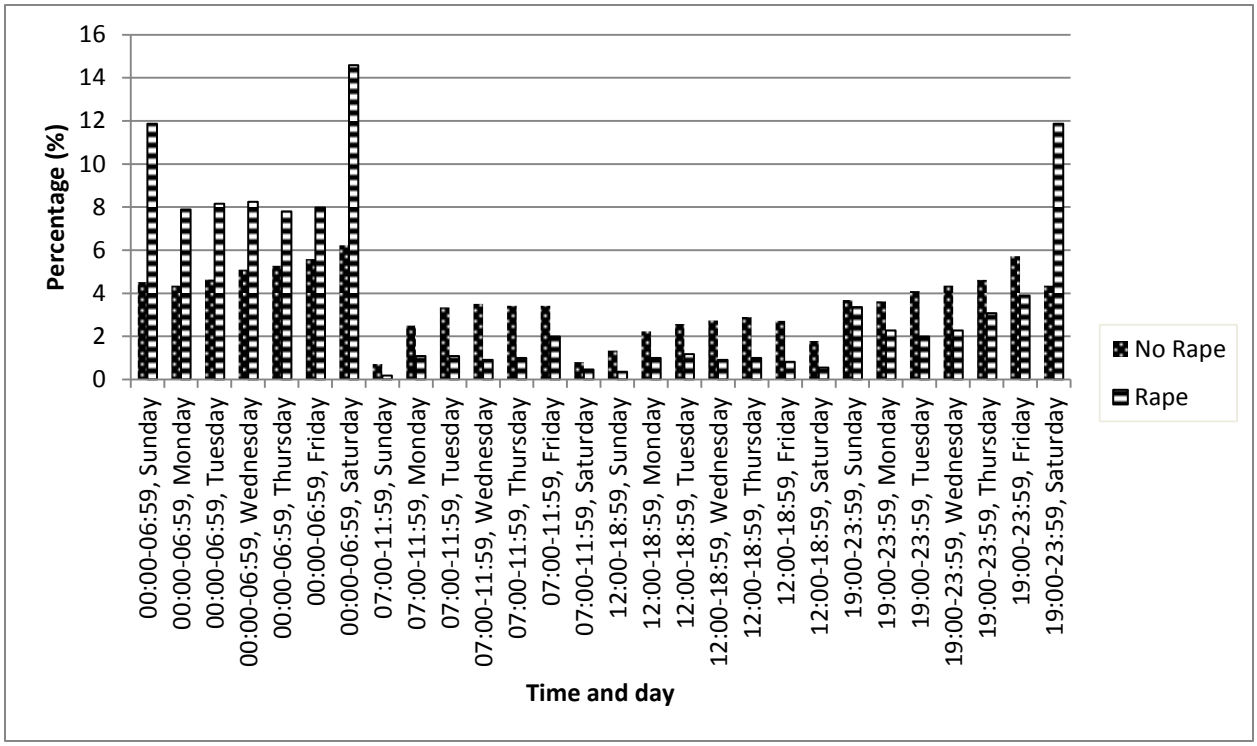

Figure 4: Overall percentage of residential robberies with/without the co-occurrence of rape based on the time and day of the week

Based on the analysis and as is illustrated in Figure 4, there are specific times and specific days that may place an individual at an increased risk of being involved in a residential robbery that involves the co-occurrence of an incidence of rape. Two time periods were significant based on the day of the week. The 00:00 to 06:59 had the highest level of significance with x^2 (6, N=68178) = 36,043 = p<.001. Followed with the 19:00 to 23:59 time period additionally being

significant with x^2 (6, N=68178) = 12,685 = p=.048. With the other two time periods suggesting no significant difference between instances of residential robbery with or without the co-occurrence of rape based on the time of day and the day of the week. What this analysis does help to illustrate is the three periods with the highest levels of reported rape during a residential robbery which are a Saturday from 00:00 to 06:59, Sunday from 00:00 to 06:59 and a Saturday from 19:00 to 23:59.

4.2.6 Victim

The following analyses are in relation to victim demographic data, specifically; gender, race and age, in order to examine the role these variables may have in contributing or increasing the risk of a rape co-occurring during a residential robbery. As previously discussed, this is with a focus on residential robberies where there was only one victim due to cases with multiple victims being removed from the data set.

4.2.6.1 Victim gender

Table 7: *Overall residential robberies with the co-occurrence of rape based on victim gender*

Gender	No Rape	% No Rape	Rape	% Rape	Total	% Total
Female	26794	39.95	938	84.96	27732	40.68
Male	40254	60.01	165	14.95	40419	59.29
Unknown	26	0.04	1	0.09	27	0.04

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and the gender of the victim. The relationship between the variables was significant, x^2 (2, N=68178) = 913.978 = p<.001. Thus, suggesting that there is a potential link between the gender of the individual present and the co-occurrence of rape during a reported residential robbery.

Overall males form the majority for victims of reported residential robberies, with only one individual present. Furthermore, this is followed by lone females forming roughly 40% of the victims for both the overall amount of reported residential robberies and those residential robberies without an incident of reported rape, where there was only one individual present. If this is compared the data for only reported residential robberies for with an incident of rape

reportedly co-occurring the data reveals that lone females make up the majority (84.96%) of the victims of reported rape during a residential robbery.

Figure 5: Overall percentage of residential robberies with/without the co-occurrence of rape based on victim gender

This finding is one of the most novel and important relative to the aims of this study approximately, 85% of reported residential robberies with the co-occurrence of rape involve a lone female. Overall, based on all reported residential robberies there are 40% of residential robberies affecting lone females that do not have a reported incident of rape. Additionally, the majority of theories related to rape do not account for male rape occurring. Thus, indicating furthermore that other variables may need to be considered in relation to the co-occurrence of rape during a residential robbery. Alternatively, this may speak to the limitations of the data.

4.2.6.2 Victim race

Table 8: *Overall residential robberies with/without the co-occurrence of rape based on victim race*

Race	No Rape	% No Rape	Rape	% Rape	Total	% Total
Lone Black	39806	59.35	913	82.70	40719	59.73
Lone Brown	1445	2.15	13	1.18	1458	2.14
Lone Indian	3123	4.66	9	0.82	3132	4.60
Lone White	21932	32.70	163	14.77	22095	32.41
Unknown	768	1.15	6	0.54	774	1.14

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and the race of the victim(s). The relationship between the variables was significant, x^2 (4, N=68178) = 250.150 = p<.001. Thus indicating that race may influence the co-occurrence of rape during a residential robbery.

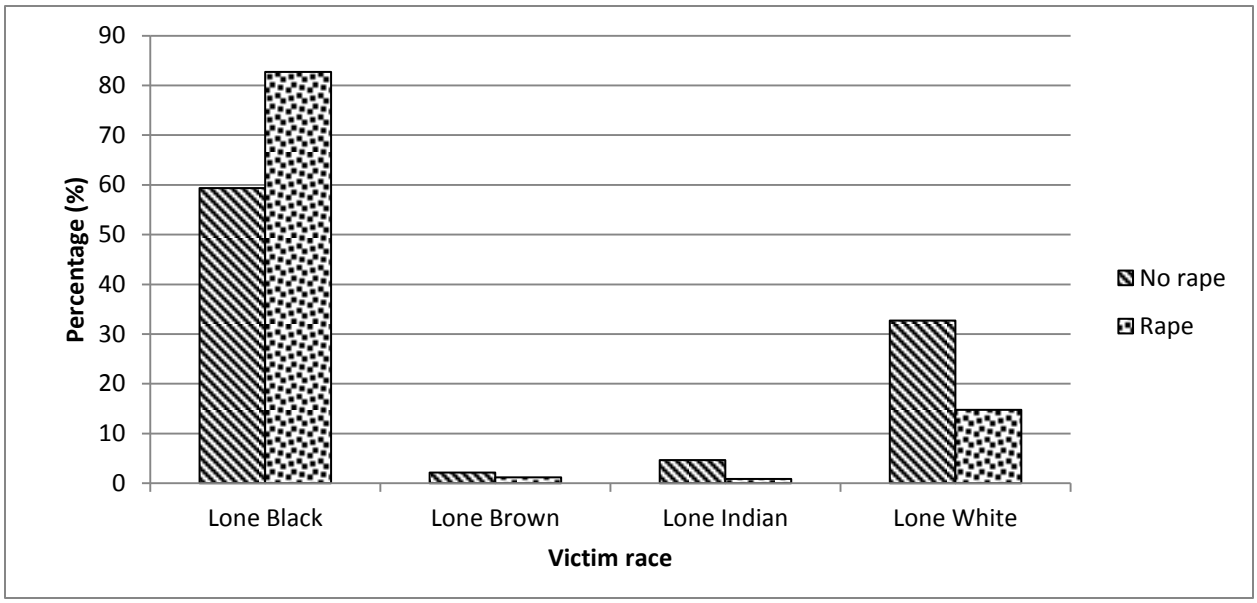

Figure 6: Overall percentage of residential robberies with/without the co-occurrence of rape based on victim race

Overall, as can be seen in Figure 6 the majority (59.73%) of individuals affected by residential robberies, with and without the co-occurrence of rape, are black. With Black individuals constituting nearly 83% of the incidences of reported rape during a residential robbery. This is in comparison to the second highest potential risk group which is white individuals. However, white individuals appear to have an increased likelihood of only a residential robbery occurring compared to black individuals that may have an increased risk of a rape co-occurring during a reported residential robbery.

4.2.6.3 Victim age

Table 9: *Overall residential robberies with/without the co-occurrence of rape based on victim age group*

Age range	No Rape	% No Rape	Rape	% Rape	Total	% Total
11 or younger	97	0.15	3	0.27	100	0.15
12-17	724	1.08	60	5.44	784	1.15
18-24	8937	13.32	284	25.73	9221	13.53
25-34	20668	30.81	360	32.61	21028	30.84
35-44	16048	23.93	215	19.48	16263	23.85
45-54	10313	15.38	109	9.87	10422	15.29
55-64	5805	8.66	41	3.71	5846	8.58
65-100	4170	6.22	31	2.81	4201	6.16
101 and above and Missing	312	0.47	1	0.09	313	0.46

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and the age of the victim. The relationship between the variables was significant, x^2 (8, N=68178) = 390.247 = p<.001. Thus, indicating that the age of the individual present may potentially influence the co-occurrence of rape during a reported residential robbery.

Based on the results and Figure 7 it can be seen that in relation to age the age group of 25- 34 has the greatest percentage of victims for reported residential robbery and reported residential robbery with the co-occurrence of rape. For only incidences of rape co-occurring with residential robbery 18- 24 year olds have the second highest rate, with this group being the only one whereby the percentage of rape co-occurring during the residential robbery is higher than that of only a residential robbery, thus suggesting that this may be the age group with the highest risk of a rape co-occurring during a residential robbery, in relation to the percentages of residential robberies with an instance of rape rather than of residential robberies in general.

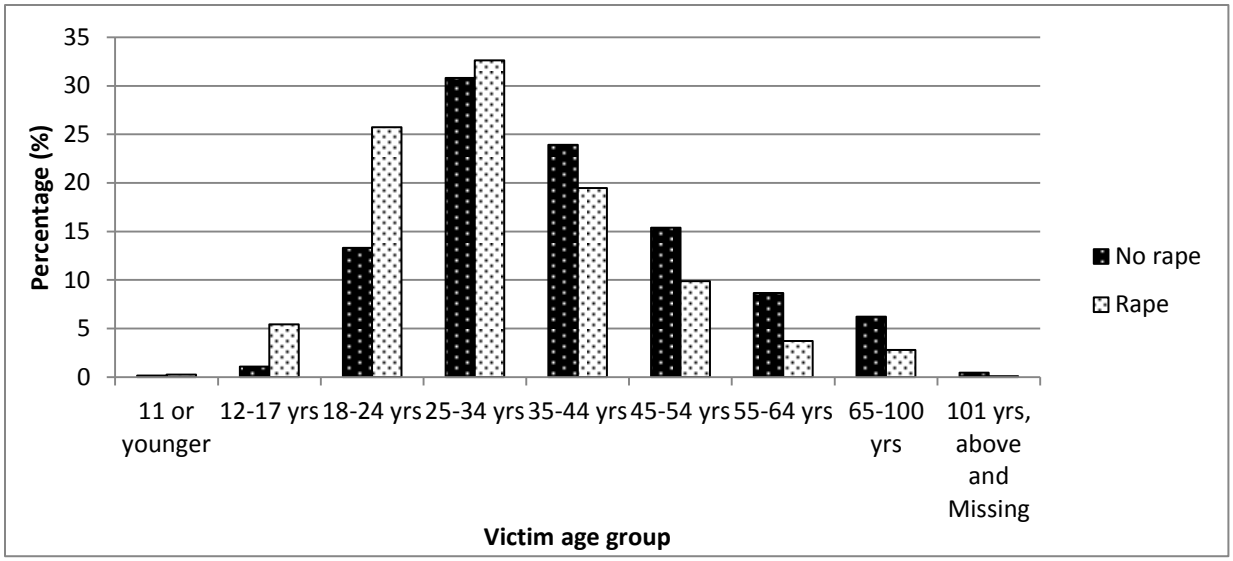

Figure 7: Overall percentage of residential robberies with/without the co-occurrence of rape based on victim age group

4.2.6.4 Layered victim profile

Overall, based on the above results we can see that based on gender, race and age there are specific groups that may potentially be at a greater risk of being involved in a residential robbery with the co-occurrence of rape. Therefore, a Chi-square test of association was performed to examine the relationship between the reported occurrence of rape during a residential robbery and the gender, age group and race of the victim. The relationship between the variables was significant x^2 (4, N=68178) = 250,150 = p<.001.

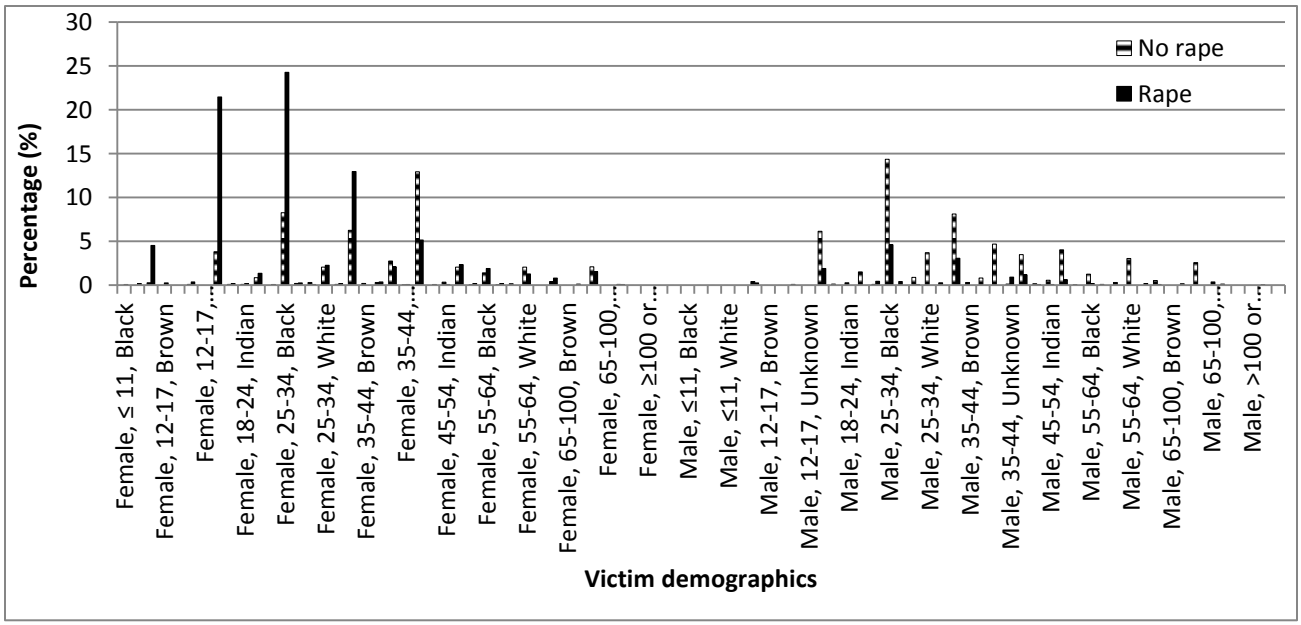

Figure 8: Layered victim profile based on victim gender, age and race

Table 10: *Layered three-way analysis of victim sex, age and race*

Victim Sex	Victim's Age (Grouped)	Victim's Race	No Rape	No Rape (%)	Rape	Rape (%)	Total
Lone Female	11 or younger	Lone Black	22	0,030	1	0,091	23
		Lone White	15	0,020	2	0,181	17
	12-17	Lone Black	194	0,290	50	4,529	244
		Lone Brown	6	0,010	3	0,272	9
		Lone Indian	12	0,020	0	0,000	12
		Lone White	80	0,120	4	0,362	84
		Unknown	4	0,013	0	0,000	4
	18-24	Lone Black	2582	3,850	237	21,467	2819
		Lone Brown	67	0,100	2	0,181	69
		Lone Indian	79	0,120	2	0,181	81
		Lone White	592	0,880	15	1,359	607
		Unknown	35	0,050	1	0,091	36
	25-34	Lone Black	5561	8,290	268	24,275	5829
		Lone Brown	159	0,240	3	0,272	162
		Lone Indian	217	0,320	1	0,091	218
		Lone White	1389	2,070	25	2,264	1414
		Unknown	68	0,100	2	0,181	70
	35-44	Lone Black	4221	6,293	143	12,953	4364
		Lone Brown	142	0,212	0	0,000	142
		Lone Indian	228	0,340	4	0,362	232
		Lone White	1868	2,785	23	2,083	1891
		Unknown	57	0,085	1	0,091	58
	45-54	Lone Black	2592	12,953	57	5,163	2649

		Lone Brown	101	0,000	1	0,091	102
		Lone Indian	185	0,362	1	0,091	186
		Lone White	1743	2,083	26	2,355	1769
		Unknown	40	0,091	2	0,181	42
	55-64	Lone Black	958	1,428	21	1,902	979
		Lone Brown	44	0,066	2	0,181	46
		Lone Indian	129	0,192	0	0,000	129
		Lone White	1389	2,071	14	1,268	1403
		Unknown	9	0,013	0	0,000	9
	65-100	Lone Black	306	0,456	9	0,815	315
		Lone Brown	39	0,058	0	0,000	39
		Lone Indian	95	0,142	0	0,000	95
		Lone White	1421	2,119	17	1,540	1438
		Unknown	14	0,021	0	0,000	14
	101 and above and Missing	Lone Black	77	0,115	1	0,091	78
		Lone Brown	3	0,004	0	0,000	3
		Lone Indian	5	0,007	0	0,000	5
		Lone White	37	0,055	0	0,000	37
		Unknown	9	0,013	0	0,000	9
		Lone Brown	561	0,030	11	0,090	572
		Lone Indian	950	0,020	8	0,181	958
		Lone White	8534	0,290	126	4,529	8660
		Unknown	236	0,010	6		242
Lone Male	11 or younger	Lone Black	38	0,057	0	0,000	38
		Lone Brown	2	0,003	0	0,000	2
		Lone Indian	2	0,003	0	0,000	2

	Lone White	18	0,027	0	0,000	18
	Unknown	0	0,000	0	0,000	0
12-17	Lone Black	295	0,440	3	0,272	298
	Lone Brown	12	0,018	0	0,000	12
	Lone Indian	25	0,037	0	0,000	25
	Lone White	89	0,133	0	0,000	89
	Unknown	7	0,010	0	0,000	7
18-24	Lone Black	4152	6,190	21	1,902	4173
	Lone Brown	110	0,164	0	0,000	110
	Lone Indian	203	0,303	0	0,000	203
	Lone White	1035	1,543	5	0,453	1040
	Unknown	81	0,121	0	0,000	81
25-34	Lone Black	9641	14,374	51	4,620	9692
	Lone Brown	300	0,447	1	0,091	301
	Lone Indian	629	0,938	0	0,000	629
	Lone White	2506	3,736	9	0.815	2515
	Unknown	195	0,291	0	0,000	195
35-44	Lone Black	5458	8,137	34	3,080	5492
	Lone Brown	233	0,347	0	0,000	233
	Lone Indian	564	0,841	0	0,000	564
	Lone White	3171	4,728	10	0,906	3181
	Unknown	103	0,154	0	0,000	103
45-54	Lone Black	2361	3,520	13	1,178	2374
	Lone Brown	121	0,180	1	0,091	122
	Lone Indian	386	0,575	1	0,091	387
	Lone White	2724	4,061	7	0,634	2731
	Unknown	59	0,088	0	0,000	59

	55-64	Lone Black	868	1,294	2	0,181	870
		Lone Brown	84	0,125	0	0,000	84
		Lone Indian	228	0,340	0	0,000	228
		Lone White	2071	3,088	2	0,181	2073
		Unknown	24	0,036	0	0,000	24
	65-100	Lone Black	381	0,568	1	0,091	382
		Lone Brown	20	0,030	0	0,000	20
		Lone Indian	130	0,194	0	0,000	130
		Lone White	1736	2,588	4	0,362	1740
		Unknown	28	0,042	0	0,000	28
	101 and above and Missing	Lone Black	92	0,137	0	0,000	92
		Lone Brown	2	0,003	0	0,000	2
		Lone Indian	6	0,009	0	0,000	6
		Lone White	46	0,069	0	0,000	46
		Unknown	18	0,027	0	0,000	18

Based on the above analysis and as illustrated in Table 10 and Figure 8, it can be seen that there are specific groups that are significantly more affected by the co-occurrence of a rape during a reported residential robbery than other groups.). Whereby, Black females aged 25 to 34 (24, 28%) constitute the largest group of victims in residential robberies with the co-occurrence of rape. This is followed by Black females aged 18 to 24 (21,46%) and the third highest group is Black females aged 35 to 44 (12,95%). This is in comparison to Black females aged 45 to 54 (12,95%) who are the female group most affected by residential robberies that occur without rape. This can also be compared to the male groups where they make up the majority of reported residential robbery victims. However, out of the males, Black males aged 25 to 34 (4,62%) and 35 to 44 (3,08%) are the groups most affected by the co-occurrence of rape during a residential robbery.

4.2.7 Situational factors

4.2.7.1 Firearm

Table 11: *Prevalence of rape by firearm usage during reported residential robberies*

	No Rape	Rape	Total
No Firearm	64119	1094	65213
Some Firearm	2955	10	2965

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and the use of a firearm during the residential robbery. The relationship between the variables was significant, x^2 (9, N=68178) = 31.981 = p<.001. The results indicate that rapes co-occur more often when there is no firearm present opposed to when there is one. This is further supported by the odds risk (OR = 4.974 95% CI 2.672-9.261 p<.05) suggesting that a rape was nearly five times more likely to co-occur when a firearm was not used during the residential robbery.

4.2.7.2 Method

Table 12: *Prevalence of rape by method of entry during reported residential robberies*

	No Rape	Rape	Total
Other	34014	730	34744
Firearm involved (shot or threatened with)	33060	374	33434

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and the method used to enter. The relationship between the variables was significant, x^2 (1, N=68178) = 103.233 = p<.001. The "other' category consisted of various methods used to gain entry into the residence such as physical assault, the use of other instruments and objects to break the locks or windows. What the results do indicate is that the co-occurrence of rape during the reported residential robberies occurred almost twice as often (OR=1,878 95% CI 1.660-2.126 p<.05) when the method of entry was not using a firearm to potentially threaten or shoot the individual, thus gaining entry to the property.

4.2.7.3 Property Stolen

Table 13: *Overall residential robberies with/without the co-occurrence of rape based on property being stolen*

	No Rape	Rape	
No Property taken	1813	31	1844
Some Property taken	65261	1073	66334

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and if property was stolen. The relationship between the variables was not significant, x^2 (1, N=68178) = .045 = p = .831. Thus, indicating that there is no difference between a rape co-occurring or not during the residential robbery and if there is property stolen during the residential robbery.

4.2.7.4 Vehicle Stolen

Table 14: *Overall residential robberies with/without the co-occurrence of rape based on a vehicle being stolen*

	No Rape	Rape	Total
No Vehicle	63887	1091	64978
At least one Vehicle	3187	13	3200

A Chi-square test of association was done to examine the relationship between the reported occurrence of rape during a residential robbery and if a vehicle was stolen. The relationship between the variables was significant, x^2 (1, N=68178) = 31.013 = p<.001. Whereby, in the majority (98,82%) of reported residential robberies with the co-occurrence of rape there was no vehicle stolen.

4.3 Binary Logistic Regression

Based on the previous analysis one can suggest that there are various factors that may influence the instance of rape during a residential robbery. Furthermore, the majority of theories about rape are unable to explain all the factors that have been analysed, whereby various theories may be able to justify the occurrence of rape during a residential robbery in relation to one or two

aspects that have been previously analysed. However, in the previous analysis each of these factors were examined in isolation whereby we cannot determine the relationship between all these factors in their influence during a residential robbery and whether they may influence the co-occurrence of a rape during the residential robbery.

Therefore, a Binary logistic regression was conducted to examine which factors may influence the co-occurrence of rape during a residential robbery when other variables are controlled for. The dependent variable was the occurrence of rape which was coded as one and no incident of rape as zero. Based on the previous descriptive analyses only specific variables within the dataset were selected for the Binary logistic regression. All perpetrator data was excluded due to the large proportion of unknown data which may unintentionally cause a misrepresentation in the results (Harrell, 2015). Additionally, victim gender was eliminated for two reasons, firstly based on the previous analyses it can be suggested that this is a highly predictive variable in the potential outcome of a rape during a residential robbery. Furthermore, the distribution of the data was too narrow whereby there were not enough male victims of rape to allow for this variable to contribute to the binary logistic regression. In relation to this the victim race unknown group was also excluded due to a small number of individuals in the group (Harrell, 2015).

Therefore, based on this, a Binary logistic regression was performed to ascertain the effects of victim race, victim age, time of the day, weekday versus weekend, the use of a firearm, the method of entry, if property was stolen and if a vehicle was stolen on the likelihood that there is the co-occurrence of a rape during a residential robbery. The model was significant x^2 (20) = 929,609 = p<.001 indicating the existence of a relationship between the outcome of rape and the independent variables. The model explained 8.9% (Nagelkerke R Square = .089) of the variance in the co-occurrence of rape during a residential robbery based on the variables selected. This is low, which was anticipated due to the limitations of the CAS dataset. Additionally, the model correctly classified 98.4% of cases. Lastly, the data is a good fit to the data selected based on the result for the Hosmer and Lemeshow Test with x^2 (8) = 7.818 = p >.05.

Table 15: *Binary logistic regression model of factors associated with the co-occurrence of rape during a residential robbery*

Predictor	Odds ratio (95% CI)	p value.
Victim race		
Lone White	1.000	.000
Lone Black	1.939 (1.620-2.321)	.000
Lone Indian	0.355 (.181-.697)	.003
Victim age		
65 - 100	1.000	.000
12 - 17	5.912 (3.750-9.320)	.000
18 - 24	2.033 (1.380-2.994)	.000
Time of the week		
Weekday	1.000	
Weekend	1.216 (1.078-1.373)	.001
Time of day		
19:00 – 23:59	1.000	.000
00:00 – 06:59	2.176 (1.871-2.531)	.000
07:00 – 11:59	0.565 (.433-.737)	.000
12:00 – 18:59	0.524 (.396-.693)	.000
Use of a firearm		
Some firearm	1.000	
No firearm	2.792 (1.477-5.280)	.002
Method of entry		
Firearm involved	1.000	

Other	1.683 (1.482-1.911)	.000
Vehicle stolen		
Vehicle stolen	1.000	
No vehicle stolen	2.295 (1.320-3.990)	.003
Only significant associations are shown (Refer to Appendix A for the full output)		

The results indicate that Black individuals were 1.94 times more likely to be raped during a residential robbery than White individuals, with Indians having a significantly decreased risk. In relation to age, once the other variables are controlled for, the at risk age appears to decrease, with 12 to 17 years olds (5.92 times more likely) and 18 to 24 year olds (2.03 times more) have a significantly greater risk of being victims of rape co-occurring during a residential robbery. Whereby, increasing age, after these groups, is associated with a lowered chance of being a victim of rape during a residential robbery.

In line with the previous analyses, once the other variables were controlled for, there is still an increased risk of a rape co-occurring over the weekend (OR = 1.216). Furthermore, during the 00:00 to 06:59 time period there is roughly double the risk of being involved in a residential robbery with an incidence of rape compared to the 19:00 to 23:59 time period. Whereby, the daytime time periods were associated with a decreased likelihood.

Lastly, in relation to the situational factors, having no firearm used during the residential robbery is associated with the increased likelihood of a rape co-occurring (OR = 2.792). This is in line with the method of entry used which indicates that if the method of entry does not involve the individual being threatened of shot with a firearm that there is 1.68 times more risk of there being the co-occurrence of a rape during the residential robbery. Additionally, a vehicle not being stolen during the residential robbery is associated with a 2.30 times more likelihood of there being a rape during the residentially robbery. The only variable of no significance is whether or not property is stolen during the residential robbery, which indicates that this does not increase or decrease the risk of a rape co-occurring during a residential robbery.

The main aspect that the Binary logistic regression illustrates is how significant the majority of variables associated with a residential robbery are in potentially determining if there is the likely outcome of a rape co-occurring, even after the covariation between variables is controlled for while at the same time indicating how, some of the most at risk groups, based on the previous descriptive statistics, may alter once the other variables are controlled for.

4.4 Overall results

Based on the results of both the descriptive analyses and the Binary logistic regression is can be suggested that there are specific variables that have a significant effect in determining the potential co-occurrence of a rape during a residential robbery. Overall, there is the indication that over time there is an increase in the duality of violent crime with the being an increased number of rapes co-occurring during residential robberies over the time period and this trend is potentially likely to continue, therefore increasing the importance of understanding what the other factors that may influence this co-occurrence are.

It can be suggested that victim demographics are one of the most significant factors with Black females aged 12 to 17 being the most likely to be raped during a residential robbery. However, what the results further suggest, is that this cannot be examined in isolation from the other variables that may have an influence in a rape co-occurring. Therefore, this group of individuals is most likely to be raped if the residential robbery occurs over the weekend between 00:00 and 06:59. If the method of entry does not involve the use of a firearm, nor is a firearm used during the residential robbery. Furthermore, that there is no vehicle stolen during the residential robbery. Notwithstanding, the constraints and limitations of the data, the results indicate how complex in nature this form of crime is and that the dual nature of this crime may be influenced by numerous factors whereby one factor cannot fully account for the co-occurrence of rape during a residential robbery. However, it also suggests that specific factors may increase the risk of rape occurring but still cannot fully predict the outcome of rape but does help indicate where the beginning focus may be for further investigation to help us both understand this complex crime and the nature of dual violent criminal activities.

CHAPTER 5: DISCUSSION

5.1 Introduction

The primary aim of the study was to explore the relationships between various temporal, sociodemographic and situational variables and if these factors are different in residential robberies and residential robberies that include rape. Therefore, the discussion is sectioned into these three aspects based on the results of both the descriptive analyses and the Binary logistic regression. Within this, various theories will be drawn upon in order for us to begin to understand this particular form of co-occurring violence that has never been explored within the South African context.

5.2 Temporal factors

The temporal factors that were identified for this study were the year, month, day of the week and time of the day. Although year and month were not included in the Binary logistic regression the descriptive analyses for these two factors also provide valuable information for understanding the potential factors that may influence and differ in incidences of residential robbery compared to those that involve rape during the residential robbery.

The results indicate that there are three times as many reported rapes during residential robberies in 2012 as compared to 2002. The proportional increase in the co-occurring rapes is significantly higher than the increase in residential robberies. The increase in residential robberies may be related to and indicative of the increasing rates of violent crime within South Africa. It may further suggest a change in criminal profiles whereby previously residential robberies were classified as an instrumental form of violence and were purely for the purpose of financial gain, whereby there was only property stolen and no additional form of violence used (Newham, 2008). Whereas now, as suggested by Felson (2006), and potentially supported by the results, there is no distinguishing between different forms of violent crimes, where if there is the increased opportunity for additional violence it may be utilised even if it plays no role in the primary outcome of the residential robbery which is continuously suggested to be financial. Therefore, suggesting that potentially even though the isolated incident of residential robbery shows no significant increase, the duality of violent crimes is increasing which may be indicative of the perpetrator profile and reaction in the situations altering over the time period. Both of

these aspects are supported by the results that indicate that whether property was stolen or not had no significant impact on whether there was the co-occurrence of rape.

In relation to the time period of the year in which the residential robbery occurs on of the most common assumptions, as previously mentioned, is that residential robbery is primarily understood as occurring due to the perpetrators desire for financial gain (Newham, 2008). Therefore, based on this, as previously mentioned, the hypothesis was that residential robberies would increase during certain time periods of the year, mostly towards the end of the year, when individuals may experience increased levels of financial strain and therefore potentially perpetrate crimes that allow them to attain some degree of financial gain or alternatively that it is easier to perpetrate the residential robbery and that individuals may at this time period have an increased level of valuables in their residence This hypothesis is potentially being supported in relation to the results with regards to only residential robberies that were reported. However, March and December had significantly higher rates of rape co-occurring during the residential robberies, suggesting that the risk is potentially higher during these months. There are however limitations to understanding why this may be the case whereby, as previously mentioned, there is no obvious trend to why the rates of rape during residential robbery are higher during these months. This may then further suggest that crimes cannot be considered in relation to isolated variables such as month, but that there are numerous factors that also need to be accounted for. Therefore, it may be that in March and December the other factors, such as the age of the victim, the ability to commit the crime at a specific time or day of the week and whether there is a firearm used, that have been identified were more prevalent thus increasing the number of rapes that co-occurred during these months.

The day of the week on which the residential robbery occurs appears to have a significant effect on whether a rape occurs or not. Whereby, there are a significantly higher number of rapes that co-occur on a Saturday and Sunday thus, with the risk being one and a half time higher over the weekend than during the week. However, these are not the two days with the highest numbers of residential robberies. Therefore, one needs to consider what may be different over the weekend period in comparison to the week that may increase the risk of a rape occurring during a residential robbery. One such factor may be the level of alcohol consumption over the weekend. This is due to Friday nights representing the end of the typical work week and as such also the

beginning of relaxation time, which in South Africa often involves alcohol. Statistics reveal that there is increased alcohol consumption over weekends and related to this is an increase in violent crime (Gronqvist & Niknami, 2014; Ramsoomar & Morojele, 2012). This result however also needs to consider the time of day in which the residential robbery occurred in order for one to conceptualise the factors that may be influencing the crime.

Whereby, the midnight to 06:59 time period has both the highest number of residential robberies and rapes co-occurring during the residential robbery. Additionally, this time period also has the highest risk of rape co-occurring in relation to the proportion of rapes that occur during the other time periods. This is different to the results that Zinn (2010) suggested as his research indicated that the evening period (18:00 -00:00) was the period in which the most residential robberies occurred.

For purely financial gain the belief would be that individuals would break in when their risk is the lowest and nobody is home, however based on the literature evening periods are often more targeted as it is easier to gain entry into the premises and remain relatively undetected in these time periods (Newham, 2008; Zinn, 2010). Alternatively, we can see that the 19:00 to 23:59 time period has a very similar number of residential robberies but less co-occurring rapes. One might suggest that this time period helps with the method of entry used whereby, the robbers can use some form of coercion to force their way in such as going through an open back door etc. rather than having to break through windows. This is in line with the literature that suggests more residential robberies occur in the evening due to alarms being off and the method of entry being easier (Zinn, 2010). However, in the other time period the assumption would be that most individuals are asleep at that time, therefore potentially lowering the risk of being caught but this would also indicate that the method of entry becomes more challenging as alarms may be on again and all the entrances to the residence are shut.

However, if we combine both the high risk times and day we have seen that there are three particularly high risk periods which are; a Saturday from 00:00 – 06:59, a Saturday from 19:00 to 23:59 and lastly a Sunday from 00:00 – 06:59. This can be linked with the previous discussion related to the rate of alcohol consumption over these time periods. However, if one is to suggest that alcohol has an influence in the co-occurrence of rape during residential robberies, it be suggested that a number of these are crimes of opportunity whereby the perpetrators were on

their way home and came across an opportunity to perpetrate this specific crime or that while drinking perhaps decided to commit a crime (Cohen & Felson, 1979). However, this aspect may be potentially further related to socioeconomic status of the area in which the crime occurs, which was beyond the scope of this study. Whereby, lower socio-economic areas may be easier targets as there may be a reduced likelihood of these residences having the same levels of security, such as alarms, in comparison to higher income areas.

Additionally, these times, as previously mentioned, can be considered in two ways. That they are potentially believed to be low risk times by the perpetrator in the belief or observation that the individuals have gone away for the weekend. However, the question then is why there are not more during the day over the weekend? It may be considered that individuals planning on committing residential robberies believe that night time has a lower risk as there is a decreased likelihood of anyone witnessing the robbery. Furthermore, as will be elaborated on further, this study was only able to focus on cases in which one individual was affected, therefore it may alternatively be that at these times individuals themselves are more likely to go out and thus on returning home provides an opportunity of entry for the robbers'. Linked to this is that the victims themselves have been out drinking and provide themselves as easier targets as suggested by Zinn (2010), whereby robbers at times find it easier to overpower inebriated individuals. This links to the concept that individuals who are more prone to violence and crime may just require the appropriate opportunity to commit the crime.

Although a number of these discussions can be plausible explanations for why residential robberies occur at this time the main question is why these are the highest risk times for the co-occurrence of rape during the residential robbery?

5.3 Sociodemographic factors

As has been discussed and will be further elaborated on, is that the sociodemographic data in this study has been limited whereby the only focus has been on instances with one victim. Furthermore, with the majority of perpetrator data missing the study was unable to conduct any meaningful analyses related to this variable.

5.3.1. Victims

Although males make up the majority of victims of residential robberies (59%) they only account for 15 percent of those affected by rape during the residential robbery. Thus, the analysis indicates the majority of the victims of residential robberies with the co-occurrence of rape are Female (85%). This is in line with the literature on rape whereby males account for a very limited number of victims of rape and women as being at a greater risk for both violence and rape (Krug et al., 2002). However, because the majority of the victims are female the motive could speak to any of the theories that explain rape. Therefore, for the purpose of this study what is important to consider is that there were 27732 cases of residential robbery affecting lone females yet only roughly 3 percent of those included an incident of rape.

The race group with the highest risk of being affected by a residential robbery appeared to be Black individuals (60%), with White individuals being the second highest risk group (32%). This is in line with the results for the co-occurrence of rape during the residential robbery, however, Black individuals made a significantly higher proportion of the victims (83%).

Lastly, the ages were grouped based on stage of life, therefore indicating that young adults (25-34 years) are at the greatest risk of being both victims of a residential robbery (31%) and a residential robbery with an incident of rape (33%). What the results do indicate is that individuals aged 18 to 44 years make the vast majority (79%) of individuals affected by rape during a residential robbery. The younger age groups risk, specifically females, is in line with opportunity theorists that suggest that they are often the preferred targets as they are believed to be less resistant during the crime (Lafree & Birback, 1991).

However, one cannot consider these demographics in isolation in order to properly try and account for the factors that may influence the outcome or use of rape during a residential robbery. Thus the results for the multivariate analysis of victim demographics indicates that if we combine gender, age and race then females aged 25-34 who are Black are the most at risk and make up 24% of the victims of rape during residential robbery. This is followed by Black females between the ages of 18 and 24 who account for 22%. What is of interest in the results is that Black males aged 25 to 34 accounts for a greater number of incidents than white females in

the highest risk age group. This may further indicate how rape is then used as an additional form of violence or as a coercive tactic during the residential robbery, as most of the literature indicates that there is almost no sexual motive when males rape males but that it is rather used as a method of asserting dominance (Lundrian & Mueller-Johnson, 2013). However, Black males aged 25-34 also account for the highest number of residential robberies and thus because they make up the largest group there may be increased opportunities for a rape to co-occur. This then largely contradicts the majority of literature that claims a sexual motive for rape. Thus, we need to consider what the motive for the rape could be? Can it be suggested that it is in line with what the participants in Zinn's (2010) research stated, that it was just as part of the robbery and had no sexual motivation. Thus, this further emphasises the point that criminals are violent in general and that certain factors may promote different forms of violence. Some of these factors are related to the perpetrators which will be discussed in the following section.

5.3.2. Perpetrators

As previously mentioned, the perpetrator information in the data set was very limited. This in itself emphasises various other factors that may need to be considered. One can potentially understand in instances where the victim was asleep during the residential robbery as to why they may not be able to provide information of the robbers. However, in instances of rape there is an increased likelihood of the victim being able to provide some information. Although here may one need to consider various psychological theories that support victims being unable to remember specific details of a traumatic incident. Based on the data where overall 83% information is unknown and 69% for incidents of residential robbery with the co-occurrence of rape, we can see that the information for incidents of rape is slightly higher but based on literature it is unlikely that nearly 70% of the victims that were raped were unlikely to remember any details. This therefore calls into question the reporting methods that the police use. Is it that this information is not recorded in general or not recorded into the CAS database that the public has access to? This is however beyond the scope of this study but may be of importance for future research using the CAS database to consider.

5.4 Situational factors

The situational variables that we examined were; whether a firearm was used/fired during the residential robbery, the method of entry into the residence, if there was property stolen and lastly

if there was a vehicle stolen. Of these the only variable that did not prove to be significant was whether or not property was stolen during the residential robbery and if there was the co-occurrence of rape, this is important in the context of understanding thee expressive versus instrumentalist debate on residential robberies (Feshbach, 1964 as cited in Thijssen & Ruiter, 2011; Newham, 2008).

An interesting finding is the role that the theft of property during the residential robbery has. Whereby, the results indicated that whether property was stolen or not was insignificant in influencing the co-occurrence of rape during the residential robbery which further helps argue that residential robberies cannot be classified as purely instrumental forms of violence (Newham, 2008).

The use of a firearm and the method of entry into the residence do overlap slightly and in some aspects the figures may seem contradictory. However, a firearm being used/fired during the robbery was five times less likely in incidents where there was the co-occurrence of rape during the residential robbery. This may suggest that the use of rape is used as a form of intimidation or coercion rather than a firearm, which suggests that the rape is then more a form of expressive violence (Feschbach, 1964 as cited in Thijssen & Ruiter, 2011). Additionally, a rape was two times more likely to occur if the method of entry did not involve a firearm, thus the perpetrator/s may need to thus rely more on their physical strength of another form of intimidation during the robbery. This does contradict some previous research where it was suggested that majority of residential robbers will be in the possession of a firearm (Newham, 2008; Zinn, 2010). However, neither of these can fully account for why there are then so many robberies that make use of alternative methods of entry and do not use a firearm during the robbery yet do not involve an incident of rape during the residential robbery as, highlighting the debate that if an individual has a personal firearm in the home that it is likely to be used against them during a robbery.

5.5 Binary logistic regression

As previously mentioned, although each of the above variables and theories can better help us understand the occurrence of rape during a residential robbery, none on their own can fully account for why a rape co-occurs. This illustrates the complexity of this form of violent crimes and therefore further indicates that multiple factors need to be examined in understanding what may vary between a residential robbery and one in which rape co-occurs. The binary logistic

regression helps take into account the role the other variables may have and helps highlight those that increase the risk of this type of event occurring, even though the percentage of variance was low, Nagelkerke R Square = .089. This model is however not fully inclusive, as previously discussed, as various variables were excluded due to the limited number in each group such as perpetrator race and gender thus, excluding a number of variable may have affected the Nagelkerke R Square. Therefore, one may have to explore how this and the fit of the model may be altered by a more inclusive dataset. However, even in their exclusion it can be suggested that these play major roles in the occurrence of rape during a residential robbery.

Overall, if we consider all the above it can be suggested that if an individual is involved in a residential robbery and they are Black, between the age of 12 and 17, if the residential robbery occurs over the weekend between midnight and 06:59, if there is no firearm, and some property stolen but no vehicle taken that this is when there is the greatest likelihood of a rape co-occurring during the residential robbery. However, within this, there are variables that significantly increase the individuals' risk whereby the victims' age is the highest risk factor. If individuals are aged 12 to 17 than they are nearly 6 times more likely to be raped than comparison age group (65-100 years of age), this is different from the literature that suggests that individuals aged 17 to 48 are at the greatest risk of being raped (CSVR, 2009). However, it is in line with research that indicates that during residential robberies rape is more likely to occur if the victim is younger (Felson, 2006), which may suggest that these individuals are easier to over power. Based on the gender variable, that was not included, it can be suggested that these victims are most likely to be female.

The second highest indicating factor is the theft of a vehicle. As previously discussed this speaks to the primary aim of the perpetrator/s. Whereby, if the main aim is to steal the vehicle the event is more likely to be classified as a hijacking or robbery rather than a residential robbery or that there may be no vehicle to steal. Alternatively, if the main aim is to take the vehicle the perpetrator/s are unlikely to enter the residence and thus decreases the likelihood of them coming into contact with the individual.

Overall, as previously mentioned, the results indicate how significant the majority of the variables are in predicting whether a rape may co-occur during a residential robbery. Thus, by identifying these allows for the potential awareness and thus interventions related to these risks.

There are however aspects that the model does not cover that were beyond the scope of the study and may require more investigation. It does however help us to understand occurrences where there is rape during residential robbery but the victim may be considered outside of the “high risk” group, such as elderly women. Whereby, the other predictors may have a stronger influence.

CHAPTER 6: CONCLUSION

6.1 Limitations

The primary limitation of the study has been the CAS dataset that was used and the manner in which information is recorded in the dataset. Due to the researcher being a secondary analysis of the dataset there is no control of the data entry. This is at times a general limitation of doing secondary analysis (Sorensen, Sabroe & Olsen, 1996). Based on this some of the initial objectives of the study could not be met. In addition to this, due to the researcher not being the one that initially recorded the data there was numerous data missing or recorded in a manner that did not allow for analysis. For example, the majority of the perpetrator information was missing and as initially discussed instances where more than one individual was involved in the residential robbery was not recorded correctly and therefore had to be excluded. As previously mentioned we cannot be sure whether this information is missing due to victims being unable to recall it or if this information is not correctly recorded on the CAS database but is available in the individual case files. Therefore, limiting the exploration of the study to cases only affecting one individual and limiting the conclusion that can be drawn in relation to the perpetrators of such crimes Based on this we cannot be sure of the situational factors that affect the co-occurrence of rape during a residential robbery are different for cases where there may be more than one victim, this undermines the aim of the study in limiting our profile of residential robberies to instances with one victim only, thus preventing us from creating a more in depth understanding of the situational factors that may contribute to the use of rape during residential robberies.

Furthermore, due to the researcher only having access to the CAS and not the actual case files there are specifics in the case that are unknown. Specifically, as residential robbery was previously classified as robbery with aggravating circumstances and that if no one was home the crime should be recorded as a residential burglary. Thus in having three categories that residential thefts can be classified under potentially leaves room for error whereby if an individual is reporting the crime but was not home it may incorrectly be classified as a residential robbery rather than a residential burglary. This potentially has huge impacts on the study because if there is no one present during the residential robbery, a rape or additional form of violence cannot occur therefore the other variables have no impact or a greater impact in the

analyses, thus creating a discrepancy between reported instances of residential robbery with and without the co-occurrence of rape. Whereby, the other variables may be better able to analyse and predict in cases where we know the cases where the victims of the residential robbery are home.

6.2 Recommendations

A primary recommendation is that further exploration be done into how the police record the data from the case files into the CAS database and if the database truly reflects the information provided to the police. This potentially impacts the statistics that are released by the police, specifically if they use the CAS database to compile these statistics. In relation to this that the police consider how they capture the data in order for it to indicate more precisely what occurred during the crime, therefore allowing for more research to be conducted in relation to the crimes within South Africa, specifically as the police have limited internal resources to do their own research and thus the majority of research related to the SAPS data is secondary research.

This study was purely exploratory in nature therefore there are numerous ways in which this topic can be further researched in order to enhance our understanding of the co-occurrence of rape during residential robberies and the duality of violent crimes within the South African context. One would be investigating the cases of residential robbery with rape that have more than one victim and exploring if the situational factors differ in these instances. Furthermore, based on the results an exploration into the Socio-economic status of the area in which the crime was committed would be beneficial in understanding some of the results from this study.

6.3 Conclusion

This study has provided the first profile of robbery-rape in South Africa. It has therefore proved important in setting the stage for beginning to understand both rapes during residential robbery and the complexity inherent in violent crime within South Africa more generally. Traditional theories of both rape and robbery cannot fully account for the risks related to robbery-rape. This suggests that emphasises needs to be placed on merging these theories and creating new understandings of this type of crime. Examining each in isolation limits our understanding of complex violent crime and thus compromises the potential of our interventions to address these forms of violence more comprehensively.

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APPENDIX

Appendix A: Full output for the binary logistic regression model of factors associated with the co-occurrence of rape during a residential robbery

Predictor	B	S.E.	Wald	Df	Sig.	Odds ratio (95% CI)
Victim race						
Lone White			81.820	4	.000	1.000
Unknown	-.180	.420	.184	1	.668	0.835 (.367-1.901)
Lone Black	.662	.092	52.211	1	.000	1.939 (1.620-2.321)
Lone Brown	-.099	.291	.114	1	.735	0.906 (.512-1.604)
Lone Indian	-1.035	.344	9.057	1	.003	0.355 (.181-.697)
Victim age						
65 - 100			200.410	8	.000	1.000
101, above & Unknown	-1.331	1.020	1.701	1	.192	0.264 (.036-1.952)
11 or younger	1.087	.620	3.077	1	.079	2.965 (.880-9.989)
12 - 17	1.777	.232	58.540	1	.000	5.912 (3.750-9.320)
18 - 24	.710	.198	12.902	1	.000	2.033 (1.380-2.994)
25 - 34	.138	.195	.497	1	.481	1.148 (.782-1.6844)
35 - 44	.076	.199	.145	1	.703	1.079 (.731-1.592)
45 - 54	.038	.208	.033	1	.856	1.038 (.691-1.561)
55 - 64	-.189	.240	.615	1	.433	0.828 (.517-1.327)
Time of the week						
Weekday						1.000
Weekend	.196	.062	10.081	1	.001	1.216 (1.078-1.373)
Time of day						
19:00 – 23:59			263.357	3	.000	

00:00 – 06:59	.778	.077	101.933	1	.000	2.176 (1.871-2.531)
07:00 – 11:59	-.571	.136	17.734	1	.000	0.565 (.433-.737)
12:00 – 18:59	-.647	.143	20.505	1	.000	0.524 (.396-.693)
Use of a firearm						
Some firearm						1.000
No firearm	1.027	.325	9.981	1	.002	2.792 (1.477-5.280)
Method of entry						
Firearm involved						1.000
Other	.520	.065	64.275	1	.000	1.683 (1.482-1.911)
Property stolen						
Some property taken						1.000
No Property taken	.193	.190	1.036	1	.309	1.213 (.836-1.7580)
Vehicle stolen						
Vehicle stolen						1.000
No vehicle stolen	.831	.282	8.672	1	.003	2.295 (1.320-3.990)