UNIVERSITY OF LIVERPOOL

Serious Violent Offenders: An Exploration of Offender Characteristics, Criminal History Information and Specialisation

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By

Rebecca Louise Coleman

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ABSTRACT

Serious violent crime, including homicide, attempted murder and grievous bodily harm, has recently increased in England and Wales, together with the need to identify, and efficiently intervene with, perpetrators at risk of future violent offending. Research has highlighted, in particular, the importance of gathering more information on female serious violent offenders, making comparisons between serious violent male and female perpetrators, and examining different types of serious violent criminals. The overall purpose of this thesis, therefore, was to add to our existing understanding of serious violent offenders, thereby, hopefully, informing current debates and under researched areas, and assisting practitioners within the criminal justice system. Within this context, the main objectives of the thesis were to (i) examine the extent to which subgroups of offenders differ according to offender characteristics (age, gender) and criminal history information (offending frequency, chronicity, crime types); (ii) determine the extent to which serious violent offenders specialise in criminality and how this may differ between subgroups; (iii) explore the relationships between the diversity index, frequency of offending, the age at the first criminal offence, and the age at the serious violent offence; and (iv) assess the variables deemed to significantly predict future serious violent outcomes. A quantitative, retrospective approach was taken using archival data provided by Devon and Cornwall Police Force; this included 10-years of crimes recorded in the borough between April 2001 and March 2011. Descriptive and comparative analyses explored the subgroups of serious violent offenders, and matched-case controls. Serious violent perpetrators had a higher offending frequency and were more likely to have previously committed violent crime; this was also the case for the male and female control comparisons. Furthermore, the male control sample were more likely to have a prior conviction for sexual offences, and female controls were more likely to commit theft and property crime. In addition, serious violent males were statistically more likely to have been previously convicted for violent, and a mixture of non-violent, crimes, compared to serious violent females. Also, attempted murder and homicide offenders were older and more likely to have committed violence, and perpetrators of grievous bodily harm were more likely to have a conviction for burglary or theft offences. No significant findings emerged in terms of the levels of chronicity. Pockets of specialisation were detected within the groups of serious violent perpetrators, yet diversity was significantly more likely to be exhibited amongst serious violent subgroups. Relationships were also found between diversity and a higher offending frequency, age at first offence and age at serious violent crime. Importantly, age at the first serious violent crime and types of offences in the criminal history emerged as significant factors in predictive models of future serious violence. Theoretical and practical implications are discussed, with recommendations for future research.

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PREFACE

Violent Crime

Violent crime, within the police force, is defined as “violence against the person”, which includes “homicide, violence with injury and violence without injury” (Flatley, 2016a, p.16). Serious violent (SV) crime has been acknowledged as a public health problem (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002), as it has a high cost to society in relation to its social, psychological and financial impact (Rubin, Gallo, & Coutts, 2008), creating fear amongst the public (Frisell, Pawitan, Langstrom, & Lichtenstein, 2012; Krug et al., 2002). High incidence rates are reported; 1.3 million crimes of violence were recorded in England and Wales, with a 27% increase in ‘violence against the person’, between the years ending December 2014 and 2015 (Flatley, 2016a). Specifically, ‘violence without injury’ rose by 38%, with a 15% increase in ‘violence with injury’, including an escalation in attempted murder (31%), and an 11% rise in homicide (Flatley, 2016a). Furthermore, a 3% increase was reported in perpetrators sentenced for ‘violence against the person’ offences, with this offence group prevailing as the largest proportion of sentenced offenders (Ministry of Justice [MoJ], 2016). In regards to violent criminality, underlying considerations of the criminal justice system include studying the seriousness of the offences (Lulham & Ringland, 2010) and the possible escalation to serious crimes (Liu, Francis, & Soothill, 2011); this stresses the need to develop a thorough understanding of the risk factors to future SV offending and whether the individuals who engage in such criminality differ from one another.

How is this Thesis Relevant to Current Research?

One means of increasing our understanding of SV offending is through the application of Investigative Psychology. The field of Investigative Psychology aims to further our knowledge of criminality and the investigative process of practitioners (Taylor, Snook, Bennell & Porter, 2015). Through the use of archival data (e.g. police data), and the subsequent empirical findings, this facet of psychology was developed to support practitioners and their

decision-making (Canter, 2000), enabling the development of assumptions about the offending population (Alison, Snook, & Stein, 2001). Roberts, Zgoba and Shahidullah (2007) stated “typologies are created to approximate the reality” (p.506); thus, utilising information such as offending histories enables those within the criminal justice system to make informed and evidence-based decisions regarding the likes of surveillance and sentencing. Maguire, Kemshall, Noakes, Wincup and Sharpe (2001) noted the movement of research towards developing an approach that may prevent such serious offences, in order to protect the public due to the potential harm to victims (Andrews & Bonta, 2010). Systematic investigations into the risk of offenders are advantageous to both researchers and the criminal justice system, as they add to existing empirical findings and aid in enhancing decision-making (Zhang, Roberts, & Farabee, 2014). While research has produced many findings and assessment methods for identifying, and tackling, future offending over the years, continued exploration and development within this field of study is essential, as identifying factors that indicate an increased likelihood of future violent behaviour is vital (Craig, Beech, & Cortoni, 2013).

Within the population of offenders, there has been a trend for approximately 5-10% of perpetrators to demonstrate persistent, serious, violent offending (Barnes, 2013; DeLisi & Piquero, 2011; Gottfredson & Hirschi, 1990; Piquero, 2011; Piquero, Farrington, & Blumstein, 2003; Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). Souverein, Ward, Visser and Burton (2015) noted that offenders, who were persistent throughout their lives, considerably add to the rates of violent criminality, thus highlighting challenges faced by the criminal justice system. In order to address this, there remains a focus on facets within the field of criminal careers, from the seriousness and prevalence of offences (Piquero, Farrington, & Blumstein, 2007) to offending pathways (LeBlanc & Loeber, 1998; MacDonald, Haviland, & Morral, 2009; Nagin & Tremblay, 1999, 2001). Furthermore, research has investigated offender’s criminal histories in relation to the propensity that such an offender will then go on to commit homicide or a SV offence (Soothill, Francis, Ackerley, & Fligelstone, 2002). In addition, it has been recommended that future research should explore an offender’s full criminal history, rather than solely identifying the index offence, as the index

offence may not provide an accurate representation of the possible future risk of the perpetrator (Craissati & Sindall, 2009).

Literature coverage on male violent offenders is extensive, with much less attention on females (Thornton, Graham-Kevan, & Archer, 2012). Yet, for a group of offenders referred to as a “unique and rapidly expanding population” (Nicholls, Cruise, Greig, & Hinz, 2015, p.79), it is evident further explorations are necessary. When attention has turned to female perpetrators and investigated whether there are risk factors specific to the gender of the offender, empirical findings are consistently limited by small samples (Tracy, Wolfgang, & Figlio, 1990). Not only is research into female offenders necessary to support the development of practitioner risk tools, it is also of importance to public welfare (Nicholls et al., 2015). Further research into risk factors of SV females would inform investigative practices, in addition to aiding in decision-making within court proceedings (West, Hatters, Friedman, & Kim, 2011).

Such limitations relating to female offending links in to the topic of gender differences; there are current arguments for a gender-neutral perspective to crime (Andrews & Dowden, 2006; Nicholls & Petrila, 2005), with an absence of empirical support for innovative gendered methods stated in literature (e.g. Havens, Ford, Grasso & Marr, 2012; Heilbrun, DeMatteo, Marczyk, & Goldstein, 2008) despite counterclaims that females may have different trajectories to offending (e.g. Leschied, 2011). Although criminal practices that have been developed on male samples are argued to be applicable to females (e.g. Heilbrun et al., 2008; Murphy, Brecht, Huang, & Herbeck, 2012; van Voorhis, Wright, Salisbury, & Bauman, 2010), if male and female offenders do differ, employing poorly informed practices to females would not result in effective outcomes (Dvoskin, Skeem, Novaco, & Douglas, 2011). In reference to juvenile offenders, literature has pointed out the need for further comparisons between males and females who participate in violent behaviour (Heide, Roe-Sepowitz, Solomon, & Chan, 2012; Messerschmidt, 2004).

With regard to criminal practices, the issue of the gender of an offender extends to offender risk assessment tools. Many have been created using a male sample yet are also applied to female offenders, thus

suggesting an underlying premise of homogeneity of such perpetrators (e.g. Hannah-Moffat, 2009; Hollin & Palmer, 2006; Rutter, Giller, & Hagell, 1998; Zahn et al., 2010). Further, while some researchers argue that risk tools and interventions are applicable to both genders (Blanchette, 2000; Brennan, Dieterich, & Ehret, 2009; Folsom & Atkinson, 2007; Heilbrun et al., 2008; Murphy et al., 2012; van der Knaap, Alberda, Oosterveld, & Born, 2012), others question whether the prediction of reoffending differs for males and females (Blanchette & Taylor, 2007; Chesney-Lind, 1989; Heilbrun et al., 2008; Hubbard & Matthews, 2008; van der Knaap et al., 2012) and are therefore investigating gender-informed risk methods (Andrews & Bonta, 2010). However, a significant limitation of research exploring female criminals is the failure to factor in, or make comparisons with, male perpetrators to determine if they differentiate in their offending (e.g. Holtfreter & Cupp, 2007; Reisig, Holtfreter, & Morash, 2006). This remains a debate within literature and requires further research (Andrews et al., 2012; Emeka & Sorensen, 2009; Heilbrun et al. 2008); therefore, comparisons between male and female offenders are paramount.

Similarly, there is a need to explore the differences, and similarities, between SV offenders. While literature has investigated perpetrators of homicide and other violent perpetrators (Soothill et al., 2002), homicide and attempted murder criminals (Ganpat, Liem, van der Leun, & Nieuwbeerta, 2014), and homicide and aggravated assault offenders (Smit, Bijleveld, Brouwers, Loeber, & Nieuwbeerta, 2003), there is a scarcity in comparing various types of SV offenders. Ganpat and colleagues (2014) underlined their research as the first comparison of particular SV criminals and their criminal history, to their knowledge, with research urging for further explorations of SV offenders (Polaschek, 2006). In light of the arguments relating to the impact of gender differences on serious violence, research must determine to what extent SV offenders are a homogenous, or heterogeneous, set of perpetrators

Francis, Soothill and Fligelstone (2004) noted the need for investigating patterns of criminal offending. Specifically, the researchers noted the importance of exploring types of offences in examining risk factors and providing predictors of further criminality. An essential issue that was

pointed out by Francis et al. (2004) centered on the topic of offending history of criminals who committed serious offences, such as determining whether an offender who had committed homicide had previous convictions that differed to that of other perpetrators. Further to this, there are arguments for similarities between homicide and other violence (e.g. Brookman & Maguire, 2005). Gallo, Lacey and Soskice (2014) stated that comparisons between violent crimes have been hindered by a lack of statistics, with further research needing additional findings to validate and support current reports.

Another key question in current research is determining whether an offender specialises in committing a specific type of crime (e.g. Howard, Barnett, & Mann, 2014), as a result of the impact for both policy and theory (Baker, Metcalfe, & Jennings, 2013; Howard et al., 2014; Nieuwbeerta, Blokland, Piquero, & Sweeten, 2011), such as offender risk assessment and the prevention of reoffending. Theoretically, there is the necessity to investigate the specialisation of perpetrators to determine if general or specific theories of crime would be more appropriate in explaining such criminals (Soothill, Francis, & Liu, 2008a).

Descriptive and exploratory investigations are fundamental in aiding our understanding of violent offenders and are needed for the development of appropriate theory and policy (Piquero, Jennings, & Barnes, 2012). Although the criminal histories of SV offenders have been characterised by violence (e.g. Pizarro, Zgoba, & Jennings, 2011), explorations into violent perpetrators are lacking (e.g. Trojan & Salfati, 2010). The study into risk factors of serious future offending is therefore imperative (Mulder, Vermunt, Brand, Bullens, & van Marle, 2012).

Summary of the Problem

To summarise, many researchers have emphasised the severity of serious violence (Ganpat et al., 2014), particularly in terms of the impact on society (Rubin et al., 2008; Zagar, Grove, & Busch, 2013) and the public (Frisell et al., 2012). Practitioners utilise evidence-based research (Taylor et al., 2015), with decision-making and existing findings benefitting from such empirical investigations (e.g. Sweeten, Piquero, & Steinberg, 2013; Zhang et al., 2014). Of particular importance to society and the criminal justice system

alike are reports of an increase in violent offending in England and Wales (Flatley, 2016a). For instance, female offenders are becoming more prevalent (Nicholls et al., 2015), yet literature has previously focused more so on males (Thornton et al., 2012). Not only are further explorations into SV female perpetrators necessary to strengthen empirical knowledge and to add to the lack of raw data, but also to assist in practitioner risk assessments (Nicholls et al., 2015). What is more, there is a debate amongst literature regarding a gender-specific approach to risk assessment and interventions (e.g. Andrews & Dowden, 2006; Dvoskin et al., 2011; van der Knapp et al., 2012), underlining the need for further research (e.g. Andrews et al. 2012; Emeka & Sorensen, 2009) and a deeper understanding of whether there are differences, or similarities, between male and female SV offenders.

Furthermore, research has stated the importance of considering an offender's criminal history information (Craissati & Sindall, 2009), due to its strong implications for future offending (e.g. Blokland, 2005), with age and gender also being highlighted as key factors in criminal justice decisions (e.g. Bontrager, Barrick, & Stupi, 2013; Wermink et al., 2016). The significance of examining crime types, and identifying significant predictors of future offending is imperative, as is the need for evaluating the differences in types of SV offenders (e.g. Francis et al., 2004; Ganpat et al., 2014) to add to existing knowledge (e.g. Gallo et al., 2014). Moreover, the topic of offender specialisation is of prominence to theory and policy (e.g. Baker et al., 2013; Howard et al., 2014), yet investigations of specialisation and SV criminals is lacking (e.g. Trojan & Salfati, 2010). The central aim of this thesis, therefore, was to address these issues; for example, to the best of the researcher's knowledge, this is the first approach to include an offending specialisation measure in the prediction of future violence.

Structure of the Thesis

The thesis begins with providing the psychological and methodological foundations for the research. *Chapter 1* presents a definition of SV crime, with a consideration of theories of crime, particularly Moffitt's (1993) life-course theory and Gottfredson and Hirschi's (1990) General Theory of Crime (GTC), to provide a theoretical understanding of the offending sample.

Previous research into violent offender characteristics (age and gender) and criminal histories (offending frequency, chronicity and types of crime), predictors of serious violence, and criminal careers (specialisation) are considered. Furthermore, the limitations of earlier empirical research are reviewed to identify areas for improvement, concluding with the specific aims of the thesis. *Chapter 2* details the use of archival data in research, followed by a description of the current dataset. Additionally, the chapter discusses how the variables were coded and measured, with an overview of the statistical analyses to be employed throughout.

The subsequent five chapters provide a thorough examination of SV offenders. *Chapter 3* reviews descriptive findings of SV perpetrators in previous empirical research, in relation to age, gender and criminal history information (offending frequency, chronicity and crime types), in addition to the descriptive details of the current sample. *Chapters 4, 5* and *6* make statistical comparisons between SV offenders and matched-case controls, according to all offenders, males and females respectively. *Chapter 7* investigates the differences between types of SV offenders, in relation to gender and serious violence offence type.

Following the descriptive exploration and statistical comparisons between subtypes of SV offenders, this thesis furthers the exploration into, and understanding of, SV offending. *Chapter 8* examines the specialisation of SV offenders; in particular, thresholds of specialisation are applied, in addition to an investigation into relationships between the diversity measure and offender variables. *Chapter 9* employs binary and multinomial regression analyses to determine predictive factors that indicate an increased likelihood to SV offending, according to numerous offending outcomes.

Finally, this thesis concludes with *Chapter 10*, which provides a general discussion; specifically, the main findings of this research are discussed, in light of earlier empirical findings. Moreover, the usefulness of this thesis is considered, in regards to the implications of the findings to research and practitioners, before a critical appraisal of the thesis and drawing on a number of final concluding points.

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Chapter 1: Literature Review

1.1 Introduction

The current chapter firstly considers how serious violence is defined, followed by an overview of theories of crime. The review of existing literature begins with a consideration of findings relating to serious violent (SV) offenders irrespective of gender or type of violence, before delving further into empirical findings to discuss the subgroups of SV offenders in more detail. Descriptive findings are discussed further in *Chapter 3*. Following the appraisal of previous findings regarding different violent offender samples in relation to age, gender and criminal history information, topics of chronicity, specialisation and predictive models of violent behaviour are examined. Subsequently, methodologies used in, and limitations of, earlier literature is considered.

Examining the factors that may highlight an offender's propensity to go on to commit more serious offences has been a continued focus in literature (Brame, Bushway, Paternoster & Thornberry, 2005; Laub & Sampson, 2003; Piquero, Brame, Mazerolle, & Haapanen, 2002), yet there has been an emphasis on the need for further explorations into SV offenders (Francis et al., 2004; Gallo, Lacey, & Soskice, 2014; Ganpat, Liem, van der Leun, & Nieuwbeerta, 2014). Francis and colleagues (2004) noted the importance of exploring types of offences in examining risk factors and providing predictors of further criminality; in particular, the researchers highlighted the topic of the criminal history of serious offenders, such as determining whether an offender who had committed homicide had previous convictions that differed to that of other offenders. Soothill, Francis, Ackerley and Fligelstone (2002) focused on this issue in relation to homicide; it was reported that offenders who were convicted of such violent offences displayed a different offending history to offenders in the control group. While this research provided findings in relation to the offending history of serious offenders, the researchers noted the importance of further examination in this area due to the sparse amount of exploration into this issue. More recently, Ganpat and colleagues (2014) compared lethal and non-lethal violent criminals reporting differences

between the two offending samples. What is more, investigations into the impact of gender on offending have developed into a debate surrounding the need for a gender-specific approach to criminality (e.g. Dvoskin et al., 2011), with further explorations needed into SV females (e.g. Nicholls, Cruise, Greig, & Hinz, 2015). Research into the offending behaviour of SV perpetrators is discussed in more detail throughout this chapter.

Indicators of risk for future violent offending, such as individual factors (e.g. Soothill & Francis, 2009), childhood experiences (e.g. Christoffersen, Soothill & Francis, 2007; Farrington, 1994) and offending history (e.g. Soothill et al., 2002), have been reported through the investigation into offenders and later violent offences. Such research has fed into risk assessments and interventions in the form of static and dynamic risk factors (see *Chapter 10*). Although the researcher acknowledges the importance of other factors in determining the likelihood of an offender's future criminality, the focus of the current thesis are static risk factors: offender characteristics of age and gender, and criminal history information, comprising of the frequency of offending and the presence of offence categories, in addition to the levels of chronicity and the degree of specialisation. Age, gender and criminal history information are influential offender characteristics in criminal justice decisions (Bontrager, Barrick, & Stupi, 2013; Wermink et al., 2016). This literature review chapter will:

i. Define serious violent crime;
ii. Provide an overview of theories of crime;
iii. Discuss empirical findings of subgroups of serious violent offenders, relating to age, gender and criminal history information (crime types and offending frequency);
iv. Identify important predictors of serious violent offending from earlier research;
v. Consider the psychological concept of criminal specialisation;
vi. Critique methodological approaches and limitations of previous research.

1.2 Defining Serious Violent Crime

Earlier definitions of violence appear to focus on two pertinent

aspects: intent and the use of force or injury caused (e.g. Skolnick, 1969). Howell (2010) acknowledged the problem of defining violent offending, as specifying violent offending is required by many different types of practitioners, from researchers wishing to determine the differences between violent and non-violent offenders, to those wishing to separate violent and non-violent offenders for intervention and rehabilitation. Polaschek (2010) deemed that using the term 'violent offender' creates ambiguity, as it implies different things to different people. Kenny and Press (2006) further noted the issues with defining violent offenders in such situations.

In previous research, Crocker, Seto, Nicholls and Cote (2013) defined serious violence as homicide, attempted murder and sexual offences. In reports produced by the Office for National Statistics (ONS; e.g. Flatley, 2016a), violence includes homicide, violence with injury (including attempted murder and grievous bodily harm) and violence without injury (e.g. harassment, assault without injury). Thus, there are indications of categorising homicide and attempted murder separately; this was also observed in research by Ganpat et al. (2014). On the other hand, and in reference to intent, homicide and attempted murder "share a lethal intention" (DiCataldo & Everett, 2008, p.171); further support for combining homicide and attempted murder has been noted, as the only noticeable difference between the crimes is the outcome of the offence (Heide, 2003; Smit, Bijleveld, Brouwers, Loeber, & Nieuwbeerta, 2003).

Thus, similar to previous research, serious violence in this thesis refers to violence committed against the person, but is not inclusive of sexual crimes (Dubourg & Hamed, 2005; Flatley, 2016a; Rubin, Gallo, & Coutts, 2008). The SV offences to be explored were selected based on the harm caused and the intentions of the offender, in terms of the levels of violence; thus, homicide, attempted murder and grievous bodily harm (GBH) are examined. SV offenders are investigated as a whole, with further explorations according to gender and SV offence type; attempted murder and homicide are grouped together to create the attempted murder/homicide (AMH) sample, and are compared with GBH offenders.

GBH is defined as "really serious bodily harm", including "injury resulting in permanent disability, loss of sensory function or visible

disfigurement; broken or displaced limbs or bones…; injuries which cause substantial loss of blood…; serious psychiatric injury" (The Criminal Prosecution Service [CPS], n.d., "Offences against the Person"), with attempted murder requiring "the existence of an intention to kill, not merely to cause grievous bodily harm" (CPS, n.d., "Homicide: Murder and Manslaughter"). Homicide consists of the offences of murder and manslaughter; manslaughter involves "killing with the intent for murder but where a partial defence applies…; conduct that was grossly negligent…, and did kill,…; and conduct taking the form of an unlawful act involving a danger of some harm, that resulted in death", with murder defined as when an individual "of sound mind and discretion…unlawfully kills…any reasonable creature…with intent to kill or cause grievous bodily harm" (CPS, n.d., "Homicide: Murder and Manslaughter"). It is important to note that the data file presented for the current research recorded the offences of 'murder of a person' and did not include any further detail about the type of homicide that was committed (e.g. manslaughter). The implications of this are discussed in *Chapters 2* and *10*.

1.3 Theories of Crime

There are many theories of criminal behaviour, presenting assumptions about offending from numerous perspectives, including those from a biological perspective (e.g. Raine & Liu, 1998), psychological theories of moral reasoning (e.g. Palmer, 2003) and social approaches (e.g. Bandura, 1986). Although essential to our understanding of offenders, an overview of the core theories will be provided, as the current research does not investigate factors that provide the basis for the theories, such as peer groups, significant life events or socioeconomic status. Paternoster, Dean, Piquero, Mazerolle and Brame (1997) grouped theories of criminality into clusters of static, dynamic and typological theories. Dynamic theories include social learning (e.g. Bandura, 1986; Akers, 1998; Sampson & Laub, 2003a; Wermink, Blokland, Nieuwbeerta, Nagin, & Tollenaar, 2010), life-course (e.g. Sampson & Laub, 1993, 2003b), developmental (e.g. Sampson & Laub, 2003a, 2003b) strain (e.g. Merton, 1957) and subculture (e.g. Cohen, 1955; Wolfgang & Ferracuti, 1967) theories. The theoretical perspectives consider

dynamic risk factors, such as peer influence and significant life changes. Sutherland's differential association theory (1924, 1947) focused on the principle that criminality is learned, particularly through an interaction with others (Sutherland & Cressey, 1978). Bandura (1969) developed the social learning approach further and based it on the premise that through the imitation of, and interaction with, others, individuals learn beliefs, values and motives from their peers (e.g. differential association; Akers, 1998; Sampson & Laub, 2003a), thus providing explanations for both the onset of criminality and recidivism. For example, under the social learning perspective, prisons are argued to be 'schools of crime', in that the close association with criminals leads to the acquisition of their norms and thus increases the chances of the individual recidivating (Baaij, Liem, & Nieuwbeerta, 2012; Gendreau, Cullin & Goggin, 1999; Wermink et al., 2010).

The life-course approach argues that crucial life events can have an impact on criminality (Sampson & Laub, 1993; 2003b), in that negative life events (e.g. job loss, divorce) could increase the likelihood to engage in criminal behavior and positive experiences (e.g. strong parental attachment, job satisfaction) are likely to reduce offending (Sampson & Laub, 2005). More specifically, the life-course perspective proposes that as offenders become older, strong social bonds develop and thus the individual may reconsider criminal behaviour, as there may be aspects of their life that would be deemed at risk, such as employment or marriage (Elder, 1985; Laub, Nagin, & Sampson, 1998; Sampson & Laub, 1990). Benda (2005) also noted that social bonding had an impact on the age of first arrest. There are strong links between this theory and recidivism following imprisonment, as researchers have argued that incarceration reduces the offender's options to continue their life in a traditional manner, including their ability to develop career prospects or maintain strong social attachments to family and friends (Baaij et al., 2012; Cale, Plecas, Cohen, & Fortier, 2010; Nieuwbeerta, Nagin, & Blokland, 2009). Developmental theories, on the other hand, consider the desistance of criminality and base this on changes to the identity of the individual (Sampson & Laub, 2003a, 2003b) or changes to psychological or biological factors (e.g. psychological wellbeing, physical strength; Gove, 1985). For example, in reference to homicide offenders,

those who were younger at the time of the offence, and thus younger at the time of release, were more likely to reoffend (Baaij et al., 2012; Neuilly, Zgoba, Tita, & Lee, 2011).

Strain theory was introduced by Merton (1957), with the belief that there are approved societal goals, or norms, held by a given culture that members of society work towards and reap the benefits when achieving such goals (e.g. work hard to develop a career to achieve job security and wealth). However, for some individuals, there may be instances in which the social reward is insignificant, or is dissimilar to that received by other members of society, thus creating feelings of illegitimacy and putting a strain on the situation (Vold, Bernard, & Snipes, 2002). This strain can be felt by various people, yet tends to have more of an impact on those with a lower socioeconomic status. Thus, strain arises within cultures as a result of a disparate emphasis on goals being equally achievable by all members of society (e.g. wealth and success) and limitations placed on people as a result of social structure (e.g. restricted educational opportunities; Merton, 1957). In view of the societal goal of 'wealth', individuals who struggle to achieve this via the approved social means and methods may then review other methods in which to achieve this, such as burglary, gambling or drug dealing (Vold et al., 2002). Cloward (1959) extended Merton's view that some individuals were limited in their ability to legally achieve the successful cultural goals, to consider that such individuals also had numerous illegal options within their subculture, society or neighbourhood. Furthermore, Cloward (1959) added that it was not simply that the opportunity arose in an environment to behave criminally, but that the individual must also be aware of how to take advantage of such an opportunity through learned means.

Based on Merton's (1957) strain theory, and in view of gang delinquency, Cohen (1955) reported that a subculture emerged within a group of young males from disadvantaged backgrounds; this subculture went against the norms and values of the accepted social culture, in an attempt to retaliate at a society they were frustrated with (Macdonald, 2001). This approach was introduced to account for criminal activity that did not necessarily have a monetary reward (e.g. Merton, 1957), but was deemed purposeless (Vold et al., 2002). Further, Cloward and Ohlin (1960) proposed

that delinquent behavior, often noted in gangs, was an attempt to achieve social status and as a reaction to the values held by other social classes. Cloward and Ohlin (1960) added that the individuals within the same subculture work towards common goals based on three typologies: (i) criminal, (ii) conflict, and (iii) retreatist. Criminal subcultures typically contain criminal role models to younger individuals and are often found in areas containing organised crime; this encompasses young offenders, with a high offending frequency. Conflict subcultures are evident in areas lacking organised crime, whereby young offenders engage in gang violence. The retreatist subculture is characterised by young offenders who have faced rejection from criminal subcultures, turning to alcohol and drug abuse. Similarly, Wolfgang and Ferracuti's (1967) subculture of violence approach focuses on the lack of shared values between the dominant social group and the subculture, resulting in seclusion and aggression on behalf of the subculture. Further, serious crimes, including homicide, rape and robbery, are common offences by members of the subculture due to the high proportion of young male offenders (Wolfgang & Ferracuti, 1967). The importance of peers and group solidarity is central to the subculture approach, which is also an important aspect of the social learning perspectives (e.g. Bandura, 1969; Sutherland & Cressey, 1978). However, the subculture perspective has been criticised for grouping minority groups within society into a subculture (Jenks, 2005) and labelling all those within the subgroup as criminals (Newburn, 2007; Nwalozie, 2015), in addition to its failure to differentiate between gangs and subcultures (Walsh, 1986), and to acknowledge free will in offending behaviour (Clubb, 2001). Over a decade ago, researchers questioned the relevance of the subculture approach (Chaney, 2004; Cutler, 2006; Jenks, 2005) and it has since been argued to be an out-dated framework (Bennett, 2011).

Of more relevance to the variables explored in this thesis are typological theories. The premise of this approach is based on the age-crime curve; it is proposed that individuals have different offending pathways. The dual taxonomy perspective suggests that offender trajectories are grouped according to two categories: life-course persistent and adolescence-limited perpetrators (Moffitt, 1993, 1997). Life-course persistent offending typically

applies to a smaller proportion of criminals with an early onset age and are chronic, and versatile, in their offending, whereas adolescence-limited offenders are generally characterised by a later onset age in adolescence and a shorter criminal career (Moffitt, 1993). Thus, the life-course stance provides explanations for offenders whose criminality spans from childhood to adulthood, yet also considers those who desist from crime (Sampson & Laub, 1990, 1992, 1993, 1996). Similarities between this approach and the General Theory of Crime (GTC; Gottfredson & Hirschi, 1990) include the importance placed on age; offenders who engage in criminal behaviour early in life are more likely to persistently partake in offending.

A further cluster of theories, the static theories, posit that it is likely for offenders to continue with criminality, once they have committed an offence (e.g. Gottfredson & Hirschi, 1990; Nagin & Paternoster, 2000). This approach is pertinent to the current research, due to its consideration of static factors. The presence of certain static factors is argued to identify those offenders at an increased likelihood of future crime (Blokland & Nieuwbeerta, 2005; Vries & Liem, 2011). Gottfredson and Hirschi's (1990) GTC proposed it is the individual's self-control that determines if they partake in criminal behaviour; having a predisposition to crime remains stable and would therefore not vary according to significant life changes, for example. Thus, offenders have low levels of self-control and will partake in criminal behaviour if the opportunity arises; a perpetrator who engages in violent behaviour does so because the opportunity presented itself. Research supports a strong link between low self-control and violent criminality (e.g. Baron, Forde, & Kay, 2007; Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005). Further, offender characteristics are argued to have an impact on the risk of homicide (Gottfredson & Hirschi, 1990). Important factors of this approach, such as self-control and criminal propensity, are suggested to be associated with offending history (Ganpat et al., 2014). According to this perspective, individuals showing high levels of criminal propensity, and therefore low self-control, are more likely to engage in criminality. Moreover, such individuals are likely to be versatile in the crimes they commit, demonstrate a high frequency of offending and have an early onset to offending (Gottfredson & Hirschi, 1990). Based on this premise, the most extreme SV offenders (e.g. murderers) would have the

lowest levels of self-control compared to other SV offenders.

In view of gender in theories of crime, concerns have been noted surrounding how well theories, which have been developed for male offenders, can explain female perpetrators (Steffensmeier & Allan, 1996; Vold et al., 2002). There are arguments that support the application of criminal theory to females, such as claims surrounding the similarities in male and female offender's backgrounds, including poor education, unemployment and low socioeconomic status (e.g. Chesney-Lind & Shelden, 1992; Steffensmeier & Allan, 1995, 1996). Moreover, research has reported that factors found in theories of crime, such as social control, have also been detected in female perpetrators (e.g. Giordano, Cernkovich, & Pugh, 1986). Yet, criticisms surround the lack of applicability of theories to gender and serious crimes, largely as a result of the self-report methods and small samples used in research (e.g. Steffensmeier & Allan, 1996).

Subculture theories of crime are characteristically dominated by male criminals (Brake, 1987; McRobbie & Garber, 2005), with a failure to factor in the gender gap in criminal behaviour (McRobbie & Garber, 2005; Nwalozie, 2015), as much of the theory is underpinned to the masculinity experienced within the subcultures or gangs (e.g. Cloward & Ohlin, 1960; Cohen, 1955). Also, as suggested earlier within the life-course perspective, the development of strong attachments can aid in the desistance of crime (Laub et al., 1998; Sampson & Laub, 1990). However, Simons, Stewart, Gordon, Conger and Elder (2002) underlined that this was only applicable in typical relationships; males and females were both more likely to engage in criminality when a romantic partner offended (Alarid, Burton, & Cullen, 2000), yet there was a greater negative impact on females (Benda, 2005). Whereas, the encouragement by peers to participate in criminality was more pertinent for males (Simons et al., 2002) and deemed less influential to females (Mears, Ploeger, & Warr, 1998). Nevertheless, social bonds, including relationships with friends and family and social morals, were of more significance to female offending (Alarid et al., 2000). This is supported further by feminist theories that propose females are typically more motivated by social attachments (Chesney-Lind, 1995; Lorber, 2001).

The gender equality hypothesis posits that discrepancies in male and

female offending could be explained by variations in gender equality, both within social groups and over time (Steffensmeier & Clark, 1980; Sutherland, 1924), such that the gender gap in offending would be smaller if there were fewer dissimilarities between the sexes (Steffensmeier & Allan, 1996). Researchers attributed a rise in female arrests to a change in gender equality (e.g. Adler, 1975), with the power-control theory developing on this perspective that a higher frequency of female offending is associated with greater gender equality (Hagan, Gillis, & Simpson, 1993). However, this approach is critiqued for the use of traditional definitions of genders (Bottcher, 1995). Therefore, it is evident that there are theoretical differences in male and female criminality; further exploration into, and thus understanding of, gender and crime is required and caution should be taken in applying theories of crime to both sexes.

1.4 Previous Research: Age, Gender and Criminal History Information of SV Offenders

1.4.1 Research methods. Exploring perpetrators and the presence of offender characteristics and criminal history information is typically done so with the use of a retrospective design (e.g. Soothill et al., 2002; Wilpert, van Horn, & Eisenberg, 2015; Yourstone, Lindholm, & Kristiansson, 2008); offenders, or cases, of interest are identified, with necessary data in their histories selected and extracted. Often, literature examining offenders and their characteristics utilises official data, from police records and databases (e.g. Cook, Ludwig, & Braga, 2005; Craissati & Sindall, 2009; Ganpat et al., 2014; Ioane, Lambie, & Percival, 2014; Rossegger et al., 2009; Smit et al., 2003; Soothill et al., 2002), and court files (e.g. Liem, Zahn, & Tichavsky, 2014). However, when using police data, results should be interpreted in light of the data being representative only of the offences known to the police force (Ganpat et al., 2014; Ioane et al., 2014) and of offences in the given area of data collection (Cook et al., 2005). Also, the accuracy of the information recorded within archival data should be considered (Ioane et al., 2014), as information may be insufficient (Craissati & Sindall, 2009), inaccurate or missing (Farrington, Loeber, & Berg, 2012; Liem et al, 2014; Wilpert et al., 2015). Dependent upon the database that is used, certain

information is not available; for example, the Offenders Index does not contain information about police cautions (Soothill et al., 2002). Retrospective approaches are largely limited by the reliance on data being accurately, and completely, recorded (e.g. Wilpert et al., 2015). Yet, Ganpat and colleagues (2014) reported the Criminal Record Register, from the Dutch Ministry of Justice, overcame many of the typical limitations of archival data (such as being created for research purposes), indicating practitioners may be adapting recording practices to support researchers. Another approach to this field of study is the prospective approach, through the use of self-report and interview data, enabling researchers to ensure complete, accurate and relevant data is collected (Wilpert et al., 2015). Prospective studies identify individuals or offenders and follow-up with them through time, collecting the necessary information at intervals (Soothill et al., 2002) in a longitudinal design (e.g. Ahonen, Loeber, & Pardini, 2015; Roberts, Zgoba, & Shahidullah, 2007). Although this method has advantages, it is argued to be less applicable for uncommon crimes, such as murder (Soothill et al., 2002), and due to its reliance upon self-report information, it lacks the official and legitimate nature of the criminal justice data (Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). Archival data is discussed further in *Chapter 2*.

In comparisons of offender samples, statistical analyses, such as *t*-tests, Mann-Whitney U tests, Kruskal-Wallis tests and Chi-square analyses, have been employed to identify differences between groups, such as males and females (Yourstone et al., 2008), violent and arson perpetrators (Wilpert et al., 2015), and lethal and nonlethal violent offenders (Ganpat et al., 2014; Smit et al., 2003). Thus, the use of such analyses is consistent across research investigating differences between groups of offenders.

Also worthy of consideration are the crime categories utilised in earlier research. In exploration of the crimes within the criminal history of offenders, researchers have applied various numbers and types of crime categories (see Table 1.1). Thus, comparisons between investigations should be done with caution. Additionally, there are varieties in what constitutes a violent offender, as mentioned in *section 1.2*. For example, Liem et al. (2014) investigated homicide according to third-degree murder, voluntary manslaughter, domestic, individual/group argument, felony related and

other/unknown, with additional literature exploring altercation, felony, domestic and accident homicides (Roberts et al., 2007). Other research considered SV offenders as those who had committed homicide, attempted murder and sexual offences (Crocker et al., 2013), with additional explorations of murderers and lesser-violent offenders (Soothill et al., 2002). When investigating completed and attempted homicides, Ganpat et al. (2014) noted the importance of not applying the findings to other violent offenders. The topic of crime categories is also discussed in *Chapter 8*.

Table 1.1

Crime Categories used in Research

Research	**N**	**Crime categories**
Cook et al. (2005)	3	Violent arrest; felony conviction; violent-felony conviction
Craissati & Sindall (2009)	7	Violent; sexual; arson; robbery; acquisitive; driving; other
Crocker et al. (2013)	2	Violent; non-violent
Ganpat et al. (2014)	4	Violent; property; drug; other
Lauritsen et al. (2009)	3	Aggravated assault; robbery; simple assault
Liem et al. (2014)	2	Violent; non-violent
Smit et al. (2003)	6	Weapon use; drug related; violent; public order; violent and public order; property
Soothill et al. (2002)	8	Violence against the person; sexual offences; burglary; robbery; theft and handling stolen goods; fraud and forgery; criminal damage; drug offences
Wilpert et al. (2015)	7	Arson; physical violence; domestic violence; verbal aggression; vandalism; property; sexual

1.4.2 Serious violent offenders. Evidently, research has aimed to identify what makes an offender a SV offender, and thus different from a non-

, or lesser-, violent offender, in order to prevent such individuals from continuing in their violent criminal behaviour (Piquero, Jennings, & Barnes, 2012). Piquero et al. (2012) pointed out the lack of agreement in literature relating to whether there are differences in violent and non-violent offenders, and the risk factors of future offending; researchers have argued that such risk factors do not differ (Elliott, Hatot, Sirovatka, & Potter, 2001; Thornton, Graham-Kevan, & Archer, 2010), with other claims that there are differences, such as violent-specific pathways (e.g. Armstrong, 2005; Cortoni, Hanson, & Coache, 2010; MacDonald, Haviland, & Morral, 2009; Vess, 2011) and disparities between violent and nonviolent youths in regards to risk factors of future offending (Baglivio, Jackowski, Greenwald, & Howell, 2014; Lai, Zeng, & Chu, 2015; Mulder, Vermunt, Brand, Bullens, & van Marle, 2012). What is more, gender has been proposed to be an important factor in consideration of violent crime (Howitt, 2009). Literature on SV offenders is reviewed, yet much of this is considered in further detail throughout subsequent sections when reviewing particular subgroups of violent perpetrators. Earlier research is discussed in relation to the variables of age, gender and criminal history information (previous crime types and offending frequency), according to SV offenders, and compared to non-SV perpetrators, and the gender of the offender.

1.4.2.1 Gender. Explorations into SV offenders often utilises all male samples (e.g. Liem et al., 2014; Soothill et al., 2002), with females argued to be fairly underrepresented (Cooper & Smith, 2011). Although, female offending is reportedly on the rise (Nicholls et al., 2015), males are considered to account for the majority of crimes (Heidensohn & Silvestri, 2012). Research has argued for gender differences in criminality (e.g. Salisbury & van Voorhis, 2009), yet there are claims that the gender gap in offending is diminishing (e.g. Lauritsen, Heimer, & Lynch, 2009). Thus, gender is a core factor in SV offending.

Male offenders have long been the source of many empirical findings, with research into violent offenders utilising all-male samples and developing preventative measures based on such individuals. Research has investigated male offenders, in terms of both violent and non-violent offending, (e.g. Loeber, Pardini et al., 2005; Soothill et al., 2002; Thornton et al., 2012; see

Chapter 5), according to the developmental factors of violent offenders (e.g. Farrington, 2000; Farrington & Loeber, 2000; Smith & Hart, 2002), recidivism (Liem et al., 2014) and criminal trajectories (e.g. Fergusson, Horwood, & Nagin, 2000; Thornberry, 2005).

The exploration of SV females is of particular importance in this thesis (see *Chapter 6*), due to the need to add to the existing literature as females are underrepresented as violent perpetrators (Cooper & Smith, 2011). The focus of forensic research, for many decades, has been male offenders, with female offenders receiving little attention (Thornton et al., 2012), thus largely ignoring the role of gender in crime (Leonard, 1982) and greatly limiting the scope of previous research (Belknap & Holsinger, 2006). However, with a rise in female criminality (Nicholls et al., 2015), there has been somewhat of an increase in attention on female perpetrators over the past few years (Rettinger & Andrews, 2010), with claims that females have different trajectories to serious, violent and chronic criminality (Howell, 2003).

Research has noted gender differences in offending (Broidy et al., 2003; Kling, Ludwig, & Katz, 2005; Salisbury & van Voorhis, 2009), with an ongoing argument that males are "responsible for the majority of offending" (Heidensohn & Silvestri, 2012, p. 348); more specifically, males are reported to be more likely to engage in more serious crimes than females (Siegel & Senna, 2000). In particular, offenders of serious, violent and chronic crime are more likely to be male, than female (Baglivio et al., 2014; Huizinga, Loeber, Thornberry, & Cothern, 2000; Johansson & Kempf-Leonard, 2009; Kempf-Leonard, Tracey, & Howell, 2001). This is explored in further detail in *Chapter 7.*

The argument for gender differences in crime stems from the view that males are the dominant gender, with females behaving in a more submissive manner (Hollander, 2001). This view of each gender's role in society is also reflected in the way in which the male, or female, offender commits homicide (Jurik & Winn, 1990), such as differences in their motivation or circumstances (e.g. Shwartz, 2008). For example, females typically engage in violent behaviour as a result of problems with relationships and family (Schwartz, 2008), "perceived provocation" (Young, 2009, p. 234), or in self-defence from domestic abuse (Belknap, 2001; Peterson, 2004; Schwartz, 2008). On the

other hand, male offenders are more likely to commit homicide as a means of resolving conflict, as a result of engaging in other crimes, to establish machismo or due to street violence (Alder & Polk, 1996; Anderson, 1999; Archer, 2004; Miethe & Regoeczi, 2004; Motz, 2001; Schwartz, 2008).

In the Annual Mid-Year Population Estimates for England and Wales for 2014 (Large, 2015), the population was approximately comprised of 51% females and 49% males. Yet, this is not reflected in the prison population. The gender of the defendant has been proposed to mediate the length of sentence given (Allen, 1987; Davies, 1999; Mitchell, 2005; Spohn, 2000; Tillyer, Hartley, & Ward, 2015). In a recent meta-analysis exploring gender and sentencing outcomes, almost two-thirds of recent research reported that the decisions typically favoured females (Bontrager et al., 2013). More specifically, research reported that male offenders are more likely to be jailed than females, with their sentence length also being longer (e.g. Bontrager et al., 2013; Doerner & Demuth, 2010; George, 1999, 2003; Rodriguez, Curry, & Lee, 2006; Schanzenbach, 2005; Simmons, Lehmann, Cobb, & Fowler, 2005; Starr, 2012); 74.1% of males, compared to 59.4% of females, were sentenced to immediate custody, with fines being more likely to be issued to females (79%) than males (62%; MoJ, 2014). On the other hand, while Sandler and Freeman (2011) highlighted that there is limited research in how criminal justice decisions may be influenced by gender, it has been argued that the influence of gender on sentencing is considered in light of other variables, such as offence type and seriousness (Mustard, 2001; Rodriguez, Curry, & Lee, 2006; Warren, Chiricos, & Bales, 2012). Specifically, an offender's criminal history is thought to be a significant predictor of punitive decisions (Tillyer et al., 2015), with this being argued to be a more robust predictor for females, than males (Doerner & Demuth, 2014; Tillyer et al., 2015). That is, if females are viewed as lower risk (e.g. due to extent and severity of previous offences), they will receive a lesser punishment than males (Griffin & Wooldredge, 2006), whereas if females are considered to not reflect stereotypical gender roles (e.g. have an extensive criminal history), they will in fact receive a harsher sentence than males (e.g. Bontrager et al., 2013; Chesney-Lind, 1987; Herzog & Oreg, 2008).

The offence category of 'violence against the person' contained the

most arrests for males and females, with a higher number of arrests for female offenders; in particular, females had a higher rate of committing other violent offences, whereas slightly more males were convicted for actual bodily harm and grievous bodily harm (MoJ, 2014). Of those perpetrators sentenced for an indictable offence in 2013, 91% of males had a minimum of one prior offence (86% females) and 37% had 15 or more sanctions (30% females; MoJ, 2014). However, caution should be taken in the interpretation of statistical and empirical findings when making comparisons, as Thornton et al. (2012) highlighted the likelihood that statistics of violent crimes committed by female perpetrators are not an accurate reflection of actual rates of offending. Kong and Aucoin (2008) noted how female offending could be somewhat undetected, due to the much larger male offender population.

Thus, a gender gap in criminality has been established in earlier literature, with males typically considered as more likely to offend than females (e.g. Rossegger et al., 2009; Steffensmeier & Allan, 1996). However, researchers have noted that the participation of females in violent offences has increased over time (Chesney-Lind, 2004; Chesney-Lind & Belknap, 2004; Chesney-Lind & Irwin, 2008; Kong & Aucoin, 2008; Manchak, Skeem, Douglas, & Siranosian, 2009; Steffensmeier & Shwartz, 2009), with the prediction of increased participation in SV offences in the future that is argued to be largely due to the changes in the social roles of females (Adler, 1975; Chesney-Lind, 2006; Garbarino, 2006; Jewkes, 2004; Prothrow-Stith & Spivak, 2005; Ringrose, 2006; Young, 2009), suggesting that this preconceived belief of gender differences in offending is changing. What is more, an international rise in female offending has been noted (Nicholls et al., 2015). In a review of gender and crime, Kruttschnitt (2013) pointed out the challenge in arguing whether males and females differ in their criminal careers, due to the limited research and variety of the samples used.

1.4.2.2 Age. The age of the offender, in research, typically refers to the onset of criminal behaviour or the age at which SV offending occurred. Research has identified two main age considerations, those offenders with an early onset and those who begin offending later in life (Moffitt, 1993; Patterson, Reid, & Dishion, 1992). Early onset tends to refer to offenders of 12 years or younger at the time of committing the first crime (Baglivio,

Jackowski, Greenwald, & Howell, 2014), with other claims of this signifying offending prior to 14 years of age (Baker, Metcalfe, & Jennings, 2013). Literature has reported that violent offenders have an early age of onset in criminality (Elliott, 1994; Farrington, 1991; Lynam, Moffitt, & Piquero, 2004), particularly when compared to other perpetrators (e.g. Mulder, Brand, Bullens, & van Marle, 2010), with reports that serious, violent and chronic offenders are more likely to have a criminal onset of 12 years or younger (Baglivio et al., 2014). Research indicated that violent offences typically begin to appear in an offender's criminal history from late adolescence (Piquero et al., 2012). Similarly, violent offenders have been proposed to peak during adolescence to early 20s (Farrington, 1986; Laub & Sampson, 2003); additional support for this was noted in reviews by Weiner (1989) and Piquero et al. (2012), who reported violence was identified more so in offenders in their teens to early 20s.

However, there are reports of a slightly older age at the time of committing a serious offence, with reports from mid-20s (e.g. Gavin, 2003; Hedderman & Vennard, 1997; HM Inspectorate of Probation, 2005) to early-30s (Rossegger et al., 2009). Further, the age of onset for violent offending has been reported to be older than the onset for non-violent offending and property offences, which were both reported to be early in adolescence (Laub & Sampson, 2003; Reiss & Roth, 1993). This field of research would therefore benefit from further descriptive findings to aid in the clarity of researches understanding of SV offending.

Further to this, there have been key links between the age of an offender and the frequency of offending. Howell (2009) reported this association in a large proportion of young offenders deemed serious, violent and chronic perpetrators. In particular, it has been argued that offenders who do engage in criminal activity from an early age are at a higher likelihood to become persistent offenders (Ioane et al., 2014; Moffitt, 1993, 1997; Moffitt & Caspi, 2001), thus having a higher number of previous convictions. In addition, a positive relationship has been reported between an early onset of offending, increased frequency of offending and seriousness (e.g. DeLisi & Piquero, 2011).

Male offenders are reported to have an early age of onset when

engaging in non-violent crimes; this was reported as 12 years old, which is younger than the onset of those who engage in violence, as this was reported to be an average age of 22 years (Laub & Sampson, 2003). Males between the ages of 16 to 24 were more likely to be offenders of violent crime (ONS, 2015), which appears to support reports of previous findings. Similarly, self-report findings from male perpetrators revealed that a SV offence had been committed by the age of 19 (Loeber, Farrington, Stouthamer-Loeber, & White, 2008). Literature disagrees on the age of female offenders as there are varied reports of females being in their twenties (e.g. Chan & Frei, 2013; Murdoch, Vess, & Ward, 2012; Thornton et al., 2012) and thirties (e.g. Bennett, Ogloff, Mullen, & Thomas, 2012; Pollock, Mullings, & Crouch, 2006; Rettinger & Andrews, 2010).

Additionally, in regards to the onset age of violence, research reports this to be earlier in female offenders (e.g. Moffitt, Caspi, Rutter, & Silva, 2001; Serbin & Karp, 2004). Furthermore, Heidensohn and Silvestri (2012) highlighted that females typically peak in their offending earlier than males, which tends to be in their mid-teens (Gelsthorpe, Sharpe, & Roberts, 2007; Home Office, 2003). In contrast, findings argued females have an older onset age than males (Block, Blokland, van der Werff, van Os, & Nieuwbeerta, 2010; DeLisi, 2002; Eggleston & Laub, 2002; Yourstone et al., 2008). Yet again, there are reports that males and females do not significantly differ according to age (Rossegger et al., 2009). Thus, additional research is needed to add to this debate.

1.4.2.3 Criminal history information. In research, criminal history includes the types of crimes committed, in addition to the number (or frequency) of previous convictions held by the offender. Crocker et al. (2013) reported 35.8% of SV offenders had at least one previous conviction, with research noting that for aggressive individuals a history of aggressive behaviour is likely (Conradi, Geffner, Hamberger, & Lawson, 2009; Hay, 2005). In a comparison of violent and non-violent criminals, Ahonen and colleagues (2015) reported drug selling and gang fighting were more likely to be committed by violent offenders. SV offenders are considered further in *Chapter 4.* In a sample of violent male offenders, a large proportion demonstrated a minimum of one prior offence in their criminal history (85.4%;

Wilpert et al., 2015). In relation to the types of previous offences of male offenders, Soothill et al. (2002) reported burglary, theft and violence within the histories of murderers, with arson, robbery, blackmail, kidnapping and manslaughter indicating an increased risk of future homicide. The male violent offenders presented in Wilpert et al.'s (2015) research were found to have previously committed physical violence (67.4%), property (55.8%) and vandalism (27.9%) crimes, with a small proportion engaging in sexual offences (4.6%). Liem et al. (2014) further support the observation of previous convictions in the majority of male homicide offenders, reporting both violent and non-violent previous convictions. In terms of young, male offenders, research has reported their likelihood to engage in particular categories of crime to ascertain their masculinity, including assault, sexual violence (Messerschmidt, 2000), homicide and robbery (e.g. Belknap, 2001; Chesney-Lind & Belknap, 2004: Heide, 1999; Messerschmidt, 2000; Pollock, 1999).

Research conducted by Thornton et al. (2012), on a convenience sample of female students, identified "all types of offending behaviour" (p. 1412) in the female sample, including intimate partner violence (IPV), general violence and other thefts (e.g. shoplifting). Prior offences of females have been reported to include minor crimes, such as public order offences (Alder & Worrall, 2004). Further support for females partaking in the minor offences of drugs, property, public order and theft have been noted (e.g. McKeown, 2010), demonstrating female engagement with non-violent offences. On the other hand, a history of antisocial behaviour and general aggression has been reported (Moffitt et al., 2001). Pollock et al. (2006), in their assessment of violent and nonviolent female prisoners, stated that violent offenders, who were currently convicted of drug and property offences, had reported committing violent offences in the previous year. The self-reports of offenders found that violent offenders, in comparison to non-violent offenders, had a criminal history that included theft of vehicle, weapons, handling, gang membership, shoplifting and damaged property. While young females, on the other hand, would be thought to engage more so in verbal, than physical, violence (Batchelor, Burman, & Brown, 2001), research is increasingly growing and reporting the participation of girls in assaults (e.g. Chesney-Lind

& Belknap, 2004; Chesney-Lind & Irwin, 2008; Steffensmeier & Schwartz, 2009).

It has been argued that the gender gap in criminal behaviour may be closing in (Lauritsen et al., 2009), yet this is proposed to be in terms of milder forms of crime, such as property offences, with reports that committing serious offences differs between the sexes (Schwartz & Steffensmeier, 2007) and violent behaviour is still dominated by males (Hedderman, 2010). Overall, males are argued to be more likely to engage in violent criminality (Hedderman, 2010; Heidensohn & Silvestri, 2012; Lauritsen et al., 2009), have a higher number of previous convictions (MoJ, 2014) and be more likely to recidivate than females (Ioane et al., 2014; Moffitt & Caspi, 2001); statistics and research imply females are less likely to have a substantial criminal history (Forsyth, Wooddell, & Evans, 2001; Rossegger et al., 2009; Yourstone et al., 2008). This trend is also evident in juvenile offenders, with males found to be more likely to be serious, violent and chronic offenders, when compared to females (Kempf-Leonard et al., 2001).

Schwartz, Steffensmeier, Zhong and Ackerman (2009) supported that males engage in, and account for, higher rates of violent crimes, especially serious violence, than females (Sandler & Freeman, 2011; Siegel & Senna, 2000). For example, Crocker and colleagues (2013) identified males to commit the majority of SV offences (e.g. attempted murder: 80%; homicide: 76%). Further support for this was presented in reports that males are disproportionally more likely to partake in violent offending, such as homicide, robbery, serious assault and sexual assault (e.g. Lauritsen et al., 2009), in addition to having an increased prevalence of offending in familicide (e.g. Wilson, Daly, & Daniele, 1995), sexual offending (e.g. Cortoni & Hanson, 2005) and stalking (e.g. Meloy & Boyd, 2003). Moreover, a higher prevalence of property offences was reported in male homicide offenders, with females having a history of less serious convictions (Smit et al., 2003). Rossegger and colleagues (2009) reported that the majority of females did not have any previous convictions and, those who did, were more likely to have prior offences of prostitution. Likewise, embezzlement, prostitution and runaway crimes were found to be more likely in female offending histories (Federal Bureau of Investigation [FBI], 2005, 2006; Puzzanchera & Adams, 2011).

1.4.3 Types of serious violent offenders. Gottfredson and Hirschi (1990) suggested that the difference between homicide and other violence could be as a result of the use of a weapon or the response time of emergency services, for example, implying the difference between committing homicide and other serious violence is slight and could be the result of other factors (e.g. environment), rather than a distinct trajectory to commit murder. On this basis, SV offenders would be considered as a homogenous group. However, there are alternative reports that there are subtypes of violent offenders, with differences identified between types of SV perpetrators (e.g. Mulder et al., 2012; Vaughn et al., 2014), which are discussed in subsequent sections of this chapter.

There are a number of key research articles; Soothill et al. (2002), Ganpat et al. (2014), Cook et al. (2005), and Craissati and Sindall (2009) explored the characteristics and criminal histories of SV offenders. Samples of homicide perpetrators have been examined (e.g. Cook et al., 2005; Soothill et al., 2002), as have groups of offenders who have been held responsible for both lethal and nonlethal violence (e.g. Craissati & Sindall, 2009; Ganpat et al., 2014). Additional valuable research has examined factors important in SV recidivism (e.g. Liem et al., 2014; Roberts et al., 2007) and life course offending (e.g. Dobash, Dobash, Cavanaugh, Smith, & Medina-Ariza, 2007).

In addition to the examinations of SV offenders, research has also made comparisons between offenders of varying types of violence (see *Chapter 7*); yet, such evaluations of different SV offenders are somewhat lacking. Although literature has explored differences in homicide offenders (e.g. Roberts et al., 2007), with further comparisons conducted between homicide and other violent offenders (e.g. Loeber, Pardini et al., 2005; Soothill et al., 2002), Ganpat and colleagues (2014) compared offenders of homicide and attempted murder, stating it was the first investigation to make comparisons between such SV perpetrators.

1.4.3.1 Gender. As highlighted by Roberts et al. (2007), homicide is predominantly a crime committed by male offenders, as discussed in previous sections on SV males and females. Male samples have been used to investigate homicide offending (e.g. Liem et al., 2014; Soothill et al., 2002),

with females argued to be fairly underrepresented within violent criminality, particularly homicide (Cooper & Smith, 2011). In the exploration of gender differences in criminality, gender was not found to significantly differ, according to the type of SV crime (Ganpat et al., 2014). Yet, when different types of homicide offenders were compared, gender was found to be an important factor: females were more likely to be convicted of homicide as an outcome of domestic violence, whereas males were at a higher likelihood when homicide occurred due to a general altercation, a felony commission or an accident (Roberts et al., 2007).

1.4.3.2 Age. Specifically in terms of homicide offenders, Dobash et al. (2007) noted that there were three categories of offenders, determined by age; those who offend before the age of 13, those who start to offend after the age of 13 and those who have not been convicted of an offence prior to a murder conviction. The onset age of SV offenders has been reported to be early 20s (Ganpat et al., 2014; Laub & Sampson, 2003; Liem et al., 2014; Roberts et al., 2007; Soothill et al., 2002), with nonviolent offenders beginning criminality earlier, at approximately 12 years of age (Laub & Sampson, 2003). This was further supported when comparing types of SV perpetrators; the onset of criminality has been found to be earlier for those who engaged in nonlethal, versus lethal, violence (Ganpat et al., 2014; Smit et al., 2003).

At the time of being convicted of a SV crime, Craissati and Sindall (2009) reported that the average age of the offenders in their sample was 28 years old, which was also reflected in additional literature (e.g. Liem et al., 2014; Soothill et al., 2002). The mean age at the index offence for SV offenders in Ganpat et al.'s (2014) study was reported to be early-30s, with older claims from Crocker and colleagues (2013), who identified such offenders to be in their mid to late 30s. Yet, Francis and Soothill (2000) argued that younger offenders were at a higher risk of committing homicide, with reports from Loeber, Pardini et al. (2005) that 88% of the violent sample were younger than 21 years of age when partaking in this crime; the average age when committing the offence was 19 years (Loeber, Pardini et al., 2005) and 20 years (Ahonen et al., 2015). This is somewhat echoed in research into juvenile offenders; Heide, Solomon, Sellers and Chan (2011) reported

that, in some instances, adolescents who commit murder are becoming younger than in previous years.

In particular, research has reported that offenders responsible for homicide were significantly older than those convicted of attempted murder (Ganpat et al., 2014; Ganpat, van der Leun, & Nieuwbeerta, 2015) and other violent crimes (Dobash et al., 2007; Smit et al., 2003; Soothill et al., 2002). However, additional literature reports the lack of statistical difference between homicide and other violent samples in terms of age (e.g. DiCataldo & Everett, 2008). Therefore, further research would aid in clarifying the existing debate as to the age at onset and the time of committing a SV crime. Yet, Soothill et al. (2002) argued that nonlethal violent offenders were older when beginning in their criminality, with Crocker et al. (2013) failing to detect age differences between SV and non-SV offenders.

1.4.3.3 Criminal history information. In research conducted by Ganpat and colleagues (2014), both lethal and nonlethal perpetrators were reported to have a criminal history (68% and 76%, respectively), with the presence of prior violence in both samples (38% and 48%, respectively). Further support for identifying a criminal history in homicide perpetrators was presented (Cook et al., 2005; Liem et al., 2014; Roberts et al., 2007), as was the presence of previous violent (Cook et al., 2005; Farrington et al., 2012; Loeber, Lacourse, & Hornish, 2005; Loeber, Pardini et al., 2005; Soothill et al., 2002) and non-violent (Cook et al., 2005; Liem et al., 2014; Soothill et al., 2002) offences. Moreover, homicide offenders were argued to be characterised by an extensive offending history (Roberts et al., 2007), with an increased prevalence of serious crime in their offending history compared to the general population (Cook et al., 2005). However, while violence was also present in the histories of a further group of perpetrators of homicide, this was argued to be a small proportion (17.9%, Ahonen et al., 2015).

The Homicide Index identified perpetrators of homicide who had a prior offence in their criminal history for homicide, albeit a small proportion (Flatley, 2016b). Research has reported a variety of crimes within the histories of homicide offenders, including ABH, GBH, arson, criminal damage, acquisitive offences and other crimes (e.g. Kooyman et al., 2012). Further to this, the majority of murder offenders had engaged in theft,

burglary and violence; yet, drug and sexual offences did not appear as frequently (Soothill et al., 2002), with additional reports of varied crimes in the offending history of homicide perpetrators (e.g. Dobash et al., 2007; Soothill et al., 2002). Likewise, Craissati and Sindall's (2009) sample featured a prior conviction for a theft-related offence, including crimes categorised under other and violent offences featuring in the majority of offender's criminal histories. On the other hand, sexual offences and arson were only apparent in a small number of offender's previous crimes (Craissati & Sindall, 2009).

When comparing SV offenders, nonlethal violent perpetrators were significantly more likely to not only have a prior offending history, but also have a higher frequency of previous convictions than homicide perpetrators (DiCataldo & Everett, 2008; Dobash et al., 2007; Ganpat et al., 2014). Moreover, researchers have proposed violent offending is more likely to be detected in the histories of other violent offenders (Dobash et al., 2007; Ganpat et al., 2014; Smit et al., 2003). Further, Smit and colleagues (2003) argued that the sample of attempted and completed homicide offenders had a higher frequency of previous convictions, albeit fewer violent prior offences, compared to those who had committed aggravated assault. In terms of particular offence categories, violent, drugs and other crimes had an increased likelihood of being present in nonlethal offender's history (Ganpat et al., 2014). Whereas, murderers were more likely, when compared to a violent control group, to have committed burglary, robbery and assault with intent, in addition to arson, theft and wounding (Soothill et al., 2002). Homicide offenders were more likely to carry weapons and sell hard drugs, compared to other violent perpetrators (Loeber, Pardini et al., 2005).

1.5 Previous Research: Predictors of Serious Violence

1.5.1 Research methods. The research designs utilised by earlier investigations were discussed in *section 1.4.1*. In determining future risk of violent offending, research typically adopts regression analyses. Linear regression has been employed to investigate predictors of the severity of recidivism in juveniles (Mulder, Brand, Bullens, & van Marle, 2010; Mulder et al., 2012) and logistic regression has been utilised to enable the use of odds ratios to compare the impact of various predictor variables on the outcome

(e.g. Ahonen et al., 2015; Ganpat et al., 2014; Rossegger et al., 2009; Soothill et al., 2002). In research carried out by Soothill et al. (2002), odds ratios were transformed to relative risk; although this is unnecessary, as one could be argued to be an estimate of the other (Schlesselman, 1982), relative risks are proposed to be more straightforward to interpret (Soothill et al., 2002). Nevertheless, odds ratios are reported in other investigations (e.g. Ahonen et al., 2015; Liem et al., 2014; Rossegger et al., 2009). Odds ratios are explored further in *Chapter 9*.

Moreover, literature has extended the regression analyses to also compute the area under the curve (AUC) of the Receiver Operating Characteristic (ROC), in order to explore the fit of the significant predictor variables to the model (e.g. Ahonen et al., 2015). Ngo, Govindu and Agarwal (2014) reported the increased use of this approach; as it is unchanged by disparate base rates, it is argued to be a useful accuracy measure (Rice & Harris, 1995). Moreover, while there are potential problems in comparing odds ratios between predictors, as odd ratios must be interpreted consistently with a unit increase in the value of the predictor, ROC curve analyses present a scale that can be applied to various predictor variables that may be calculated in differing units (Pepe, Janes, Longton, Leisenring, & Newcomb, 2004). The ROC curve provides a visual plot of the number of true positives (accurate outcomes) versus false positives (inaccurate outcomes; Ngo et al., 2014); the statistical basis of the ROC curve is explained further in *Chapters 3* and *10*. Although the use of the ROC curve is more commonly found in research exploring the predictive accuracy of risk measures (e.g. Grann, Belfrage, & Tengstrom, 2000; Loeber, Pardini et al., 2005; Mossman, 1994), it is also a suggested as an appropriate measure of association following logistic regression analyses (Tabachnick & Fidell, 2013; see *Chapter 9*).

1.5.2 Predictors. In addition to making comparisons between different subgroups of offenders, research has set out to determine what factors aid in predicting the likelihood of future SV offending. Research suggested age and criminal history to be key characteristics in calculating future behaviour (e.g. Blokland, 2005); Hollin (2009) argued that the accuracy and effectivity of predicting violent outcomes could be increased if the type of offence was

considered. Offenders with previous convictions for a violent and a sexual offence indicated future serious offending; offenders who had an offending history that included both offences displayed a greater risk of subsequent homicide convictions than those who did not have a violent offence in their criminal history (Francis & Soothill, 2000).

Soothill et al. (2002) examined the relationship between previous criminal history and the risk of subsequent conviction for murder; when assessing murderers and a group of non-violent offenders, the presence of arson, criminal damage, robbery and assault with intent, wounding (including other) and theft significantly increased the risk of murder. Moreover, the risk was increased with the presence of absconding, kidnapping, manslaughter and blackmail, yet such offences were deemed rare. Previous crimes of drugs, fraud, receiving stolen property, shoplifting and theft (including other) decreased the subsequent risk of murder (Soothill et al., 2002). Additionally, Soothill and colleagues (2002) investigated murderers and lesser violent offenders; similarly to the aforementioned findings, previously committing arson, kidnapping, robbery and assault with intent, theft and wounding increased the risk of future murder; in this exploration, the presence of burglary also had an influence, and there were no crimes found that decreased the risk of homicide, compared to lesser violent offenders.

Further literature has supported the presence of blackmail and kidnapping, in addition to threats to kill, in increasing the risk of future homicide (Farrington et al., 2012; Loeber, Pardini et al., 2005). Moreover, in an exploration of lethal versus nonlethal violent outcomes, Ganpat and colleagues (2014) reported that an older onset age, a younger age when committing the SV offence, a low frequency of previous convictions and no prior violence produced a higher likelihood to commit lethal, rather than non-lethal, violent crime. Ahonen et al. (2015) reported that having an earlier violent offence predicted future violence, when evaluating violent and control samples; yet, when comparing homicide offenders with other violent perpetrators, the offenders were proposed to show more similarities than differences, with a claim that such criminals were distinguishable by only a few predictors. Investigations into predicting future SV offenders are explored further in *Chapter 9.*

1.6 Previous Research: Criminal Careers

As discussed in previous sections, there are links between SV and persistent, or chronic, offending, thus it is important to consider the criminal careers of SV offenders. Haapanen, Britton and Croisdale (2007) defined a criminal career as a long-term series of offending that consists of four key aspects: length, participation, seriousness and frequency (Blumstein, Cohen, Roth, & Visher, 1986; Farrington, 1992). Thus, an offender's criminal history information (crime types and number of offences) adds to the understanding of a criminal career. Individuals who persist in criminality enable the investigation into factors that may increase the likelihood of offending, as such individuals are argued to be intentionally behaving criminally (Haapanen et al., 2007). A great deal of research has examined criminal careers, exploring many different issues. Yet, Soothill et al. (2002) stressed the value of understanding criminal careers for those within the criminal justice system and Francis et al. (2004) highlighted the lack of research into investigating patterns of criminal offending.

There is a wealth of literature on the criminal career paradigm, which explores the criminal activity of an offender over their life course (e.g. Armstrong & Britt, 2004; Blumstein et al., 1986; Farrington, Snyder, & Finnegan, 1988; Gittens, 2011; Mazerolle, Brame, Paternoster, Piquero, & Dean, 2000; Osgood & Schreck, 2007; Piquero, 2000). It is as a result of such investigations that interest has been drawn to identify specialisation, or diversity, amongst criminals (Adams & Pizarro, 2014; Deslauriers-Varin & Beauregard, 2013; Mazerolle et al., 2000; Piquero, 2000), making this a popular topic for investigation (Baker et al., 2013). The key elements of criminal careers research include chronicity, specialisation, age, gender and criminal history information.

1.6.1 Chronicity. The concept of chronicity, the categorisation of offending frequency, was considered in research by Wolfgang, Figlio and Sellin (1972); the authors reported that a small proportion of perpetrators were responsible for over half of the crimes committed, and thus deemed such offenders as 'chronic'. This was subsequently supported in further investigations (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen,

1998; Svensson, 2002; West & Farrington, 1977), with additional findings that chronic offenders would be diverse in their criminality and an early onset to offending was indicative of this future behaviour (e.g. Farrington & West, 1993; Loeber et al., 1998; West & Farrington, 1977). Based on the frequency of offending, levels of chronicity have been utilised as a means of distinguishing between offenders, such as high-level and low-level chronics (e.g. Nagin & Land, 1993; Nagin, Farrington, & Moffitt, 1995) or classifying offenders as chronic when three (Garrido & Morales, 2007), four (Baglivio et al., 2014; Loeber, Farrington, & Petechuk, 2003) or nine (Farrington & West, 1993), or more, criminal records have been recorded; Svensson (2002) noted the challenges in determining the cut-off of being deemed a chronic offender. Thus, Svensson (2002) proposed four levels of chronicity: (i) one-time, (ii) occasional, (iii) repeat, and (iv) chronic offenders. One-time offenders were those with one conviction, with occasional offenders convicted two to three times and repeat perpetrators being those with between four to eight prior offences. An offender was deemed as chronic with nine or more convictions. Gittens (2011) amended the levels of chronicity with the addition of a fifth category and variations in how the frequency of offending was categorised; one-time offenders had one or two previous charges, occasional offenders range from three to five offences, repeat perpetrators have between six and 10 charges, chronic criminals range between 10 and 20 offences, and career offenders having more than 20 convictions. The latter chronicity scale, proposed by Gittens (2011), has been applied to the exploration of serious sexual offenders (Almond, McManus, Worsley & Gregory, 2015). Chronicity is discussed further in *Chapter 3*.

1.6.2 Specialisation. Blumstein and colleagues (1986) defined specialisation as “the tendency to repeat the same offence type on successive arrests” (p. 81), with criminal versatility defined as committing “a wide variety of criminal acts, with no strong inclination to pursue a specific criminal act or a pattern of criminal acts to the exclusion of others” (Gottfredson & Hirschi, 1990, p. 91). Research has reported the presence of specialisation in offenders (e.g. Francis et al., 2004; Osgood & Schreck, 2007; Sullivan, McGloin, Pratt, & Piquero, 2006), yet violence has been associated more so with versatile offending (e.g. Blumstein, Cohen, Das, &

Moitra, 1988b; Brame, Mulvey, & Piquero, 2001; Cohen, 1986; DeLisi, 2005; Elliott, 1994; Piquero, 2000; Piquero et al., 2007; Stander, Farrington, Hill, & Altham, 1989). However, some research disputes this, proposing specialisation in violent offenders (Farrington, 1998; Loeber et al., 2008; Lynam et al., 2004; Moffitt, Mednick, & Gabrielli, 1989), with the argument that offenders specialise in the crimes they commit (Jennings, Zgoba, Donner, Henderson, & Tewkesbury, 2014).

Previous research reports that it is likely for homicide offenders to have an offending history that is often characterised by violent crimes (Broidy, Daday, Crandall, Sklar, & Jost, 2006; Pizarro, Zgoba, & Jennings, 2011). However, there has been a lack of attention to such violent offenders in regards to specialisation (e.g. Trojan & Salfati, 2010; Wright, Pratt, & DeLisi, 2008), particularly in comparison to the multitude of investigations into sexual offenders (e.g. Almond et al., 2015; Harris, Smallbone, Dennison, & Knight, 2009; Lussier, 2005; Miethe, Olson, & Mitchell, 2006; Soothill, Francis, Sanderson, & Ackerley, 2000), and in terms of the measures used to investigate the specialisation, and diversity, of offenders. Explorations into this topic focus on both the theory applied and method used (Baker et al., 2013). Although research has explored the specialisation of violent offenders, there has been a lack of consistency in the approach and method used in the analysis. The topic of specialisation is investigated in *Chapter 8*.

1.6.2.1 Research methods. The use of various data types was discussed in *section 1.4.1*, yet worthy of note is the support for using official data in the exploration of specialisation, as it is proposed to capture the sequencing of offences (Rojek & Erickson, 1982). Exploratory analyses have applied specialisation thresholds (ST) by identifying the frequency of offences within a given offence; 50% STs indicate that a certain crime type accounts for more than half of the offender's previous convictions (Blumstein et al., 1986; Cohen, 1986; Harris et al., 2009). In addition to the 50% ST, further STs have been introduced, including 75% and 100% (Donner, Jennings, & Banfield, 2014; Harris et al., 2009; Jennings et al., 2014; Miethe et al., 2006). STs have been applied in research alongside the use of the diversity index (discussed below; Donner et al., 2014; Harris et al., 2009; Jennings et al., 2014; Miethe et al., 2006).

Earlier approaches to specialisation adopted the use of transition matrices to explore offending behavior (e.g. Kempf, 1987); this measure calculated specialisation according to the probability a given crime was committed on arrest *k*, with the same crime then being performed on arrest *k*+1 (e.g. Bursik, 1980), with higher scores being indicative of specialisation. Generally, there were reports of diversity in offending, with indications of some specialisation (e.g. Bursik, 1980; Kempf, 1987), but the measure was criticised as sample size and offending frequency were found to influence the score (Farrington et al., 1988). Following the introduction of transition matrices, the forward specialisation coefficient (FSC, Farrington, 1986; Farrington et al., 1988; Stander et al., 1989) was presented, which applied a scale of specialisation; 0 indicated complete diversity, whereas 1 signified complete specialisation. Similarly to previous findings, versatility in offending was mostly observed, along with reports of low-level specialisation (e.g. Farrington et al., 1988). Yet, the FSC method is not without its criticisms, such as relying on time-ordered crimes (Lynam et al., 2004), issues with interpretation (Britt, 1996) and its limitations in considering individual levels of specialisation, as it only reviews the specialisation of the overall sample (Osgood & Schreck, 2007; Sullivan et al., 2006). Moreover, the validity of the FSC is questioned due to its use of sequence, as opposed to proportions (Miethe et al., 2006; Osgood & Schreck, 2007; Sullivan et al., 2006).

The diversity index (DI, Agresti & Agresti, 1978) has been adopted as an alternate measure to the FSC in estimating specialisation (Bouffard, Wright, Muftic, & Bouffard, 2008; Mazerolle et al., 2000; McGloin, Sullivan, Piquero, & Pratt, 2007; Miethe et al., 2006; Sullivan et al., 2006; Wright et al., 2008), as it overcomes the requirement for offences to be time-ordered and the issue of individual levels of specialisation (Mazerolle et al., 2000); the DI calculates the likelihood that any two crimes from an offender's criminal history will fall into different crime categories (Piquero, Paternoster, Mazerolle, Brame, & Dean, 1999). The DI is summed using (k-1)/k, where k represents the number of crime categories; similarly to the FSC, a degree of specialisation, or diversity, is given on a scale from 0 to 1, yet in this case 0 represents complete specialisation and 1 indicates complete diversity (Agresti & Agresti, 1978). Typically, the DI is explored in terms of age and

frequency of offending, producing positive relationships between diversity and frequency of offending, and negative relationships between diversity and age (e.g. Mazerolle et al., 2000; McGloin et al., 2007). However, a limitation of using the DI are the issues in making comparisons between research that has adopted different numbers of crime categories (Sullivan, McGloin, Ray, & Caudy, 2009). Nonetheless, it is regarded as an advantageous measure of offender specialisation (e.g. Sullivan et al., 2009).

Latent class analysis (LCA) is a further method that classifies latent classes based on how they reflect offence subgroups (e.g. Francis, Liu, & Soothill, 2010; Sullivan et al., 2009). This approach has identified some specialisation, with further links made between diversity, age and gender (e.g. Francis et al., 2010; McGloin, Sullivan, & Piquero, 2009). Although LCA has been applied to offenders (e.g. Piquero, 2008), it is an approach typically used when researching longitudinal offence pathways (e.g. Nagin & Land, 1993; Nagin, 2005). While the use of LCA in specialisation research has been supported (Francis et al., 2004; McGloin et al., 2009; Soothill et al., 2002), caution must be taken as a result of confounding specialisation with offending frequency, in interpreting the findings and in the subjectivity required in determining whether specialisation is present (Sullivan et al., 2009).

Furthermore, a multilevel latent variable, combined with item response theory (IRT), approach employs a latent factor to determine specialisation; this is done through the use of log-odds at an individual level, using rates of offending, base rates and the probability of committing the given crimes (Osgood & Schreck, 2007). The IRT approach has reported specialisation in offenders (e.g. Bouffard et al., 2008; Osgood & Schreck, 2007) and is advantageous in both considering the specialisation of individuals and differentiating between the frequency and diversity of offending (Sullivan et al., 2009). On the other hand, this method makes assumptions regarding which crimes to collectively group, risks classifying offenders as specialists depending on the sample and may limit the ability to explore the type of specialisation (see Sullivan et al., 2009). Although the varying approaches to calculating specialisation produce indications of specialisation, or diversity, the way in which this is calculated differs; nevertheless, such approaches

have been noted to achieve congruent outcomes (Sullivan et al., 2009).

1.6.2.2 Age. The age of an offender appears to influence the findings of specialisation. Theoretically, older perpetrators would be more likely to specialize in offending, as offenders are likely to learn during their criminal career and identify the types of offences they are more likely to repeat, based on identifying the likely rewards and risks from committing such a crime (Spelman, 1994). McGloin et al. (2007) reported specialisation increased with age, with further arguments that adult offenders are more likely to specialise, when compared to juveniles (Blumstein et al., 1986; Brame, Paternoster, & Bushway, 2004; Farrington, 1986; Piquero et al., 1999), thus providing further support for this; in particular, older offenders demonstrated specialisation in violent offences (Loeber et al., 2008). More specifically, Nieuwbeerta et al. (2011) identified an age-diversity curve, in that diversity was identified between adolescence and early adulthood, with offenders then demonstrating specialisation during adulthood.

It is important, however, to consider the samples used, as Nieuwbeerta et al. (2011) highlighted an issue with previous research, in that researchers typically focus on adolescents or those in early adulthood, utilising fairly short criminal histories and thus risking a bias in the investigation of specialisation, particularly given reports of specialisation occurring later in life. Furthermore, Moffitt (1993) proposed a difference between those offenders who offend across their life (life-course persistent) and those who do so during adolescence (adolescence-limited offenders), with life-course persistent offenders thus being more likely to display diversity, but to also engage in violent and serious offences (Moffitt, 1994). This should therefore be taken into consideration when considering the age of violent offenders.

1.6.2.3 Gender. As reviewed earlier, many authors argue that violent behaviour is still largely associated with males (Burman & Batchelor, 2009). Moffitt (1994) proposed that male offenders were more likely to represent life-course persistent offenders, with females being associated with adolescent-limited offending; Elliott (1994) supported the latter, in reporting that the violent behavior, exhibited by females, was often short-term. Higher levels of specialisation have been linked to males, compared to females (Kempf,

1986), yet this research was criticised for the lack of analytical support for the findings (Mazerolle et al., 2000). Farrington et al. (1988), on the other hand, reported that, when exploring persistent offenders, females were in fact more likely to be deemed specialists than males, but when identifying the types of crime, males were more likely to specialise in serious crime, compared to females and their participation in runaway crime. Yet again, Mazerolle et al. (2000) did not find any significant differences between male and female offending, in terms of specialisation. However, when onset age was factored in, Mazerolle and colleagues (2000) reported that females who engage in criminality early on demonstrate more diversity in their offending, compared to males who were more likely to be identified as versatile offenders when they had a late onset age. Whereas, Francis et al. (2010) argued that diversity increased with age in females.

1.6.2.4 Criminal history information. Monahan and Piquero (2009) pointed out the positive relationship between versatility and offence frequency, in that an offender must commit numerous crimes in order to engage in different types of offences. Violent offenders were proposed to have a more extensive offending history (Elliott, Huizinga, & Morse, 1986; Elliott, 1994; Farrington, 1991), when compared to nonviolent perpetrators (MacDonald et al., 2009; Piquero, 2000). Furthermore, it was argued that those who do engage in violent crime, and have a high rate of offending, are just as likely to partake in non-violent offending (Blokland & Nieuwbeerta, 2005; Brame et al., 2001; Piquero, 2000; Piquero et al., 2007). The general argument for violent offenders, in support of versatility, is that those offenders with an extensive criminal history happen to commit a violent offence, amongst the other crimes they commit (e.g. Tracy, Wolfgang, & Figlio, 1990). Yet, earlier research reported that the majority of violent perpetrators only had one prior conviction for a violent crime (e.g. Reiss & Roth, 1993; Wolfgang et al., 1972). This was supported by research conducted by Laub and Sampson (2003), as they argued that violent crime accounted for a smaller proportion of offences, when compared to all crimes committed.

In relation to crime types, specialisation in violent offenders has been reported (Besemer, 2012; Lai et al., 2015; Osgood & Schreck, 2007). Perpetrators with more extensive criminal records have been argued to

specialise in violent and property offences (Brennan, Mednick, & John, 1989). Moreover, Elliott (1994) claimed that SV offenders had at least three SV crimes in their offending history, with further support that specialising in violence was noted in perpetrators with three, or more, arrests (Brennan et al., 1989). Further, Armstrong (2008b) reported higher levels of specialisation in offenders who partake in property-related crimes and Gottfredson and Hirschi (1990) identified specialisation as being most common in sexual and drug-related offenders. Albeit a small proportion of the sample, specialisation in violence, and theft, were reported (Loeber et al., 2008). What is more, when comparing single, with multiple, victim homicide offenders, Trojan and Salfati (2010) noted differences in specialisation; both demonstrated specialisation in instrumental crimes, with single victim homicide perpetrators also specialising in violence.

Whereas, Piquero et al. (2003) argued that those offenders who engaged in criminal careers, and therefore had a high offending frequency, were more likely to demonstrate versatility (e.g. Cohen, 1986; Gottfredson & Hirschi, 1990; LeBlanc & Frechette, 1989; Mazerolle et al., 2000). While presenting further support for the versatility of violent perpetrators, homicide offenders in particular, Farrington et al. (2012) reported an increased prevalence in violent and property crimes. Additionally, Loeber et al. (2008) reported similarities in the offender's trajectories towards theft and violence, suggesting an overlap between the two offences; offenders were reported to be versatile, engaging in both types of offences. Thus, the findings indicate possible differences between the types of violent offenders and the need for further research.

***1.6.2.5 Linking specialisation research and theory*.** Specialisation is an important topic for both research and theory (Baker et al., 2013). Gottfredson and Hirschi's (1990) GTC, which argued that offenders have low levels of self-control and therefore partake in criminal behaviour if the opportunity arises, supports the concept of offence versatility and disputes the idea of offenders being specialists in the crimes they commit. Osgood and Schreck (2007) further posit that if an offender were to be identified as a specialist, this could be explained by the individual being presented with multiple opportunities to commit the same offence, or type of offence, as

opposed to directly choosing to specialise in that crime type. This theoretical approach is also largely backed by reports that a criminal's offending is typically diverse (e.g. DeLisi et al., 2011; Jennings et al., 2014; Mazerolle et al., 2000; Miethe et al., 2006; Nieuwbeerta et al., 2011).

The subculture of violence theory (Wolfgang & Ferracuti, 1967), on the other hand, proposed that there are factions of criminals who belong to a subculture who have an increased propensity to commit violent offences, based on the values and norms of that group. Such specialisation theories (e.g. Cloward & Ohlin, 1960; Moffitt, 1993) and empirical findings (e.g. Baker et al., 2013; Francis et al., 2004; Francis et al., 2010; McGloin et al., 2009; Sullivan et al., 2006; Sullivan et al., 2009) lend support to the argument for offender specialisation.

Yet again, further arguments posit that the specialisation of an offender's criminality differs according to the phase of their criminal career; for example, criminals may initially be more diverse in the offences they commit, which becomes specialised as they continue with their offending and develop their experience/expertise (Blumstein, Cohen, & Farrington, 1988a). However, Harris et al. (2009) pointed out the lack of theoretical explanations relating to both specialisation and diversity, with theories exploring either one or the other (Piquero, 2000).

1.7 Limitations of Previous Research

Throughout the previous research that has been reviewed, a number of limitations have been noted. Comparing the age of offenders is problematic due to the inconsistencies within literature; while age is typically given at the time of the SV offence (e.g. Ioane et al., 2014; Liem et al., 2014; Murdoch et al., 2012; Soothill et al., 2002), and at onset (e.g. Liem et al., 2014), there are some inconsistencies. For example, the age of a male sample was given at the time of admission to a forensic outpatient treatment centre (e.g. Wilpert et al., 2015), with additional female samples reporting age at the time of the survey (e.g. Rettinger & Andrews, 2010) or not specifying when the age was recorded (e.g. Bennett et al., 2012; Pollock et al., 2006).

Moreover, in a review of gender and crime, it was proposed that as a

result of limited investigations and variations amongst samples, there are difficulties in determining whether the criminal careers of males and females differ (Kruttschnitt, 2013). There are issues within research in exploring gender in offending, as in some instances only female offenders were investigated and so no comparisons with male perpetrators could be made (e.g. Rettinger & Andrews, 2010; Van Voorhis, Wright, Salisbury, & Bauman, 2010), or vice versa (e.g. Soothill et al., 2002). As with adults, the focus of homicide research in juveniles has been males (e.g. DiCataldo & Everett, 2008; Heide, Spencer, Thompson, & Solomon, 2001; Shumaker & McKee, 2001), which is argued to be due to the small numbers of female offenders available (e.g. Adeagbo, Clark & Collins, 2008; Greco & Cornell, 1992; Loper & Cornell, 1996), in addition to the "unrepresentative subpopulations" (Loucks & Zamble, 1994, p. 22) of females used. This is evident in research, as the sample size of female offenders appears to be much smaller than that of male offenders (e.g. Crocker et al., 2013; Ioane et al., 2014; Roberts et al., 2007; Roe-Sepowitz, 2009; Rossegger et al., 2009; Zagar, Isbell, Busch, & Hughes, 2009).

Further difficulties in comparing findings is due to differences in the focus of the violent samples, as Cook et al. (2005) highlighted that research tends to explore exclusive subgroups of perpetrators; for example, various types of violence have been investigated, from IPV (e.g. Dobash et al., 2007), murderers and other violent offenders (excluding IPV; e.g. Soothill et al., 2002), subtypes of homicide offenders (e.g. Roberts et al., 2007) to attempted and completed homicide and aggravated assault perpetrators (e.g. Smit et al., 2003). Thus, although findings may be reviewed in consideration of violent offenders, researchers must be cautious in comparing different types of SV crimes. Moreover, some literature focuses on specific variables (Loucks & Zamble, 1999), such as those not held criminally responsible (e.g. Crocker et al., 2013), those with psychosis (e.g. Bennett et al., 2012; Kooyman et al., 2012), other mental disorders (e.g. Clarke et al., 2016) or receiving forensic outpatient treatment (e.g. Wilpert et al., 2015). Ganpat et al. (2014) pointed out that research typically investigates lethal, or nonlethal, violence independently. What is more, there are few comparisons between types of SV crimes (e.g. Ganpat et al., 2014; Smit et al., 2003; Soothill et al.,

2002), thus the need for further appraisals of various types of SV offenders.

What is more, methodological issues also question the ability to make comparisons and links between research. Various approaches, and limitations, to offender specialisation were reviewed in the previous section; the overarching issue relates to whether different research and methods are measuring the same concept, such as measuring, versus describing, specialisation (Sullivan et al., 2009). In addition, within comparisons of violent offenders, some research adopts a matched case-control approach (e.g. Cook et al., 2005; Soothill et al., 2002), whereas others have made explorations, and comparisons, without matching (e.g. Craissati & Sindall, 2009; Smit et al., 2003). Also of importance are the crime categories employed, as this is usually subjective to the researcher, without a standard approach in research (e.g. Mazerolle et al., 2000); various crime categories were reviewed earlier, with specialisation research also applying offence types ranging from three (e.g. Mazerolle et al., 2000; Piquero et al., 1999), four (e.g. Baker et al., 2013), 10 (e.g. Sullivan et al., 2006, 15 (e.g. Almond et al., 2015) to 20 (e.g. Harris et al., 2009) crime categories, with the categorisation of offences also differing (see Table 1.1) Thus, caution must be taken when interpreting and comparing findings.

1.8 Thesis Aims

The current chapter has reviewed psychological theory and research that provide the vital underpinnings to this thesis. As has been emphasised, violent crimes are reportedly on the rise (Flatley, 20161). Due to the value of research within the criminal justice system (e.g. Craig et al., 2013; Hilton, Harris, & Rice, 2010; Soothill, Francis, & Liul,2008a; Wermink et al., 2016), further investigations would be beneficial in adding to existing empirical findings and enriching decision-making (Zhang, Roberts, & Farabee, 2014). The primary purpose, therefore, is to investigate the factors of future SV offending, according to subgroups of offenders: (i) SV male, (ii) SV female, (iii) attempted murder and homicide, and (iv) grievous bodily harm.

Thus, this thesis investigates the offender characteristics (age and gender), criminal history information (offending frequency, levels of chronicity and crime types) and specialisation of SV perpetrators. A retrospective

approach is applied to assist in highlighting the individuals that pose a risk of committing a SV offence in the future; specifically, homicide, attempted murder or GBH.

Although there are contradictory reports within literature relating to offender characteristics and criminal history details, there are a number of key findings:

i. An early onset to criminality increases the likelihood of future violent crimes (e.g. Moffitt, 1993; Soothill et al., 2002);
ii. Lethally violent offenders have a later onset age (e.g. Ganpat et al., 2014; Smit et al., 2003);
iii. An older onset age is indicative of female offenders (e.g. Block et al., 2010; Yourstone et al., 2008);
iv. At the time of committing the SV offence, offenders of lethal violence were older (e.g. Ganpat et al., 2014; Soothill et al., 2002);
v. Adult offenders are more likely to be violent specialists (e.g. Loeber et al., 2008);
vi. Males are more likely to commit violent offences (e.g. Crocker et al., 2013; Hedderman, 2010; Heidensohn & Silvestri, 2012);
vii. A high frequency of offending has been found to increase the risk for future non-violent offending (e.g. Wartna, Tollenaar, & Blom, 2005);
viii. A high frequency of offending has been found to increase the risk for future non-lethal violent offending (e.g. Ganpat et al. 2014);
ix. An increased rate of previous convictions was characteristic of perpetrators of homicide and attempted murder (e.g. Smit et al., 2003);
x. Offenders with an early onset have an increased probability of a higher frequency of offending (e.g. Ioane et al., 2014; Moffitt, 1993);
xi. A history of violence results in a higher likelihood for future violence (e.g. Soothill et al., 2002);

xii. A history of violence increases the risk for future non-violent criminality (e.g. Wartna et al., 2005);
xiii. No prior violence was indicative of committing lethal violence (Ganpat et al., 2014).

Thus, the current thesis proposes to add to existing research and aid in clarifying inconclusive findings, relating to types of serious violence, characteristics of the perpetrators (age and gender), criminal history details (offence frequency, chronicity and types of crime) and specialisation. Further to this, there is a particular need for additional research into SV female offenders, due to the previously small samples used (e.g. Tracy, Kempf-Leonard, & Abramoske-Leonard, 2009). Moreover, there are limitations in exploring types of SV offending, with few comparisons between particular SV crimes (e.g. Ganpat et al., 2014; Smit et al., 2003). In addition, as noted previously, to the researcher's knowledge, this is the first study to use of a measure of the offender's criminal diversity in regression analyses to determine its utility in predicting serious violence. Finally, the thesis concludes with some predictive models of future SV perpetrators, using the variables explored in preceding chapters: offender characteristics, criminal history information and the diversity score.

So, specifically, the objectives of this thesis are to:

i. Examine to what extent offender characteristics and criminal history information differ between subgroups of offenders: (a) SV versus control (*Chapter 4*); (b) SV male versus control male (*Chapter 5*); (c) SV female versus control female (*Chapter 6*); (d) SV male versus female (*Chapter 7*); (e) attempted murder and homicide versus grievous bodily harm (*Chapter 7*).
ii. Determine to what extent SV offenders specialise in their criminality and how this differs between subgroups (*Chapter 8*).
iii. Explore the relationships between diversity scores and (a) the frequency of offending, (b) the age at the time of committing the first offence within the dataset, and (c) the age at the time of committing the SV offence (*Chapter 8*).

iv. Assess the variables deemed to significantly predict future SV outcomes: (a) SV versus control, (b) SV male versus female, (c) attempted murder and homicide versus grievous bodily harm, (d) attempted murder and homicide, grievous bodily harm versus control, and (e) SV male, SV female, control male versus control female (*Chapter 9*).

Chapter 2: Methodology

2.1 Aims of Chapter

To reiterate, the purpose of this thesis is to investigate factors of SV offenders; the variables under exploration are the offender's age (at the first offence in the dataset and at the time of committing the SV offence), gender, criminal history information (offence frequency, chronicity and presence of crime types) and measures of specialisation. Devon and Cornwall Police provided a large dataset, including offences committed within the boroughs, spanning a 10-year period; the dataset contained the aforementioned information. Therefore, the current research adopted a retrospective analysis through the use of police data records. The objectives of this chapter are to:

i. Consider the type of data typically used in such research;
ii. Outline the data collection method;
iii. Discuss the variables to be explored in the current thesis;
iv. Review the methods of statistical analysis to be employed.

2.2 Archival Data

Throughout the investigation into crime, researchers have utilised a multitude of sources. Typically, when exploring criminality and offenders, researchers tend to adopt one of two approaches; data archives or interviews. The current research utilised archival data; similarly, Craissati and Sindall (2009) used data from the Probation Service computer databases and hard case files. Additionally, Soothill and colleagues (2002) extracted data from the Offenders Index; however, due to the nature of this archival database of court convictions, the authors were unable to obtain information on cautions and warnings issued by the police. Yet, as the data in this research was provided by Devon and Cornwall Police Force, it included such details and so this issue does not apply. Also, an advantage of using such archival data is that such systems try to ensure consistent and accurate data records. Moreover, a benefit of using this type of data relates to its unobtrusive nature (i.e. it was not initially collected for research purposes); thus, research has noted this enables researchers to obtain rich information

about offenders from another perspective (Canter & Alison, 2003). Furthermore, as noted by Gittens (2011), data from such sources is advantageous in supporting subsequent findings and their application to the criminal justice system. Primarily, in order for research to contribute to the criminal justice system, it is vital to utilise information that is “potentially important to police and law practitioners” (Ahonen et al., 2015, p.6).

On the other hand, the current research relies solely on data that was gathered for police investigations and not for the purpose of research. Subsequently, the method in which information was recorded may not have been done so with attention to detail and consistency that would be in research (Canter & Alison, 2003). Due to the nature in which the information was recorded (an investigation, as opposed to for research), data records may have missing or incomplete information (Canter & Alison, 2003); this was noted in the current dataset. Missing information was found in terms of the outcome of the offence, such as whether the offender was charged, convicted, summonsed or found not guilty. This occurred as, in some cases, the information was unknown or had not yet been updated on the appropriate database at the time of data extraction. For the cases where the final outcome was absent, Devon and Cornwall Police provided further, up-to-date information. Any remaining cases in which the outcome was unknown or the offender was not held responsible for the crime were excluded. However, this resulted in the exclusion of a number of target offences, thus the offender and offending history were also removed. Further advantages and disadvantages of using official data are discussed in *Chapter 2.*

2.3 Data Collection

2.3.1 Devon and Cornwall Police Force. The data examined in the current research were provided by Devon and Cornwall Police Force. Devon and Cornwall Police Force monitor an area of approximately 1.7 million people, which increases during the summer months to a population of 11 million; thus, this police force governs England’s largest geographical police region (Devon & Cornwall Police Force, 2015). Recently published crime figures reported a 10.6% increase in violence against the person from 2014

to 2015 within the Force area (Office of the Police and Crime Commissioner [PCC], 2015). In the Annual Report for 2013/2014, the Office of the Police and Crime Commissioner noted their concerns “at the persistently high levels of violent crime in Devon and Cornwall” (PCC, 2014, p.11).

2.3.2 The current dataset. A retrospective design was employed, as Devon and Cornwall Police provided Microsoft Excel spreadsheets containing data of 446 335 offences that occurred between April 2001 and March 2011. As this included all offences that were documented, only relevant offenders were extracted. To ensure consistency and reliability throughout analyses, only offences that contained all necessary information were used; thus each offence had all necessary variables present. For each case, offender characteristics were provided (age and gender at the time of the offence), in addition to the case details (the offence type and date of offence). Furthermore, within the dataset provided, the outcome of each case was recorded; any offences that indicated the offender had not been held responsible for the offence or that a final outcome was not yet known were removed from the dataset, as it was vital only perpetrators who had been convicted of a crime were included. Lynch (2002) noted the importance of considering that an arrest does not necessarily mean an offender was guilty or held responsible for the crime. Previous research has taken this into consideration by using offenders who have been charged (e.g. Harris, Rice, & Quinsey, 1993) and those who have been charged or convicted (e.g. Marlowe et al., 2011; Seto & Eke, 2005). Therefore, to strengthen the reliability of the sample, only offences that resulted in a known outcome were included; specifically, this was all convicted and charged offenders. Any case with an outcome of ‘not guilty’ or ‘no further action’, for example, was removed from the dataset.

Offenders were extracted from the dataset on the basis of the presence of a target offence, explained further in *sections 2.3.3* and *2.3.4*, between April 2005 and March 2011. This time frame, similar to that used by Ganpat et al. (2014), ensured that there was a substantial time period, within the dataset, to locate previous convictions (e.g. from April 2001) committed before the target offence; for example, if a SV offence was committed in 2002, this would only allow a one-year follow-up period of an offender’s

potentially longer criminal history and was therefore determined to be too limited. Each perpetrator was assigned an identification number within the police records; such numbers were used to identify other offences committed by the same offender contained within the dataset. However, due to the time frame of the data provided (April 2001 to March 2011) it cannot be ascertained whether offenders were held responsible for crimes prior to April 2001 and so the age at onset cannot be verified. As a result, all descriptive offender information refers to the target offence (for example, the age of the offender at the time of committing homicide) and the first conviction recorded in the dataset; this is referred to as the offender's first conviction. No victim information was obtained.

2.3.3 Serious violent sample. An offender was included within the SV sample if they had a target offence of homicide or attempted murder (AMH), or grievous bodily harm (GBH) recorded between April 2005 and March 2011. During this time frame, 1523 perpetrators were convicted of AMH (*n* = 132) and GBH (*n* = 1391). The sample consisted of 206 female and 1317 male offenders, yet when only those with previous convictions within the dataset were explored this was reduced to a sample of 1108 SV offenders (149 female and 959 male perpetrators). As highlighted in *Chapter 1*, in regards to homicide, the dataset specified only 'murder of a person' with no recordings of 'manslaughter'; thus, it is unclear whether there were no offences of manslaughter recorded in the dataset or if the category of 'murder of a person' included such crimes. The implications of this are discussed in *Chapter 10*.

When identifying the target offences of individuals within the dataset that occurred between April 2005 and March 2011, a small proportion of SV offenders had multiple SV crimes recorded; the SV offence that was categorised as the target offence was the crime that was most recently committed and was also deemed the most serious offence (e.g. AMH considered as more serious to GBH; *n* = 3). In some cases, the same SV offence occurred more than once for an offender during the specified time period; in such instances, the most recent offence was recorded as the target offence (AMH: *n* = 1; GBH: *n* = 39). Further to this, SV crimes were present in the full criminal history (e.g. from April 2001) of SV offenders; SV prior

offences were either less serious SV crimes (*n* = 4) or the same as the SV target offence (AMH: *n* = 1; GBH: *n* = 28). A very small fraction of the SV sample committed a more serious SV offence in their criminal history, prior to April 2005 (e.g. target offence of GBH with AMH previous conviction; *n* = 10). Such cases remained in the sample and were categorised within the violent crime types (see *section 2.4.5*); this was similar to the approach adopted in Ganpat et al.'s (2014) study, in which some perpetrators of attempted homicide had completed homicides recorded in the criminal history.

2.3.4 Control sample. The control sample was constructed to enable comparisons to be made with the SV sample; as the control group consisted of offenders with convictions for non-, or lesser-, violent crimes, it assisted in identifying instances of the heterogeneity, or homogeneity, of perpetrators. Therefore, an essential criterion for the control sample was that members within this sample did not have any convictions for SV offences, between April 2001 and March 2011. Upon excluding offenders with incomplete information and/or previous SV crimes, a random sample was generated using Microsoft Excel; the cases were then filtered, in order to match the specified criteria. The criteria for non-SV perpetrators, in addition to having not previously committed an SV crime, was to have committed an offence during the same year as the SV offence and to be of the same gender and age (at the time of the target offence) of the SV criminal, as Soothill et al. (2002) noted the importance of including offenders who were still criminally active. Therefore, the crime that was matched to the SV offence was considered as the target offence for perpetrators in the control sample. Earlier research into SV offenders have also employed a matched control sample (e.g. Clarke et al., 2016; Cook et al., 2005; Soothill et al., 2002).

Gail, Williams, Byar and Brown (1976) proposed that no more than four controls should be matched per case; this was adopted by Soothill et al. (2002), yet the researchers argued that if it was not possible to find four appropriate matches, three or less were taken. In the current research, three controls were matched for female offenders (*n* = 447) and one control for males (*n* = 959). Upon difficulties in identifying matched-controls for some SV females the age-match of the offender was relaxed, as done so by Soothill et al. (2002); two female offenders in the violent sample, aged 53 and 58, were

unable to be matched to three control offenders, and so they were matched as closely on age as possible; for example, the 53 years old was matched with one 49 and two 48 year olds and the 58-year-old was matched with one 58 and two 48 year olds. For male perpetrators, as the violent sample was fairly large, it was not feasible, given the constraints of the research, to match to three control offenders; as noted in earlier research, one control was matched to each SV male offender (e.g. Clarke et al., 2016; Soothill et al., 2002).

2.4 Coding Dictionary

A coding dictionary was utilised to ensure complete and consistent data were extracted from the police data files. The variables included in the research are discussed below. Categorical variables were recorded in a dichotomous manner (present or not present) when possible, based on suggestions from previous research (e.g. Canter & Fritzon, 1998; Canter & Ioannou, 2004; Salfati, 2000), to avoid reducing the reliability of the analyses (Canter & Heritage, 1990). Categorical variables with more than two categories were transformed into additional variables to allow for dichotomous coding, as the remaining categorical variables were coded. The remaining variables were continuous.

2.4.1 Type of offender. Offenders are investigated in terms of whether they are a SV, or control, offender. SV offenders were initially coded according to the target offence committed (attempted murder, GBH or homicide), yet due to the small number of attempted murder and homicide perpetrators (particularly in comparison to the number of GBH offenders), the samples were combined to create an attempted murder/homicide (AMH) group; individuals responsible for attempted homicide and homicide have been combined in earlier research (e.g. Clarke et al., 2016) and so no problems were anticipated in collapsing the two categories; this was also reviewed earlier in *section 1.2*. For the control sample, the target offence was coded according to whether the perpetrator had been charged with an offence categorised according to the eight crimes categorisation scheme (see *section 2.4.5*): burglary/robbery, criminal damage, drugs, non-notifiable, other, sexual, theft/handling or violence/against the person. This

categorisation scheme was utilised due to the relation with the general crime categories applied within the police dataset.

2.4.2 Offender characteristics. The gender of the offender is explored throughout the thesis, according to whether the perpetrator is male or female. The age of the offender at the time of committing the target offence was recorded; for those with previous convictions, the age of the offender at the time of the first offence was also documented. However, as highlighted earlier, in some cases this may not be the age of the offender at the time of the first offence, but rather the age at the first crime they have been charged with within the dataset (since April 2001).

2.4.3 Frequency of offending. The number of crimes committed was recorded for each offender, according to each offence category. In terms of the number of previous convictions, research has not adopted a uniform approach, particularly within specialisation research; a varied number of required previous offences have been used, such as nine (Wolfgang et al., cited in Bursik, 1980), five (Bursik, 1980; Youngs, Ioannou & Eagles, 2016), two (Baker et al., 2013; Farrington et al., 1988; Harris et al., 2009; McGloin et al., 2007; Piquero et al., 1999; Sullivan et al., 2006), two or less (Soothill et al., 2002) or one (Boorman & Hopkins, 2012; Cook et al., 2005; Ganpat et al., 2014) prior conviction(s). Analyses throughout this thesis explore offenders with a minimum of one prior conviction; the specialisation research (see *Chapter 8*) included offenders with two or more previous offences, as Harris et al. (2009) emphasised that investigations into specialisation would be restricted if offenders with limited criminal histories were explored and a minimum of two prior convictions is necessary for the use of the diversity index (Piquero et al., 1999).

2.4.3.1 How previous convictions are measured. Investigations into diversity and specialisation tend to include sentencing occasions, arrests or convictions as the measurement (Bursik, 1980; Guerette, Stenius, & McGloin, 2005). Harris et al. (2009) discussed the use of recording only the most serious offence of each criminal occasion in prior research, but highlights the issues surrounding this (see Fisher & Ross, 2006; Harris et al., 2009; Lattimore, Visher, & Linster, 1994; Sullivan et al., 2009). Thus, in accordance with Harris et al. (2009), all offences recorded for the offender

(e.g. each individual crime) were included.

2.4.4 Chronicity of offenders. Chronicity was calculated by applying a category, according to the total number of previous convictions, for each offender, through the application of a scale created by Gittens (2011), which was based on earlier research (Svensson, 2002; Wolfgang et al., 1972), and has later been applied to serious sexual offenders (Almond et al., 2015). The scale consisted of five categories, with offenders being classified as rare (one to two prior convictions), occasional (three to five prior convictions), repeat (six to 10 prior convictions), chronic (11-19 prior convictions) or career (20+ prior convictions) offenders (Almond et al., 2015; Gittens, 2011).

2.4.5 Categorisation schemes and types of previous convictions. The use of crime categories is largely based on research into offender specialisation. Almost 250 types of crime were recorded within the dataset; the offences from the police dataset were grouped according to a number of offence categorisation schemes (the grouping of offences can be found in Appendix A, with crime definitions recorded in Appendix B). Criminal histories were examined according to the four, eight, 15 and 24 crime categorisation schemes (see Table 2.1). The use of four categories was based on previous research (e.g. Harris et al., 2009), with eight categories drawn from the more general offence categories presented in the police data. As used by Harris et al. (2009), the present research used the current Australian and New Zealand Standard Offence Classification (ANZSOC; Pink, 2011); this identified 16 categories, however one category was not applicable to the UK dataset (Dangerous or negligent acts endangering persons) and therefore 15 categories remained. The 24 categories were identified from those used by the Home Office (2012), with consideration of the 38 offence groups used by Francis, Liu and Soothill (2008). It is important to highlight that there are categories present in the 15 (serious violent), and 24 (attempted murder, GBH, homicide), offence categorisation schemes that are not applicable to the control sample, as offenders within the control sample, by definition, did not contain such offences in their criminal history.

Table 2.1

Crime Categorisation Schemes in the Current Research

Number of categories	**Crime categories**
4	Other; Property; Sexual; Violent.
8	Burglary/robbery; Criminal damage; Drugs; Non-notifiable; Other crime; Sexual; Theft/handling; Violence/against the person.
15	Abduction; Burglary; Cause injury; Drugs; Fraud; Justice; Miscellaneous; Property damage; Public order; Robbery; Serious violent; Sexual; Theft; Traffic; Weapons.
24	Abduction; Arson; Assault occasioning actual bodily harm (ABH); Attempted murder; Criminal damage; Domestic burglary; Drug offences; Fraud and forgery; GBH; Harassment; Homicide; Miscellaneous; Non-domestic burglary; Non-notifiable; Other assault; Other theft; Other violence; Possession of weapon; Robbery; Sexual offences; Theft from vehicle; Theft of Vehicle; Threats to kill; Vehicle interference.

2.4.6 Specialisation threshold. Specialisation thresholds (STs) are applied to offenders in the sample, according to thresholds applied in earlier research; 50%, 75% and 100% (Harris et al., 2009; Jennings et al., 2014; Miethe et al., 2006). The STs are calculated by dividing the number of crimes in one category by the offender's total number of previous convictions. Such STs are applied as overall levels of specialisation (e.g. an offender may demonstrate 75% specialisation in their criminal history) and also specifically in relation to the offence the perpetrator specialises in (e.g. an offender may show 100% specialisation in violent crimes). This is assessed according to the frequency of offences within the crime types set out by the categorisation schemes in Table 2.1.

2.4.7 Diversity index. The diversity index (DI) is calculated for each offender, in order to determine how diverse an offender's criminal history was (e.g. Harris et al., 2009; Miethe et al., 2006; Sullivan et al., 2006). The DI is

computed using the number of crime categories (*k*) present in the offending history ([*k*-1]/*k*), providing a score ranging from 0 to 1, with a score of 0 indicating complete specialisation and a value of 1 illustrating complete diversity (Agresti & Agresti, 1978). Thus, the DI was calculated for each offender consistent with the four, eight, 15 and 24 crime categories. This measure produces a continuous score and enables relationships to be explored with variables such as age and frequency of offending.

2.5 Statistical Analysis

In *Chapters 4, 5, 6* and *7* comparisons are made between groups of offenders, with *Chapter 8* exploring specialisation and diversity of SV perpetrators. *Chapter 9* aims to investigate whether offender characteristic and criminal history variables act as predictive factors for future SV offending. The continuous variables to undergo analysis (age at target offence, age at first offence; frequency of offending; diversity index) were assessed for normal distribution; each variable reported a significant Kolmogorov-Smirnov statistic, with histograms depicting a skewed distribution, thus violating the assumption of normality. As the data were found to be non-parametric, Mann Whitney U tests and Kruskal Wallis tests were employed to compare descriptive data (*Chapters 4* to *8*). Additionally, Spearman's correlations assessed the relationship between the diversity index, and age and frequency of offending (*Chapter 8*).

To explore the differences between subgroups of offenders and the categorical variables, such as the presence of a crime type, 2x2 and rxc Chi-square analyses were computed (see *Chapters 4* to *7*). When multiple comparisons were made, it was important to control for familywise error, in order to avoid finding false positive results (McDonald, 2014). Holm's (1979) Bonferroni correction was applied to account for Type 1 errors; in accordance with earlier research, this is in cases when $df > 1$ (Rosnow & Rosenthal, 1989; Sharpe, 2015). The standard Bonferroni adjustment has been deemed as too conservative and so Holm's sequential Bonferroni is argued to be a popular, and more powerful, alternative (Abdi, 2010). To apply Holm's Bonferroni correction, the tests are ordered according to the *p* value, from smallest to largest, and given a rank (i.e. a position in the sequence); for

each comparison, an adjusted *p* value is used to determine significance. The adjusted *p* value is calculated by dividing the standard alpha level ($p = .05$) by the position in the sequence, beginning with the most significant (e.g. the smallest *p* value); if a finding is determined non-significant using the adjusted alpha level, the comparison procedure stops and any remaining findings in the list are deemed non-significant. For example, if four multiple comparisons were conducted, the first comparison would be considered according to the adjusted alpha value of .0125 (.05/4), the second would have an alpha value of .0167 (.05/3), and so on.

Also, the effect sizes for significant findings are reported; Mann Whitney U tests and correlation analyses consider the effect size denoted *r*. The effect size of *Phi* is considered for 2x2 Chi-square analyses, yet due to the impact that differing frequencies in cells can have on this value (Sharpe, 2015), interpreting the OR as an effect size is recommended (Haddock, Rindskopf, & Shadish, 1998). Additionally, as the OR is not available for rxc Chi-square tests, Cramer's *V* is reported. A rule of thumb for effect size has been suggested as 0.1 for small, 0.3 for medium and 0.5 for large effects (Cohen, 1988, 1992), with corresponding cut-offs for OR values of 1.49, 3.45 and 9.0 (Oliver & Bell, 2013).

As noted, *Chapter 9* produces models to identify predictive factors of SV criminals. In order to analyse this, logistic regression is employed. This enables the use of both continuous and categorical variables to be included in the analysis, to assist in predicting the likelihood the offender belongs to a dichotomous outcome, and thus in this case commits a future SV offence. Binomial logistic regression models investigate the probability of an offender being a: (i) SV or control offender, (ii) a SV male or female offender, or (iii) an AMH or GBH offender. Additionally, the AUC of the ROC analyses were computed as a further exploratory measure to determine the accuracy of the binomial logistic regression models. ROC measures classifier performance through the consideration of the proportion of correctly classified data and the proportion of data incorrectly classified; the ROC curve presents an illustration of this classification accuracy of the AUC statistic. The AUC scores from 0.5 to 1.0; significant values closer to 1.0 imply the model is able to distinguish between the two possible outcomes, and thus the 'better' the

model (Tollenaar & van der Heijden, 2011), with values closer to 0.5 indicating a poor fit. Furthermore, multinomial logistic regression analyses assessed the likelihood an offender would belong to one of multiple categorical outcomes, based on offender characteristic and criminal history information as predictor variables. The analyses explored the outcomes of: (i) AMH, GBH versus control offenders, and (ii) SV male, SV female, control male and control female perpetrators.

Chapter 3: Description of the Sample

3.1 Aims of Chapter

There is a wealth of literature on criminals, particularly on violent male perpetrators. However, while research on female violent offenders has seen an increase in attention in recent years, as has the consideration of particular types of violent crime, research is still relatively lacking on these latter subgroups of offenders. Hence, a number of researchers have commented on the underrepresentation of female offenders in violent crime studies and the need to investigate specific types of SV offenders. Moreover, there has been a lack of consideration in the literature of levels of chronicity displayed by those engaging in serious violence. As the central aim of this thesis is to investigate factors relating to SV offenders; descriptive information of the sample may assist our understanding of SV offenders, and violent subgroups, particularly in relation to offender characteristics and criminal history details. Empirical research informs both practitioners, and methods used, within the criminal justice system, so it is therefore essential that practitioners and researchers have a thorough knowledge of violent perpetrators.

3.2 Previous Descriptive Research

3.2.1 Sample size. The sample sizes of research into violent offenders varies greatly; for example, samples of prisoners and SV offenders range in size from less than 100 individuals (e.g. Craissati & Sindall, 2009; Liem et al., 2014), to over 1000 cases (e.g. Boorman & Hopkins, 2012; Cook et al., 2005; Ganpat et al., 2014), with samples typically consisting of all, or mostly, male offenders (e.g. Ganpat et al., 2014; Soothill et al., 2002). When comparing different offenders, the number of perpetrators within the samples typically differ (e.g. Smit et al., 2003; Soothill et al., 2002). Moreover, variations in the samples of female offenders has been noted, with sample sizes ranging from 55 (Bennett et al., 2012), to 204 (Chan & Frei, 2013), to 411 (Rettinger & Andrews, 2010) to 657 (Pollock et al., 2006) individuals.

3.2.2 Age and gender. Regarding the age of the offender,

researchers have noted that offenders who continue to engage in criminal activity tend to begin offending when younger (Ioane et al., 2014; Moffitt & Caspi, 2001). When committing a first offence, Ioane et al. (2014) reported that perpetrators convicted of committing a violent crime had a tendency to be older than those who were responsible for a non-violent offence, with Roberts et al. (2007) claiming that homicide perpetrators are typically younger adult offenders. In view of juvenile offenders, Heide et al. (2011) reported that, in some instances, adolescents who commit murder are becoming younger than in previous years. Specifically in terms of homicide offenders, Dobash et al. (2007) noted that there were three categories of the offenders, determined by age; those who offend before the age of 13, those who start to offend after the age of 13 and those who have not been convicted of an offence prior to the murder conviction.

Males between the ages of 16 to 24 were more likely to be offenders of violent crime (ONS, 2015), which appears to support reports of previous findings. Craissati and Sindall (2009), in their consideration of previous research (e.g. Gavin, 2003; Hedderman & Vennard, 1997; HM Inspectorate of Probation, 2005), reported that the age of an offender at the time of committing a serious offence remained fairly consistent, in that they were typically aged mid-20s; yet, Craissati and Sindall (2009) reported an average age of 28 years for offenders who committed serious further offenders in their sample. Further, Crocker and colleagues (2013) identified SV offenders to be in their mid to late 30s and, when exploring the specific offence of murder, offenders had a reported age of 28 years (Soothill et al., 2002), with a similar finding in research by Liem et al. (2014) of 26 years. Thus, although offenders of SV crimes are reported to be in their 20s, there appears to be some variation from early to late 20s.

In exploration of female perpetrators, a number of researchers have argued that females tend to peak in their offending in their mid-teens (Gelsthorpe et al., 2007; Home Office, 2003). Yet, the average age of female offenders somewhat varies in research; in Thornton et al.'s (2012) sample of violent and non-violent perpetrators, the average age was reported as 26 years, with similar reports of 25 years old (Murdoch et al., 2012) and 27 years for incarcerated women (Bonta, Pang, & Wallace-Capretta, 1995).

Additional research states the age of violent females to be older at 30years (Rettinger & Andrews, 2010) and 33 years (Pollock et al., 2006). In a specific sample of female homicide offenders, an older average age of 38 was reported (Bennett et al., 2012), whereas Chan and Frei (2013) described a younger sample of sexual homicide female perpetrators with a mean age of 27. Wolfgang (1958) reported female homicide offenders to be in their late 20s to early 30s, with Block (1985) noting that ages ranged from 20 to 24 years.

With regard to the onset age of offenders in relation to the type of violent offender, Smit and colleagues (2003) reported offenders convicted of assault were younger than homicide perpetrators. Similarly, Ganpat et al. (2014) noted an average onset age of 21 years of non-lethally violent criminals, with lethally violent offenders having a marginally older onset age of 23 years. Whereas, Soothill et al.'s (2002) research argued the sample of murderers were younger than those in the violent control group. However, research is more agreeable regarding the age of the criminal when committing the target, or index, offence; lesser-violent offenders are argued to be younger than perpetrators who partake in lethal violence (Dobash et al., 2007; Ganpat et al., 2014; Smit et al., 2003; Soothill et al., 2002). When exploring delinquent males, the age of onset of criminality was argued to be younger in perpetrators who engaged in non-SV crimes (*M* = 12 years old) than those who engaged in violence (*M* = 22 years; Laub & Sampson, 2003)

3.2.3 Frequency of offending. Crocker et al. (2013) reported 35.8% of SV offenders had at least one previous conviction, whereas a much larger proportion of a different violent sample demonstrated a minimum of one prior offence (85.4%, Wilpert et al., 2015). A sample of murderers featured 68% who had a criminal history, ranging from one to 40 prior offences, with an average of 7.3 previous sentencing occasions, compared to an average of 8.1 in the general (e.g. non-SV) control sample (Soothill et al., 2002). This was also reflected in Ganpat et al.'s (2014) research, as lethally violent perpetrators had an average of 6.7 prior criminal records and the nonlethal violent sample reported an average of 7.1; the average was reduced when exploring the existence of previous violent offences only (0.9% and 1.3%, respectively). Yet, fewer prior offences were reported in Robert et al.'s (2007)

homicide sample, with an average of five prior arrests and 2.6 previous convictions. An average of two previous convictions was also reported in male homicide offenders (Liem et al., 2014). Cook et al. (2005) reported on the proportion of homicide offenders in the sample who had a prior arrest (71.6%); of these perpetrators, 37.0% had a violent arrest,29.2% had five or more arrests (with one or more being violent), 42.6% had a felony conviction and 9.3% had an earlier violent-felony conviction.

Leal, Gertz and Piquero (2016) explored a sample of professional football player arrestees, reporting that 76.8% had one prior arrest; the proportion of offenders decreased as the number of arrests increased (2 arrests = 15.9%, three arrests = 4.7%, four arrests = 1.9%, 5+ arrests = 0.7%). Statistics provided by MoJ (2012) indicated that more females, who were sentenced for an indictable offence, had no previous cautions or convictions (15%; males 9%). On the other hand, males, who were sentenced for an indictable offence, had 15+ previous convictions or cautions (32%; females 25%). Thus, statistics and research imply females are less likely to have a substantial criminal history (Forsyth et al., 2001; Rossegger et al., 2009; Yourstone et al., 2008). This was further supported in an exploration of females who have committed intimate partner homicide; a median score of two previous convictions was reported, ranging from 0 to 28 prior crimes, yet when violent previous convictions were investigated, a median of 0 offences was noted, with a much smaller range (0 to 8; Caman, Howner, Kristiansson, & Sturup, 2016). On the other hand, Loucks and Zamble (1994) reported a higher average of 10.8 prior convictions for female perpetrators; the sample consisted of offenders of homicide, assault, robbery, sexual, property, drug and other crimes.

3.2.4 Chronicity. The concept of chronicity was introduced by Wolfgang et al. (1972), as it was reported that 18% of offenders within the sample were held responsible for approximately half of the offences committed. Svensson (2002) categorised male and female offenders as one-time (57%), occasional (25%), repeat (12%) and chronic (6%) offenders; this was reflected in research by Gittens (2011), with most offenders classified as one-time offenders (42.6%), followed by occasional (22.2%), repeat (16.0%), chronic (10.9%) and career (8.3%) perpetrators. Violent offenders are argued

to demonstrate higher levels of chronicity, when compared to nonviolent perpetrators (e.g. Elliott, 1994; Peterson, Braiker, & Polich, 1981). Thus, research indicates that a small proportion of offenders demonstrate chronic offending, with larger percentages of offender samples being held responsible for fewer crimes; in particular, between 5-10% of the offending population are argued to be a group of persistent, serious and violent offenders (e.g. Barnes, 2013; DeLisi & Piquero, 2011; Gottfredson & Hirschi, 1990; Piquero, 2011; Vaughn et al., 2014).

3.2.5 Types of previous convictions. The Homicide Index identified perpetrators of homicide who also had a prior offence in their criminal history for homicide (ONS, 2015), with other research reporting a variety of crimes within the histories of homicide offenders, including ABH, GBH, arson, criminal damage, acquisitive offences and other crimes (e.g. Kooyman et al., 2012). Literature has pointed out that for aggressive individuals, a history of aggressive behaviour is likely (Conradi et al., 2009; Hay, 2005), with additional reports that one SV offence was present in the offending history of most offenders (Wolfgang et al., 1972). However, as highlighted by Cook et al. (2005), research tends to explore exclusive subgroups of homicide perpetrators, such as those with psychosis (Kooyman et al., 2012) or other mental disorders (e.g. Clarke et al., 2016), making comparisons difficult.

In relation to the types of previous crimes of male offenders, Soothill et al. (2002) reported burglary, theft and violence within the histories of murderers, with arson, robbery, blackmail, kidnapping and manslaughter indicating an increased risk of future homicide. Likewise, Craissati and Sindall's (2009) sample featured a prior conviction for a theft-related offence, including crimes categorised under 'other' and 'violent' offences also featuring in the majority of offender's criminal histories. On the other hand, 'sexual offences' and 'arson' were only apparent in a small number of offender's previous crimes. Male violent offenders, presented in Wilpert et al.'s (2015) research, were found to have previously committed physical violence (67.4%), property (55.8%) and vandalism (27.9%) crimes, with a small proportion engaging in sexual offences (4.6%). Cook et al. (2005) and Liem et al. (2014) further support the observation of previous convictions in the majority of male homicide offenders, reporting both violent (e.g. robbery,

aggravated assault) and non-violent (e.g. property crime, traffic offence, drug offence) previous convictions. In terms of young, male offenders, research has reported their likelihood to engage in particular categories of crime to ascertain their masculinity, including assault, sexual violence (Messerschmidt, 2000), homicide and robbery (e.g. Belknap, 2001; Chesney-Lind & Belknap, 2004: Heide, 1999; Messerschmidt, 2000; Pollock, 1999). Schwartz et al. (2009) supported that males engage in, and account for, higher rates of violent crimes, especially serious violence, than females (Sandler & Freeman, 2011; Siegel & Senna, 2000).

Prior offences of females have been reported to include minor offences (Alder & Worrall, 2004), such as criminal damage (Howard & Dixon, 2013; Pollock et al., 2006; Thornton et al., 2012). Yet, research identified “all types of offending behaviour” (p. 1412) in females (Thornton et al., 2012), including general aggression and antisocial behaviour (Moffitt et al., 2001). Female offenders, who had been convicted of property and drug crimes, noted committing a previous violent offence (Pollock et al., 2006); such violent offenders were more likely to have the offences of theft of vehicle, weapons, handling, gang membership, shoplifting and damaged property in their criminal histories, when compared to non-violent offenders. Pollock and colleagues (2006) further added that robbery was unlikely to appear in the offending histories of females.

3.2.6 Summary. To summarise, descriptive research indicates that persistent offenders tend to have an early onset (Ioane et al., 2014; Moffitt & Caspi, 2001), with violent offenders engaging in criminality at an older age than non-, or lesser-, violent criminals (Ganpat et al., 2014; Ioane et al., 2014; Laub & Sampson, 2003; Smit et al., 2003). In particular, research claims that SV offenders are typically in their late-20s to 30s (e.g. Craissati & Sindall, 2009; Crocker et al., 2013; Soothill et al., 2002), with some disagreement in that they are typically younger adults (e.g. ONS, 2015; Rogers et al., 2007). Research tends to utilise all-, or mostly, male samples (e.g. Ganpat et al., 2014; Soothill et al., 2002), with reports that the majority of violent offences are accounted for by males, aged 16-24 years (ONS, 2015). The average age of female offenders varies from mid-20s to late-30s (e.g. Bennett et al., 2012; Bonta et al., 1995; Chan & Frei, 2013; Murdoch et

al., 2012; Pollock et al., 2006; Rettinger & Andrews, 2010). SV offenders are reported to have a criminal history (e.g. Liem et al., 2014; Soothill et al., 2002; Wilpert et al., 2015), with reports of the average number of prior offences ranging from six to eight (e.g. Ganpat et al., 2014; Soothill et al., 2002); moreover, males are more likely to have a higher frequency of offending than females (e.g. MoJ, 2012; Rossegger et al., 2009). A variety of crime types have been reported in the criminal histories of various subgroups of SV offenders, including the presence of violence and theft related offences (e.g. Craissati & Sindall, 2009; Soothill et al., 2002), as well as more general crimes, such as property and drugs (e.g. Cook et al., 2005; Liem et al., 2014; Wilpert et al., 2015).

3.3 Procedure

Given these considerations, the present sample was explored in terms of its descriptive data, relating to the particular offender characteristics of gender and the age of the perpetrator at the time of committing the target offence. Some SV offenders did not have previous convictions and were therefore excluded from the remaining investigation. Additional descriptive details are given for offenders with previous convictions, for an additional offender characteristic (the age of the perpetrator at the time of committing the first offence in the dataset) and information about their criminal history; this includes the frequency of offending, chronicity of offenders and the types of prior crimes committed. Findings are explored in relation to existing research.

3.4 Descriptive Details

3.4.1 Serious violent sample.

3.4.1.1 Age at first offence (within the dataset) and age at target offence. For all SV offenders (*n* = 1523), the average age, at the time of committing the target offence, was 26.73 years (*SD* = 10.79; *Mdn* = 23.00); the youngest offender was 12 years and the oldest was 87 years. When exploring only those with previous convictions (*n* = 1108), when being charged with the target offence, ages ranged from 12 to 68 years, with a

median age of 23.00 years (*M* = 26.02, *SD* = 9.90). Additionally, the age of such SV perpetrators, when committing the first offence, was 21.85 years (*SD* = 9.90; *Mdn* = 18.00), with ages ranging from eight to 67 years.

3.4.1.2 Gender. The SV sample consisted of 1317 male and 206 female offenders. When only those with previous convictions were investigated, the sample was reduced to 959 male and 149 female SV perpetrators.

3.4.1.3 Frequency of offending**.** On average, SV offenders had 7.76 (*SD* = 11.88; *Mdn* = 4.00) previous convictions, with the number of offences ranging from one to 168.

3.4.1.4 Chronicity of offenders. The category, rare offender, contained the largest proportion of SV offenders (34.7%) followed by occasional (26.3%), repeat (18.2%) and chronic (11.8%) offenders, with fewest perpetrators classified as career offenders (9.0%).

3.4.1.5 Types of previous convictions**.** The previous convictions present in the offending histories of SV perpetrators are shown in Table 3.1. All crimes were observed within the offender's prior offences. Across each of the categorisation schemes, violent crimes were most frequently documented (four categories: 76.5% violent; eight categories: 75.5% violent; 15 categories: 64.4% cause injury; 24 categories: 53.9% ABH), closely followed by other offences (four categories: 73.8% other; eight categories: 43.4% non-notifiable). The offences that were least frequently recorded in the criminal histories of SV perpetrators were sexual, justice (15 categories), abduction (24 categories), attempted murder and homicide (as previous convictions; 24 categories) crimes (<1.0%).

Table 3.1

Types of Previous Convictions for Serious Violent Offenders

Offence types	N[1]	% SV Offenders (*n* = 1523)	% SV Offenders with pre-cons (*n* = 1108)
No pre-cons	415	27.2	-
4 categories			
Other	818	53.7	73.8
Property	511	33.6	46.1
Sexual	11	0.7	1.0
Violent	848	55.7	76.5
8 categories			
Burglary/Robbery	239	15.7	21.6
Criminal damage	462	30.3	41.7
Drug offence	324	21.3	29.2
Non-notifiable	481	31.6	43.4
Other crime	233	15.3	21.0
Sexual Offences	11	0.7	1.0
Theft/Handling	461	30.3	41.6
Violence	836	54.9	75.5
15 categories			
Abduction	334	21.9	30.1
Burglary	206	13.5	18.6
Cause injury	713	46.8	64.4
Drugs	325	21.3	29.3
Fraud	55	3.6	5.0
Justice	1	0.1	0.1
Miscellaneous	441	29.0	39.8
Property damage	463	30.4	41.8
Public order	140	9.2	12.6
Robbery	67	4.4	6.0

[1] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offence types	N[1]	% SV Offenders (*n* = 1523)	% SV Offenders with pre-cons (*n* = 1108)
Serious violent	87	5.7	7.9
Sexual	11	0.7	1.0
Theft	464	30.5	41.9
Traffic	141	9.3	12.7
Weapons	134	8.8	12.1
24 categories			
Abduction	3	0.2	0.3
Arson	31	2.0	2.8
Assault occasioning actual bodily harm (ABH)	597	39.2	53.9
Assault	362	23.8	32.7
Attempted murder	7	0.5	0.6
Criminal damage	455	29.9	41.1
Domestic burglary	112	7.4	10.1
Drug offences	325	21.3	29.3
Fraud and forgery	55	3.6	5.0
GBH	75	4.9	6.8
Harassment	303	19.9	27.3
Homicide	5	0.3	0.5
Miscellaneous	299	19.6	27.0
Non-domestic burglary	146	9.6	13.2
Non-notifiable	412	27.1	37.2
Other theft	398	26.1	35.9
Other violence	27	1.8	2.4
Possession of weapon	134	8.8	12.1
Robbery	66	4.3	6.0
Sexual offences	11	0.7	1.0
Theft from vehicle	94	6.2	8.5
Theft of vehicle	127	8.3	11.5

Offence types	N[1]	% SV Offenders (*n* = 1523)	% SV Offenders with pre-cons (*n* = 1108)
Threats to kill	36	2.4	3.2
Vehicle interference	27	1.8	2.4

3.4.2 Serious violent sample: Male offenders

3.4.2.1 Age at first offence (within the dataset) and age at target offence. At the time of committing the first offence within the database, the average age was 21.69 years (*SD* = 9.88, *n* = 959). There was a median of 18.00 years with the youngest perpetrator offending at eight years old and the oldest at 67 years. The age of males, at the time of committing the target offence, ranged from 12 to 87 years (*n* = 1317). The median age recorded was 23.00, with a mean age of 26.68 years (*SD* = 10.85). When only males with previous convictions were included in the analysis (*n* = 959), the median age was 23.00 years (*M* = 25.86, *SD* = 9.86, range = 12 to 68).

***3.4.2.2 Frequency of offending*.** Within the sample of SV male offenders, 358 (27.2%) perpetrators did not have any convictions previously recorded prior to the target offence. Therefore, when exploring the types of crimes within an offender's criminal history, only offenders with previous convictions are explored (*n* = 959). Of the 959 violent males, the average number of previous convictions was 8.06 (*SD* = 12.46), with a median of 4.00; the number of prior offences ranged from one to 168. The mode was one previous conviction (*n* = 179), followed by two (*n* = 149), three (*n* = 109), four (*n* = 74) and five (*n* = 66) offences, with one offender committing 166, and another offender perpetrating 168 prior crimes.

3.4.2.3 Chronicity of offenders. For those offenders with previous convictions, the chronicity of their offending was explored. The largest proportion of SV males fell under the category of rare offender (34.3%), followed by occasional (26.0%), repeat (17.8%) and chronic (12.4%) offenders, with 9.5% of males being classified as career offenders.

***3.4.2.4 Types of previous convictions*.** The types of previous offences by SV male offenders are illustrated in Table 3.2. Four categorisation schemes were applied to the previous offences and all offence

types were present in the criminal histories of SV male offenders. For each of the categorisation schemes, the highest frequencies of offenders were found within the violent offence types (four categories: 75.5% violent; eight categories: 75.6% violence; 15 categories: 64.1% cause injury; 24 categories: 54.0% ABH). The sexual crimes, for each of the categorisation schemes, recorded fewest SV offenders (<1.2%).

Table 3.2

Types of Previous Convictions for Serious Violent Male Offenders

Offence types	**N[2]**	**% Male SV Offenders (*n* = 1317)**	**% Male SV Offenders with pre-cons (*n* = 959)**
No pre-cons	358	27.2	-
4 categories			
Other	724	55.0	75.5
Property	446	33.9	46.5
Sexual	11	0.8	1.1
Violent	735	55.8	76.8
8 categories			
Burglary/Robbery	225	17.1	23.5
Criminal damage	422	32.0	44.0
Drug offence	297	22.6	31.1
Non-notifiable	424	32.2	44.2
Other crime	206	15.6	21.5
Sexual Offences	11	0.8	1.1
Theft/Handling	402	30.5	41.9
Violence	725	55.0	75.6
15 categories			
Abduction	299	22.7	31.2
Burglary	196	14.9	20.4
Cause injury	615	46.7	64.1

[2] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offence types	N[2]	% Male SV Offenders (*n* = 1317)	% Male SV Offenders with pre-cons (*n* = 959)
Drugs	298	22.6	31.1
Fraud	46	3.5	4.8
Justice	1	0.1	0.1
Miscellaneous	389	29.5	40.6
Property damage	423	32.1	44.1
Public order	123	9.3	12.8
Robbery	61	4.6	6.4
Serious violent	75	5.7	7.8
Sexual	11	0.8	1.1
Theft	402	30.5	41.9
Traffic	134	10.2	14.0
Weapons	129	9.8	13.5
24 categories			
Abduction	3	0.2	0.3
Arson	28	2.1	2.9
Assault occasioning actual bodily harm (ABH)	518	39.3	54.0
Assault	308	23.4	32.1
Attempted murder	6	0.5	0.6
Criminal damage	416	31.6	43.4
Domestic burglary	106	8.0	11.1
Drug offences	298	22.6	31.1
Fraud and forgery	46	3.5	4.8
GBH	65	4.9	6.8
Harassment	273	20.7	28.5
Homicide	4	0.3	0.4
Miscellaneous	271	20.6	28.3
Non-domestic burglary	142	10.8	14.8
Non-notifiable	361	27.4	37.6

Offence types	N[2]	% Male SV Offenders (*n* = 1317)	% Male SV Offenders with pre-cons (*n* = 959)
Other theft	339	25.7	35.3
Other violence	23	1.7	2.4
Possession of weapon	129	9.8	13.5
Robbery	60	4.6	6.3
Sexual offences	11	0.8	1.1
Theft from vehicle	93	7.1	9.7
Theft of vehicle	119	9.0	12.4
Threats to kill	32	2.4	3.3
Vehicle interference	26	2.0	2.7

3.4.3 Serious violent sample: Female offenders

3.4.3.1 Age at first offence (within the dataset) and age at target offence. In terms of the age of offenders at the time of the first offence recorded within the database (i.e. post 2001), the ages ranged from nine to 53 years (*n* = 149). The median age recorded was 19.00, with an average age of 22.92 years (*SD* = 10.01). The age of offenders, at the time of committing the target offences, ranged from 13 to 62 years. The mean age of females was 27.00 years (*SD* = 10.38), with a median of 24.00 years. When only females with previous convictions were included, the median was 24.00 years, with a range from 13 to 60 years (*M* = 27.07, *SD* = 10.15).

3.4.3.2 Frequency of offending. Within the current sample, 57 (27.7%) SV females had not previously been charged with an offence. Thus, 72.3% (*n* = 149) of offenders had one or more recorded convictions. From the analysis of the 149 females, the number of previous convictions (post 2001) ranged from one to 50; the average number of prior offences was 5.81 (*SD* = 6.79), with a median score of 4. The most common number of previous convictions was one (*n* = 40), followed by two (*n* = 16), three (*n* = 15) and five offences (*n* = 14), with one perpetrator being held responsible for 50 prior crimes.

***3.4.3.3 Chronicity of offenders*.** Of the 149 females with prior

offences, 36.9% were categorised as rare offenders; the remaining perpetrators were grouped as occasional (28.2%), repeat (20.8%), and chronic (8.1%) offenders, with the smallest proportion deemed career offenders (6.0%).

3.4.3.4 Types of previous convictions. Table 3.3 shows the types of previous convictions committed by SV female offenders. Of the 149 perpetrators with prior offences, across each of the categorisation schemes, sexual offences were not recorded; in addition, no crimes of justice (15 categories) or abduction (24 categories) were noted. Similarly to the SV male sample, the largest proportions of females were identified within the violent offences (four categories: 75.8% violent; eight categories: 74.5% violent; 15 categories: 65.8% cause injury; 24 categories: 53.0% ABH). Fewest SV offenders were reported to have previously committed burglary-related offences (8 categories: 9.4% burglary/robbery; 15 categories: 6.7% burglary, 4.0% robbery; 24 categories: 4.0% domestic burglary, 2.7% non-domestic burglary) and some theft-related crimes (15 categories: 6.0% fraud; 24 categories: 6.0% fraud and forgery, 0.7% theft from vehicle, 0.7% vehicle interference), and were unlikely to have been charged for a weapons offence (15 categories: 3.4% weapons; 24 categories: 3.4% possession of weapon).

Table 3.3

Types of Previous Convictions for Serious Violent Female Offenders

Offence types	**N[3]**	**% Female SV Offenders (*n* = 206)**	**% Female SV Offenders with pre-cons (*n* = 149)**
No pre-cons	57	27.7	-
4 categories			
Other	94	45.6	63.1
Property	65	31.6	43.6
Sexual	-	-	-
Violent	113	54.9	75.8
8 categories			
Burglary/Robbery	14	6.8	9.4
Criminal damage	40	19.4	26.8
Drug offence	27	13.1	18.1
Non-notifiable	57	27.7	38.3
Other crime	27	13.1	18.1
Sexual Offences	-	-	-
Theft/Handling	59	28.6	39.6
Violent	111	53.9	74.5
15 categories			
Abduction	35	17.0	23.5
Burglary	10	4.9	6.7
Cause injury	98	47.6	65.8
Drugs	27	13.1	18.1
Fraud	9	4.4	6.0
Justice	-	-	-
Miscellaneous	52	25.2	34.9
Property damage	40	19.4	26.8
Public order	17	8.3	11.4
Robbery	6	2.9	4.0

[3] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offence types	N[3]	% Female SV Offenders (*n* = 206)	% Female SV Offenders with pre-cons (*n* = 149)
Serious violent	12	5.8	8.1
Sexual	-	-	-
Theft	62	30.1	41.6
Traffic	7	3.4	4.7
Weapons	5	2.4	3.4
24 categories			
Abduction	-	-	-
Arson	3	1.5	2.0
Assault occasioning actual bodily harm (ABH)	79	38.3	53.0
Assault	54	26.2	36.2
Attempted murder	1	0.5	0.7
Criminal damage	39	18.9	26.2
Domestic burglary	6	2.9	4.0
Drug offences	27	13.1	18.1
Fraud and forgery	9	4.4	6.0
GBH	10	4.9	6.7
Harassment	30	14.6	20.1
Homicide	1	0.5	0.7
Miscellaneous	28	13.6	18.8
Non-domestic burglary	4	1.9	2.7
Non-notifiable	51	24.8	34.2
Other theft	59	28.6	39.6
Other violence	4	1.9	2.7
Possession of weapon	5	2.4	3.4
Robbery	6	2.9	4.0
Sexual offences	-	-	-
Theft from vehicle	1	0.5	0.7
Theft of vehicle	8	3.9	5.4

Offence types	N[3]	% Female SV Offenders (*n* = 206)	% Female SV Offenders with pre-cons (*n* = 149)
Threats to kill	4	1.9	2.7
Vehicle interference	1	0.5	0.7

3.4.4 Serious violent sample: AMH offenders

3.4.4.1 Age at first offence (within the dataset) and age at target offence. At the time of committing the SV offence of AMH, the mean age of the sample (*n* = 132) was 32.76 years (*SD* = 14.53). Ages ranged from 16 to 87 years, with a median age of 29.50. Of those offenders who had been convicted of prior offences (*n* = 90), the ages spanned from 16 to 61 years; the median was 26.00 years old, with an average age of 29.00 years (*SD* = 10.35). Offenders with a criminal history had a mean age of 25.08 years (*SD* = 10.81) when the first offence was recorded within the database (i.e. post 2001); ages ranged from 10 to 60, with a median age of 22.50.

3.4.4.2 Frequency of offending. Within this sample, 68.2% (*n* = 90) of AMH offenders had a criminal history of one or more previous convictions; the number of convictions ranges from one to 99 offences. The average number of prior offences was 9.53 (*SD* = 14.85), with a median score of 4.00.

3.4.4.3 Chronicity of offenders. As with earlier descriptive statistics on chronicity, the category, rare offenders, contained the most AMH perpetrators (43.3%); yet for AMH offenders, this is followed by repeat (16.7%), occasional and career (both 15.6%) offenders, with fewest categorised as chronic offenders (8.9%).

3.4.4.4 Types of previous convictions. The types of previous offences by AMH offenders are shown in Table 3.4. No offences were recorded for justice (15 categories) or abduction (24 categories). In relation to four crime categories, other offences were the most commonly documented (75.6%), yet when eight crime categories were applied, there was a high frequency of offenders displaying previous convictions for violence (64.4%). Whereas, only 1.1% had a previous offence recorded for sexual offences; this applied to all four categorisation schemes. When exploring 15 categories, theft (48.9%) was frequently recorded, closely

followed by cause injury (45.6%). Only a small proportion of perpetrators engaged in robbery offences (3.3%). In reference to 24 crime categories, the offences of other theft (45.6%), criminal damage (43.3%), non-notifiable (42.2%) and ABH (40.0%) were likely to be observed, displaying similar proportions in the offender's previous convictions. Robbery (3.3%), arson (2.2%), other violence (2.2%), attempted murder (as a pre con, 1.1%), homicide (as a pre con, 1.1%) and sexual (1.1%) crime types were lacking within AMH perpetrators criminal history.

Table 3.4

Types of Previous Convictions for AMH Offenders

Offence types	**N[4]**	**% AMH Offenders (*n* = 132)**	**% AMH Offenders with pre-cons (*n* = 90)**
No pre-cons	42	31.8	-
4 categories			
Violence	60	45.5	66.7
Property	48	36.4	53.3
Other	68	51.5	75.6
Sexual	1	0.8	1.1
8 categories			
Burglary/robbery	27	20.5	30.0
Criminal damage	40	30.3	44.4
Drug	30	22.7	33.3
Non-notifiable	44	33.3	48.9
Other crime	21	15.9	23.3
Sexual	1	0.8	1.1
Theft/handling	42	31.8	46.7
Violence	58	43.9	64.4
15 categories			
Abduction	26	19.7	28.9

[4] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offence types	N[4]	% AMH Offenders (*n* = 132)	% AMH Offenders with pre-cons (*n* = 90)
Burglary	24	18.2	26.7
Cause injury	41	31.1	45.6
Drugs	30	22.7	33.3
Fraud	6	4.5	6.7
Justice	-	-	-
Miscellaneous	40	30.3	44.4
Property damage	40	30.3	44.4
Public order	13	9.8	14.4
Robbery	3	2.3	3.3
Serious violent	9	6.8	10
Sexual	1	0.8	1.1
Theft	44	33.3	48.9
Traffic	12	9.1	13.3
Weapon	10	7.6	11.1
24 categories			
Abduction	-	-	-
ABH	36	27.3	40.0
Arson	2	1.5	2.2
Assault	19	14.4	21.1
Attempted murder (as pre con)	1	0.8	1.1
Criminal damage	39	29.5	43.3
Domestic burglary	13	9.8	14.4
Drug	30	22.7	33.3
Fraud	6	4.5	6.7
GBH (as pre con)	7	5.3	7.8
Harassment	23	17.4	25.6
Homicide (as pre con)	1	0.8	1.1
Miscellaneous	27	20.5	30.0

Offence types	N[4]	% AMH Offenders (*n* = 132)	% AMH Offenders with pre-cons (*n* = 90)
Non domestic burglary	17	12.9	18.9
Non-notifiable	38	28.8	42.2
Other theft	41	31.1	45.6
Other violence	2	1.5	2.2
Possession of weapon	10	7.6	11.1
Robbery	3	2.3	3.3
Sexual	1	0.8	1.1
Theft from vehicle	9	6.8	10.0
Theft of vehicle	11	8.3	12.2
Threats to kill	4	3.0	4.4
Vehicle interference	6	4.5	6.7

3.4.5 Serious violent sample: GBH offenders

3.4.5.1 Age at first offence (within the dataset) and age at target offence. A total of 1391 offenders in the dataset were convicted of GBH as the target offence; at the time of committing this offence, the age of perpetrators averaged 23.00 years (*SD* = 10.19), spanning from 12 to 69 years old, with a median age of 23.00. Offenders with previous convictions (*n* = 1018) reported an older mean age of 25.76 years (*SD* = 9.82; *Mdn* = 22.50), with a range of 12 to 68 years. When convicted of the first offence, within the dataset, GBH perpetrators were 21.57 years (*SD* = 9.77), on average, with the youngest offender being eight and the oldest 67 years old (*Mdn* = 18.00).

3.4.5.2 Frequency of offending. For GBH offenders, 73.2% (*n* = 1018) had a prior conviction, varying from one to 168 offences; the median number of offences was 4.00 and the mean number of previous convictions was 7.60 (*SD* = 11.57).

3.4.5.3 Chronicity of offenders. Approximately one-third of GBH offenders were classified as rare offenders (33.9%), with fewer occasional

(27.2%), repeat (18.4%), chronic (12.1%) and career (8.4%) criminals.

3.4.5.4 Types of previous convictions. Table 3.5 illustrates the types of offences reported to be in the criminal histories of GBH offenders. A large proportion of offenders had been convicted of violence (four categories: 77.4% violent; eight categories: 76.4% violence; 15 categories: 66.0% cause injury; 24 categories: 55.1% ABH). Fewest crimes were found for sexual offences (1.0%).

Table 3.5

Types of Previous Convictions for GBH Offenders

Offence types	**N[5]**	**% GBH Offenders (*n* = 1391)**	**% GBH Offenders with pre-cons (*n* = 1018)**
No pre-cons	373	26.8	-
4 categories			
Violence	788	56.6	77.4
Property	463	33.3	45.5
Other	750	53.9	73.7
Sexual	10	0.7	1.0
8 categories			
Burglary/robbery	212	15.2	20.8
Criminal damage	422	30.3	41.5
Drug	294	21.1	28.9
Non-notifiable	437	31.4	42.9
Other crime	212	15.2	20.8
Sexual offences	10	0.7	1.0
Theft/handling	419	30.1	41.2
Violence	778	55.9	76.4
15 categories			
Abduction	308	22.1	30.3
Burglary	182	13.1	17.9

[5] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offence types	N[5]	% GBH Offenders (*n* = 1391)	% GBH Offenders with pre-cons (*n* = 1018)
Cause injury	672	48.3	66.0
Drugs	295	21.2	29.0
Fraud	49	3.5	4.8
Justice	1	0.1	0.1
Miscellaneous	401	28.8	39.4
Property damage	423	30.4	41.6
Public order	127	9.1	12.5
Robbery	64	4.6	6.3
Serious violent	78	5.6	7.7
Sexual	10	0.7	1.0
Theft	420	30.2	41.3
Traffic	129	9.3	12.7
Weapon	124	8.9	12.2
24 categories			
Abduction	3	0.2	0.3
ABH	561	40.3	55.1
Arson	29	2.1	2.8
Assault	343	24.7	33.7
Attempted murder (as pre con)	6	0.4	0.6
Criminal damage	416	29.9	40.9
Domestic burglary	99	7.1	9.7
Drug	295	21.2	29.0
Fraud	49	3.5	4.8
GBH (as pre con)	68	4.9	6.7
Harassment	280	20.1	27.5
Homicide (as pre con)	4	0.3	0.4
Miscellaneous	272	19.6	26.7
Non domestic burglary	129	9.3	12.7

Offence types	N[5]	% GBH Offenders (*n* = 1391)	% GBH Offenders with pre-cons (*n* = 1018)
Non-notifiable	374	26.9	36.7
Other theft	357	25.7	35.1
Other violence	25	1.8	2.5
Possession of weapon	124	8.9	12.2
Robbery	63	4.5	6.2
Sexual	10	0.7	1.0
Theft from vehicle	85	6.1	8.3
Theft of vehicle	116	8.3	11.4
Threats to kill	32	2.3	3.1
Vehicle interference	21	1.5	2.1

The interaction between gender and serious violent offenders (AMH females; AMH males; GBH females; GBH males) was also examined, yet due to the large differences in sample sizes, the interaction investigation was removed from the chapter. The descriptive details for the comparisons can be found in Appendix C. Additionally, descriptives for the control sample are in Appendix D.

3.5 Chapter Summary

The current chapter presents a thorough descriptive account of SV offenders, according to a number of subgroups: (i) all SV, (ii) SV male, (iii) SV female, (iv) AMH, and (v) GBH, offenders. Descriptive statistics were produced for the age at the time of the first offence (within the dataset), age at the target offence, frequency of offending, levels of chronicity and the presence of crime types. The sample size was larger than some previous studies (e.g. Craissati & Sindall, 2009) and similar to others (e.g. Ganpat et al., 2014; Soothill et al., 2002), with the majority of the sample consisting of males (86.5%, Ioane et al., 2014; Roberts et al., 2007; Rossegger et al., 2009).

The sample of SV offenders demonstrated the onset of criminality during late adolescence/early adulthood; while a fairly young onset, it is older than other reports of onset age (e.g. Dobash et al., 2007). Offenders in the sample were reported to be in their early 20s at the time of the SV offence lending support to some previous claims (e.g. Gavin, 2003; Hedderman & Vennard, 1997; HM Inspectorate of Probation, 2005), yet again demonstrating a younger age than in other reports (e.g. Craissati & Sindall, 2009; Liem et al., 2014; Soothill et al., 2002). SV male offenders, in this study, generally reflected the ages reported for SV offenders in earlier research (e.g. Gavin, 2003; Piquero et al., 2012), as was the case for SV female offenders, in terms of both the age at the first offence and age at the time of committing the SV crime, supporting findings in literature (e.g. Murdoch et al., 2012; Thornton et al., 2012). In the exploration of the type of SV offender, AMH perpetrators were generally older at onset and target offence, with younger averages reported by GBH offenders; this is fairly representative of research that has noted lethally violent offenders to be older criminals (e.g. Ganpat et al., 2014), yet this disputes findings from other investigations (e.g. Roberts et al., 2007; Soothill et al., 2002).

A total of 72.8% of the SV sample had a previous conviction, similar to other reports (e.g. Leal et al., 2016; Wilpert et al., 2015). In terms of the frequency of offending, reports from the subgroups of SV offenders produced similar findings; the median for all groups was four prior convictions, with the mean scores varying from six to 10 crimes. This was similar to findings from Ganpat et al. (2014) and Soothill et al. (2002), yet reported a higher frequency than other research (e.g. Liem et al., 2014; Robert et al., 2007). In terms of chronicity, interestingly all subgroups of offenders (with the exception of AMH criminals) demonstrated the same pattern, in that the highest frequency of perpetrators were classified as rare offenders, with fewest as career criminals; this varied between 6% and 9%, which relates to the argument of a group of serious, violent and persistent offenders (e.g. Barnes, 2013; Vaughn et al., 2014).

Finally, in relation to the types of crimes observed in the SV offender's criminal histories, for the most part, both violent and non-violent crimes were present. The most frequent offences in the SV sample to appear were

violent, theft and other crimes, which is largely reflected in literature (e.g. Cook et al., 2005; Craissati & Sindall, 2009; Kooyman et al., 2012; Soothill et al., 2002; Thornton et al., 2012); criminal histories are explored in more detail throughout the thesis. Of particular importance is the lack of prior sexual offenders throughout the entire sample, in addition to offences categorised in the crime types of justice and abduction. Previous research has also reported a lack of sexual offences (e.g. Craissati & Sindall, 2009; Wilpert et al., 2015).

3.5.1 Summary. The current sample of SV offenders, and the subgroups, show similar characteristics with earlier research. This is beneficial in supporting comparisons and generalisability of findings to literature and the offending population. However, there are discrepancies with other findings; this may be a result of the samples collected, from the location of offenders to the specificity of the types of offenders in the sample (e.g. not criminally responsible, Clarke et al., 2016).

Chapter 4: Serious Violent Offenders: A Control Comparison

4.1 Aims of Chapter

This chapter examines SV and control offending, in terms of offender characteristics and criminal history information. Unlike in previous chapters, gender is not factored in, as the aim is to achieve an overall picture of the offending samples. In particular, SV and control offenders are compared in order to determine if there are differences between the two groups of perpetrators. As emphasised previously, there is extensive research on violent offenders, yet samples often consist of male perpetrators only, and there has been a failure to adopt case-control methods; thus, it could be argued that such research applies to violent males, as opposed to violent offenders as one homogenous group and is limited in determining how SV perpetrators may be discriminated from a lesser-violent offending population. Thus, the current research proposes to add to the literature, and our understanding, of how SV offenders may differ from the control sample, presenting a broader picture of violent offending.

4.2 Introduction

The risk of future offending amongst violent offenders is a focus of current literature (Lattimore & Visher, 2011), yet researchers have pointed out the lack of agreement in literature relating to whether there are differences in violent and non-violent offenders (Piquero et al., 2012). Much of the literature focuses on samples of male offenders (e.g. Soothill et al., 2002; Stalans, Yarnold, Seng, Olson, & Repp, 2004), with research beginning to turn attention to females (e.g. Nicholls et al., 2015). Thus, earlier research on violent, and nonviolent or control, offenders is discussed in subsequent chapters, focusing on male (*Chapter 5*) and female (*Chapter 6*) offending; the current chapter therefore presents a summary of existing findings relating to SV offenders.

Research reports that violent offenders are deemed more serious in their offending compared to nonviolent perpetrators (e.g. Baglivio et al., 2014; Mulder et al., 2012); establishing if this is the case is essential to

inform the use of criminal justice resources and treatment, and how this may differ between the two types of perpetrators (Lai et al., 2015). This is of particular importance as much of the research that does explore comparisons between perpetrators has targeted juvenile offenders (e.g. Baglivio et al., 2014; Lai et al., 2015; Mulder et al., 2012) or has taken a clinical perspective (e.g. Bonta, Blais, & Wilson, 2014; Langevin & Curnoe, 2014). Furthermore, Savage, Palmer and Martin (2014) highlighted the failure of previous research to differentiate between violent and nonviolent criminality, and thus the need to classify violent and nonviolent offenders (Howard & Dixon, 2011; Thornton, Graham-Kevan & Archer, 2012). Moreover, Chan, Lo, Zhong and Chui (2015) pointed out the lack of attention to nonviolent offending, even though understanding nonviolent perpetrators is also essential for the prevention of future criminality (Harland, 1996). Moreover, explorations into a youth sample of violent and nonviolent offenders confirmed differences between the two (Lai et al., 2015).

Cook et al. (2005), and Craissati and Sindall (2009), explored the criminal histories of SV offenders. Cook et al. (2005) conducted a case-control comparison of homicide and non-homicide offenders. Similarly, Craissati and Sindall (2009) explored offenders who, when under probation supervision, were charged with murder or another serious further offence. The gender of the sample was not, however, specified in the investigations. Additionally, some research has utilised mixed-gender samples, when comparing differences between violent youth offenders (e.g. Ioane et al., 2014).

At the time of committing the serious offence, Craissati and Sindall (2009) reported perpetrators to be in their late twenties, with Ioane and colleagues (2014) reporting that offenders who committed violence as their first offence were more likely to be older. Yet, there are reports of violent recidivists being younger at their first offence, compared to non-violent criminals (e.g. Mulder et al., 2011).

In Cook et al.'s (2005) sample of homicide perpetrators, 72% had a previous conviction, which also featured those with violent prior offences (37%). In a comparison of perpetrators who reoffended, a higher number of previous offences were more characteristic of violent, than nonviolent,

offenders (Mulder et al., 2010). Furthermore, Ahonen et al. (2015) reported that the presence of violent previous convictions enabled for a differentiation between violent and nonviolent criminals, with an increased frequency of such crimes being more likely of violent perpetrators. *Chapter 1* (*section 1.6.1*) detailed the concept of chronic offending; chronicity has been noted amongst SV, compared to nonviolent, offenders (e.g. Elliott, 1994; Peterson et al., 1981), indicating a higher frequency of offending by violent perpetrators.

In regards to the types of offences, Craissati and Sindall's (2009) sample featured prior convictions for theft-related offences, with crimes categorised under other and violent offences also featuring in the majority of offender criminal histories. On the other hand, sexual offences and arson were only apparent in a small number of offender's previous crimes. What is more, in a comparison between murderers and control offenders, previous convictions of arson, blackmail, kidnap, manslaughter and robbery were more indicative of lethal violence, with other theft, shoplifting, fraud, theft from vehicle and drugs being more characteristic of general (e.g. non-murderer) offenders (Soothill et al., 2002).

4.2.1 Summary. Although research on violent offenders is substantial, understanding how non-violent, or lesser violent, perpetrators differ is essential (e.g. Chan et al., 2015; Harland, 1996; Lai et al., 2015). Literature that reviews violent, or nonviolent, offenders typically does so with a sample of male perpetrators (e.g. Soothill et al., 2002); thus, the proposed research adds to an overall understanding of a mixed sample (i.e. males and females) of SV offenders and perpetrators within the control sample. The aim is to investigate factors of SV offenders; as subsequent chapters review previous findings between SV and nonviolent criminals, in consideration of males and females, the current chapter proposes to provide an overview of the samples on the whole. Determining the differences between violent and nonviolent perpetrators is a critical factor for criminal justice practitioners (Lai et al., 2015).

4.2.2. Objectives.

- The first main objective, therefore was to explore differences in SV, and control, offenders in terms of the age of the offenders

at the first offence in the dataset and the frequency of offending;

- The second objective was to compare SV offenders to a control group to identify differences in levels of chronicity and the types of crime in their criminal history.

4.3 Methodology

4.3.1 Sample. Between April 2005 and March 2011, in the Devon and Cornwall area, 1523 SV offenders were classified as committing a SV offence; when only those with previous convictions were explored, the SV sample included 1108 perpetrators. As explained in *Chapter 2,* control offenders were only required for SV offenders with an offending history (Soothill et al., 2002), resulting in a matched-comparison sample of 1406 non-SV offenders.

4.3.2 Design. As with subsequent chapters, the current study adopted a retrospective design, exploring the individuals within the sample through their offender characteristics (age at the first offence recorded) and criminal history details (frequency, chronicity and offence type) to determine if there are differences between the SV and matched-case control offenders. This design enables the research to determine the types of offences that distinguish SV from control offenders convicted at the same age, gender and year of another offence (Soothill et al., 2002).

4.3.3 Procedure. *Chapter 2* describes the procedure used in extracting and coding data. The criminal history of each offender was explored in terms of the age at the first recorded offence in the dataset, the frequency of offending, the levels of chronicity and the presence of offences. Crimes present in the offender's criminal histories were categorised according to four crime categorisation schemes (four; eight; 15; 24).

4.3.4 Statistical analyses. Statistical analyses explored whether there were differences in the SV and the control samples, in terms of:

i. The age at the first offence and the frequency of offending (Mann Whitney U analysis).
ii. The levels of chronicity (5x2 Chi-square analysis).
iii. The presence of offence types (2x2 Chi-square analysis).

4.4 Results

4.4.1 Age at first offence (within the dataset). SV (*n* = 1108) and control (*n* = 1406) offenders were not found to significantly differ at the age of the offender when perpetrating the first offence within the database ($p > .05$).

4.4.2 Frequency of offending. When investigating offenders with prior offences (SV: *n* = 1108; control: *n* = 1406), the SV sample were convicted of significantly more previous convictions (*Mdn* = 4.00, *M* = 7.76, *SD* = 11.88), when compared with control perpetrators (*Mdn* = 3.00, *M* = 6.83, *SD* = 10.88), *U* = 734294.00, Z = -2.489, $p < 0.05$; a small effect size was reported.

4.4.3 Chronicity. A 5x2 Chi-square analysis compared SV offenders to perpetrators in the control group to explore differences in the types of chronicity; no significant differences were detected ($p > .05$). As illustrated in Figure 4.1, the distributions of SV and control offenders were fairly similar across the levels of chronicity, with the exception of 'career offenders'.

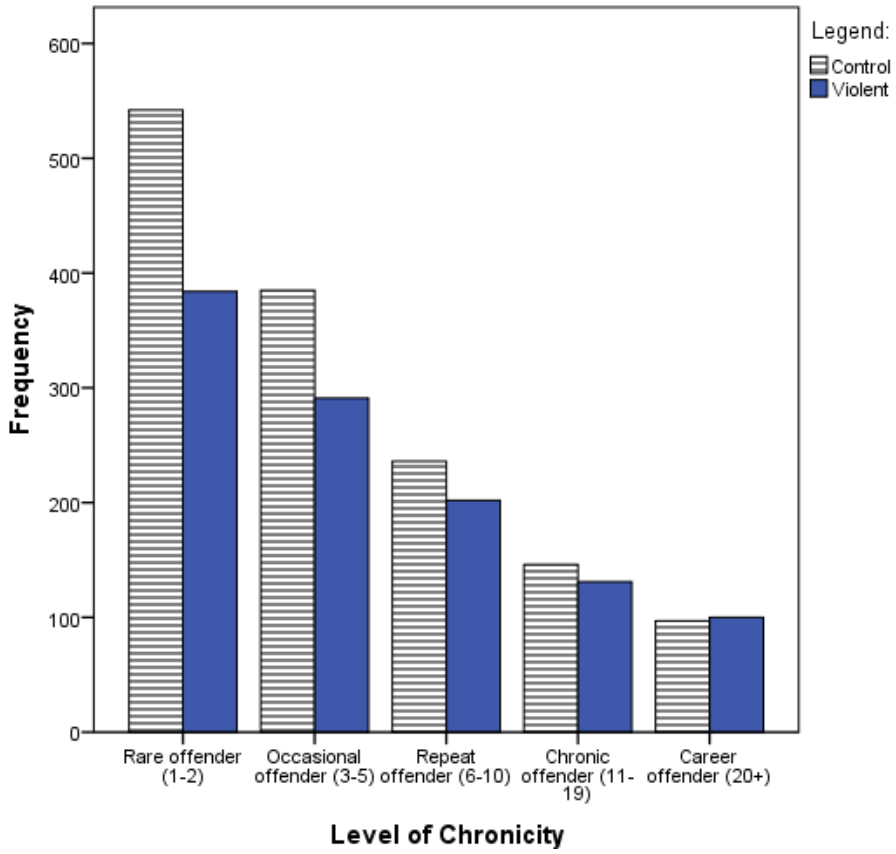

Figure 4.1 The Chronicity of Serious Violent and Control Offenders

4.4.4 Criminal history: Four crime categories. To explore the differences between SV perpetrators with previous convictions (*n* = 1108) and control offenders (*n* = 1406), in terms of their offending histories, Chi-square analyses were utilised. Table 4.1 shows the statistically significant differences between the SV and control samples, when applying the four crime categorisation scheme. SV offenders were statistically more likely to have a conviction for a violent crime, compared to perpetrators in the control sample, whereas control offenders were significantly more likely, than SV perpetrators, to have been previously convicted for property offences. All significant findings reported a small effect size.

Table 4.1

Significant Comparisons of SV and Control Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 1108)**	**Control (*n* = 1406)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	76.5%	64.3%	43.939	1.811	.0001***
Property	46.1%	52.3%	9.397	0.781	.002**

** $p < .01$, *** $p < .001$

4.4.5 Criminal history: Eight crime categories. Table 4.2 displays the significant differences in the presence of eight offence types, between SV and control offenders. Violent, burglary and non-notifiable crimes were more likely to appear in the criminal histories of SV offenders, when compared with those in the control sample. On the other hand, control perpetrators were more likely to have committed theft/handling offences, than the SV sample. Each significant difference displayed small effect sizes.

Table 4.2

Significant Comparisons of SV and Control Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 1108)**	**Control (*n* = 1406)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	75.5%	63.7%	39.748	1.749	.0001***
Theft/handling	41.6%	48.4%	11.656	0.759	.001**
Burglary	21.6%	17.8%	5.680	1.272	.017*
Non-notifiable	43.4%	39.1%	4.722	1.194	.030*

* $p < .05$, ** $p < .01$, *** $p < .001$

4.4.6 Criminal history: 15 crime categories. When applying the 15 crimes categorisation scheme, previous convictions of public order doubled the likelihood of being a SV offender, with prior offences for cause injury, weapon, robbery, miscellaneous or abduction also more likely to be committed by SV perpetrators, when compared to the criminal histories of the control sample (see Table 4.3). Yet, perpetrators within the control group had an increased likelihood of having been convicted for fraud or theft, than offenders in the SV sample. Small effect sizes were reported.

Table 4.3

Significant Comparisons of SV and Control Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 1108)	Control (*n* = 1406)	χ^2	Odds Ratio (OR)	*p*
Cause injury	64.4%	51.6%	40.927	1.691	.0001***
Fraud	5.0%	8.7%	13.489	0.545	.0001***
Public order	12.6%	6.2%	31.361	2.193	.0001***
Weapon	12.1%	7.7%	13.869	1.653	.0001***
Theft	41.9%	48.6%	11.214	0.763	.001**
Robbery	6.0%	3.8%	7.071	1.643	.008**
Miscellaneous	39.8%	35.1%	5.956	1.224	.015*
Abduction	30.1%	25.9%	5.595	1.235	.018*

* $p < .05$, ** $p < .01$, *** $p < .001$

4.4.7 Criminal history: 24 crime categories. Table 4.4 shows the significant differences between SV and control offenders, when the 24 crimes categorisation scheme is applied. Although this was demonstrated by a small proportion of the sample, SV perpetrators were twice as likely to have previously threatened to kill, with a previous conviction for ABH almost doubling this risk too. Additionally, possession of a weapon, assault, robbery, non-notifiable, non-domestic burglary and theft from vehicle were at an increased likelihood of being recorded in the criminal history of SV offenders, when compared to those in the control group. Offences within the fraud and other theft crime categories were significantly more likely to be present in perpetrators within the control sample, than the SV sample. All significant differences produced small effect sizes. No further significant differences were identified ($p > .05$).

Table 4.4

Significant Comparisons of SV and Control Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 1108)	Control (*n* = 1406)	χ^2	Odds Ratio (OR)	*p*
ABH	53.9%	39.2%	53.906	1.813	.0001***
Fraud	5.0%	8.7%	13.489	0.545	.0001***
Miscellaneous	27.0%	19.4%	20.197	1.534	.0001***
Other theft	35.9%	43.5%	14.647	0.729	.0001***
Possession of weapon	12.1%	7.7%	13.869	1.653	.0001***
Assault	32.7%	27.0%	9.490	1.310	.002**
Threats to kill	3.2%	1.5%	8.618	2.215	.003**
Robbery	6.0%	3.7%	7.064	1.649	.008**
Non-notifiable	37.2%	32.9%	4.942	1.206	.026*
Non-domestic burglary	13.2%	10.5%	4.216	1.290	.040*
Theft from vehicle	8.5%	6.4%	3.962	1.356	.047*

* $p < .05$, ** $p < .01$, *** $p < .001$

4.5 Chapter Summary

To summarise, the current study utilised a retrospective approach in examining and comparing SV, with control, offenders to determine how the groups of perpetrators may differ. The data consisted of 2514 offenders and explored the offender's age at the first offence recorded and criminal history details. Offenders did not differ according to the age of the first offence in the dataset. However, SV perpetrators were more likely to have a higher frequency of previous convictions, supporting earlier reports (e.g. Mulder et al., 2012); although, this was not reported when the levels of chronicity were applied.

In view of the four categorisation schemes, violent (including cause injury, ABH, weapons), burglary, abduction and non-notifiable offences were

more likely to appear in the criminal histories of SV offenders; literature has reported that SV offenders engage in more serious crimes (Baglivio et al., 2014; Cook et al., 2005; Mulder et al., 2012; Soothill et al., 2002). On the other hand, crimes such as property, theft and fraud were more indicative of perpetrators within the control sample (Soothill et al., 2002). The present findings support literature, in reinforcing the argument that there are differences between the two offending groups (Lai et al., 2015) and adds to our understanding of SV, compared to control, offenders.

4.5.1 Conclusion. This chapter examined the differences between SV offenders and a matched case control sample. Although other chapters present additional detail relating to particular SV subgroups (e.g. gender), the findings of the current exploration add to existing knowledge of how SV perpetrators may differ from the matched-case control, and thus non-SV, offenders. Support is provided for differences between the two types of criminals, thus having practical implications (Lai et al., 2015). The results, limitations and implications are discussed in *Chapter 10*.

Chapter 5: Serious Violent Male Offenders: A Control Comparison

5.1 Aims of Chapter

This chapter explores male offenders, making comparisons between SV offenders and those in the control sample to determine if SV offenders differ to the general offending population. The purpose of this investigation is to identify any differences, or lack of, between such perpetrators in terms of the age at the first offence recorded and the criminal history information. Although there is already a wealth of literature about violent, male offenders and it was hoped that this research would add even further to our current understanding because of the large sample involved. The analysis also aimed to broaden our awareness of how offenders may differ according to the types of crime they are engaged in.

5.2 Introduction

As noted numerous times, there has been much research on male offenders in terms of both violent and non-violent offending (e.g. Thornton et al., 2012), including the relationship between a homicide offender and the victim (e.g. Polk, 1994), developmental factors of violent offenders (e.g. Farrington 2000; Farrington & Loeber, 2000; Smith & Hart, 2002), socioeconomic factors (e.g. Smith & McVie, 2003), recidivism (Liem et al., 2014) and criminal trajectories (e.g. Fergusson et al., 2000; Thornberry, 2005). Evidently, research has aimed to identify what makes an offender a violent offender, and thus different from a non-violent offender, in order to prevent such individuals from continuing in their violent criminal behaviour (Piquero et al., 2012).

Yet, from the developmental perspective, Dobash and colleagues (2007) noted the lack of focus on murderers and the onset of such offending behaviour. While this approach considers factors relating to life course, there is the contemplation of age. Similarly, research has identified those offenders with an early onset and those who begin offending later in life (Moffitt, 1993; Patterson et al., 1992). In particular, it has been argued that offenders who do engage in criminal activity from an early age are at a higher likelihood to

become persistent offenders (Moffitt, 1993, 1997) and thus, would be more likely to have a higher number of previous convictions. Moreover, Piquero et al. (2012) highlighted that violent offences typically begin to appear, in an offender's criminal history, from the age of late adolescence.

Similar to the current research, Soothill and colleagues (2002) explored the criminal histories of male SV offenders, particularly those convicted for murder. Also, Soothill et al. (2002) compared the sample of convicted male murderers with a control sample, in order to identify differences between the types of offenders. Additional, similar investigations have also been employed, yet have not specified the gender of the sample (e.g. Cook et al., 2005) or have focused on a particular SV offence (e.g. homicide; Liem et al., 2014; Roberts et al., 2007) and is therefore discussed in more detail in subsequent chapters.

Research relating to the age an offender typically engages in SV crimes is fairly agreeable in that offenders are in their 20s, yet there is some variation in reports from early to late 20s. For example, Roberts and colleagues (2007) argued that perpetrators of homicide are typically younger adult offenders, with further reports that offenders were typically aged mid-20s when committing a serious offence (e.g. Gavin, 2003; Hedderman & Vennard, 1997; HM Inspectorate of Probation, 2005). Similarly, Liem et al. (2014) noted male homicide offenders were, on average, 26 years when committing homicide. Further research has identified offenders to be slightly older; Soothill et al. (2002) reported 28 years as the average age of offenders who had been convicted of murder. When investigating the age of onset, literature consistently reports violent offenders to be in their early 20s; male homicide perpetrators in Soothill et al.'s (2002) sample had an average age of 20 years, with additional claims of offenders being 22 years old when committing the first crime (e.g. Laub & Sampson, 2003; Liem et al., 2014).

In relation to the frequency of offending, based on average scores, control, or less violent, male offenders have typically committed more previous convictions than those convicted of murder (e.g. Soothill et al., 2002).

In regards to the type of previous offences, the majority of murderers had engaged in theft, burglary and violence, with drug and sexual offences

not appearing as frequently (Soothill et al., 2002). Soothill et al. (2002) reported that prior offences of robbery and arson, in addition to blackmail, kidnapping and manslaughter, indicated a subsequent risk of being convicted for murder. Young males also demonstrated a violent criminal history, such as assault, homicide and robbery offences (e.g. Belknap, 2001; Chesney-Lind & Belknap, 2004; Messerschmidt, 2000; Wilpert et al., 2015). Both non-violent (e.g. property crime, traffic offence, drug offence), and violent (e.g. robbery, aggravated assault), offences were reported as previous convictions in Liem et al.'s (2014) homicide sample.

5.2.1 Summary. To reiterate, while research on violent male offenders is extensive, comparisons with a matched-case control sample are lacking. Demographics, such as the age of the offender, and previous convictions have been previously explored (e.g. Soothill et al., 2002), but research reports some conflicting findings. Additionally, there are limitations in earlier investigations, such as failing to explore SV crime (Dobash et al., 2007). The current analysis, therefore, will further explore such factors, identifying any differences between male SV offenders and male perpetrators in the control sample.

5.2.2 Objectives.

- The first objective was to explore the differences in SV, and control, males, in terms of the age of the offenders at the time of the first offence recorded and the frequency of offending;
- The second objective was to compare SV male offenders to a control group of male offenders to identify differences in their criminal history, particularly the levels of chronicity and the presence of offence types.

5.3 Methodology

5.3.1 Sample. Between April 2005 and March 2011, in the Devon and Cornwall area, 1317 SV male offenders were classified as committing a SV offence; when only those with previous convictions were explored, the SV male sample included 959 perpetrators. Control offenders were only required for SV offenders with previous offending history (Soothill et al., 2002),

resulting in a comparison sample of 959 non-SV male offenders. The construction of the control group is discussed in *Chapter 2*.

5.3.2 Design. The study in the present chapter was conduct a retrospective analysis that examines the perpetrators within the sample, in terms of the age at committing the first offence and criminal history information (frequency, chronicity and offence type) to identify differences between male serious violent and control offenders. Gender was not investigated as only male offenders were analysed and the SV and control sample were matched on age at the target offence and therefore should not differ.

5.3.3 Procedure. As detailed in *Chapter 2*, the variables of interest were extracted from a database between April 2001 and March 2011. Each offender was coded, in terms of the age at the first recorded offence in the dataset, the frequency of offending, the level of chronicity and the presence of offences. Crimes present in the offender's criminal histories were categorised according to four crime categorisation schemes (four; eight; 15; 24). Holm's Bonferroni correction was applied when multiple comparisons were made.

5.3.4 Statistical analyses. Statistical analyses explore whether there were differences in the male SV and control samples, in terms of:

i. The age at the first offence recorded and the frequency of offending (Mann Whitney U analysis);
ii. The levels of chronicity (5x2 Chi-square analysis);
iii. The presence of offence types (2x2 Chi-square analysis).

5.4 Results

5.4.1 Age at first offence (within the dataset). SV male perpetrators (n = 959) were found to be significantly older (Mdn = 18.00) than control offenders (n = 959; Mdn = 17.00), when perpetrating the first offence within the database, U = 426912.50, Z = -2.719, $p < 0.05$; a small effect size was reported.

5.4.2 Frequency of offending. When investigating offenders with prior offences (SV: n = 959; control: n = 959), the SV male sample were convicted of significantly more previous convictions (Mdn = 4.00, M = 8.06,

SD = 12.46), when compared with control perpetrators (*Md*n = 4.00, *M* = 6.65, *SD* = 10.13), *U* = 427048.00, Z = -2.720, *p* < 0.05. This finding was supported with a small effect size.

5.4.3 Chronicity. A 5x2 Chi-square analysis identified a significant difference between males in the SV and control samples, and the levels of chronicity, χ^2 (4) = 11.451, *p* < 0.05, *V* = 0.077. However, upon the further exploration utilising 2x2 Chi-square analyses, the initial finding of SV males being more likely to be classified as career offenders, compared to control males, was no longer deemed significant when Holm's Bonferroni correction (*p* > .01) was applied. The distribution of offenders according to the levels of chronicity is illustrated in Figure 5.1.

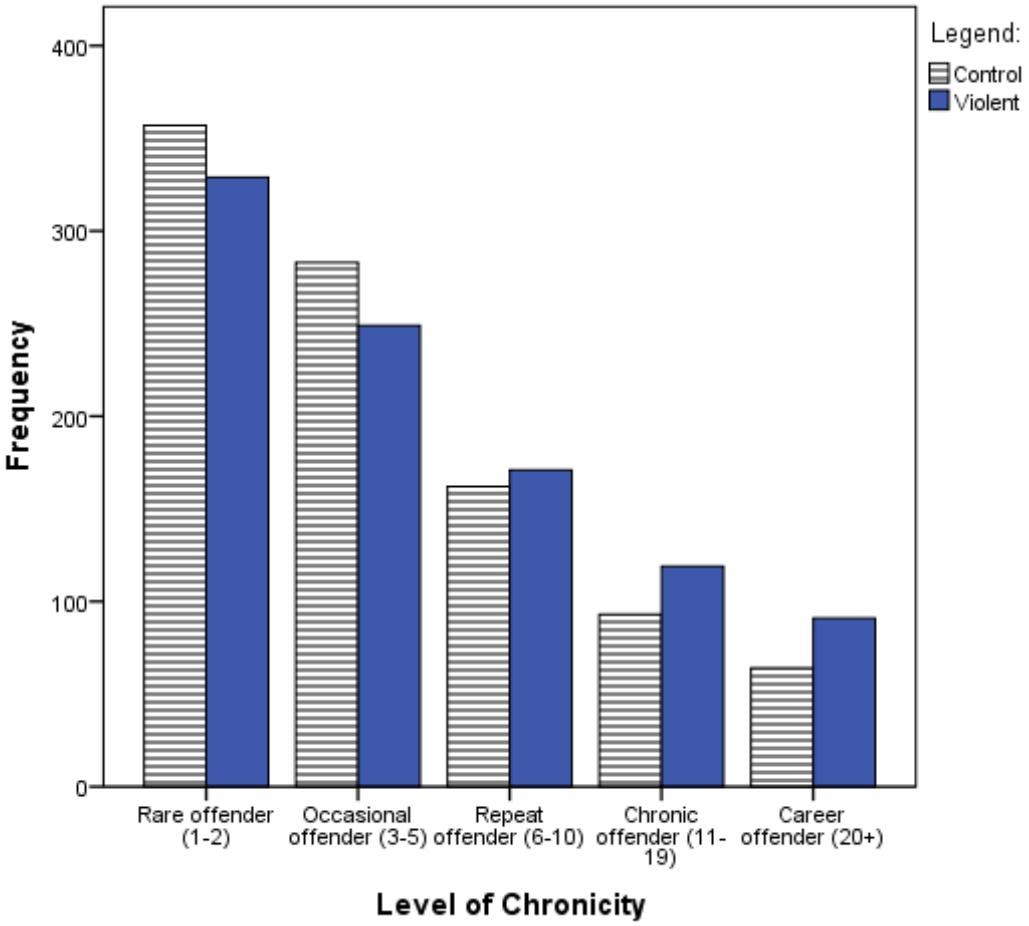

Figure 5.1. *The Chronicity of Male Serious Violent and Control Offenders*

5.4.4 Criminal history: Four crime categories. To explore the differences between SV males with previous convictions (*n* =959) and male control (*n* = 959) offenders, in terms of their offending histories, Chi-square analyses were utilised. Table 5.1 shows the statistically significant differences between the SV and control samples, when applying the four crime categorisation scheme. SV male perpetrators were statistically more likely to have a conviction for a violent crime, compared to male controls. On the other hand, offenders within the control sample were significantly more likely, than SV perpetrators, to have been previously convicted for other or sexual offences.

Table 5.1

Significant Comparisons of Male SV and Control Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 959)**	**Control (*n* = 959)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	76.6%	66.3%	25.067	1.66	.0001***
Other	75.5%	79.8%	5.047	0.781	.025*
Sexual	1.1%	2.5%	4.918	0.452	.027*

***$p < .001$, ** $p < .01$, * $p < .05$

5.4.5 Criminal history: Eight crime categories. Table 5.2 displays the significant differences in the presence of eight offence types, between male SV and control perpetrators. Violent and non-notifiable crimes were more likely to appear in the criminal histories of SV offenders, when compared with those in the control sample. Whereas, perpetrators in the control sample were more likely to have committed sexual offences, than the SV sample.

Table 5.2

Significant Comparisons of Male SV and Control Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 959)**	**Control (*n* = 959)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	75.6%	65.9%	21.791	1.603	.0001***
Non-notifiable	44.2%	38.5%	6.504	1.267	.011*
Sexual	1.1%	2.6%	5.549	0.434	.018*

****p* < .001, ** *p* < .01, * *p* < .05

5.4.6 Criminal history: 15 crime categories. When applying the 15 offence categorisation scheme (see Table 5.3), SV males were significantly more likely to have a prior conviction for cause injury, public order, miscellaneous, weapon, robbery and abduction, compared to the offending histories of control males. On the other hand, perpetrators within the control sample had an increased likelihood of having been convicted for fraud or sexual crimes than SV offenders.

Table 5.3

Significant Comparisons of Male SV and Control Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 959)**	**Control (*n* = 959)**	**χ^2**	**Odds Ratio (OR)**	***p***
Cause injury	64.1%	52.3%	27.373	1.628	.0001***
Public order	12.8%	7.3%	16.183	1.869	.0001***
Miscellaneous	40.6%	33.9%	9.139	1.331	.003**
Fraud	4.8%	7.7%	6.969	0.603	.008**
Weapon	13.5%	9.9%	5.843	1.414	.016*
Robbery	6.4%	4.1%	5.106	1.602	.024*
Sexual	0.9%	2.1%	4.236	0.445	.040*
Abduction	31.2%	27.0%	4.044	1.224	.044*

****p* < .001, ** *p* < .01, * *p* < .05

5.4.7 Criminal history: 24 crime categories. Table 5.4 shows the significant differences between male SV and control perpetrators, when the 24 crime categorisation scheme was applied. Threats to kill doubled the likelihood of being a male SV offender, with the additional offences of ABH, non-notifiable, miscellaneous, possession of a weapon, assault and robbery more likely to be recorded in the criminal history of SV offenders, than those in the control group. Offences within the fraud and sexual crime categories were, again, at an increased likelihood of being present in male offenders within the control sample, than the SV sample. No further significant differences were identified ($p > .05$). The ORs throughout this chapter reflect small effect sizes.

Table 5.4

Significant Comparisons of Male SV and Control Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	**SV (*n* = 959)**	**Control (*n* = 959)**	**χ^2**	**Odds Ratio(OR)**	***p***
ABH	54.0%	39.6%	39.878	1.790	.0001***
Non-notifiable	37.6%	31.1%	9.175	1.339	.002**
Miscellaneous	28.3%	22.6%	8.015	1.347	.005**
Fraud	4.8%	7.7%	6.969	0.603	.008**
Possession of weapon	13.5%	9.9%	5.843	1.414	.016*
Assault	32.1%	27.2%	5.520	1.265	.019*
Threats to kill	3.3%	1.7%	5.470	2.035	.019*
Sexual	1.1%	2.5%	4.918	0.452	.027*
Robbery	6.3%	4.1%	4.697	1.574	.030*

***$p < .001$, ** $p < .01$, * $p < .05$

5.5 Chapter Summary

Dobash and colleagues (2007) pointed out that literature largely considers offenders in general, as opposed to a focus on SV crime. Soothill et al. (2002) highlighted the move towards a focus on the prevention of

serious offending in research and the need for further exploration of violent offenders and their criminal histories. Comparably to the research of Soothill et al. (2002), this study adopted a retrospective approach to explore possible indicators of future SV offending in identifying how male SV perpetrators may differ from those in the control sample. The current research utilised data that ranged across a 10-year period to compare the offending histories of 959 SV male offenders to 959 non-SV male offenders (the control sample).

Perpetrators from both samples were compared on age at the time of the first offence recorded within the dataset; SV offenders were reported to be significantly older at the first offence (*Mdn* = 18.00 and 17.00, respectively). This somewhat limits comparison with previous research as, for example, only the age at the time of the SV offence was reported (Laub & Sampson, 2003). Yet, there are similarities with other research; Soothill et al. (2002) reported a mean age of 20 years at the first offence, with Liem et al. (2014) stating violent offenders were typically 22 years of age at criminal onset.

In regards to previous convictions, 72.8% of the SV sample had a prior offence recorded, similar to the sample of Soothill et al. (2002; 68.0%). Further research has noted that almost 50% of the murderers had 2, or less (including none), previous offences recorded (Soothill et al., 2002), compared to 52.0% of the current research (when offenders with no previous convictions were excluded, this was 34.2% of the sample). This chapter reports that SV offenders have more previous convictions recorded than non-SV male offenders, yet there are dissimilarities with previous findings; the average frequency of offending was considerably higher than the average of two prior offences reported by Liem et al. (2014). No significant differences were found in the levels of chronicity.

Across the four categorisation schemes, violent and non-notifiable offences were significantly more likely to appear in the criminal histories of SV male perpetrators. Soothill and colleagues (2002) stated that the following offences were recorded more so in the cases of murderers and were thus more likely to be indicative of committing a SV offence: criminal damage, robbery, assault with intent, arson, theft and wounding. While the groupings of crime types differ in research, it is evident that a history of

violence is a precursor to future violent criminality in males; this supports previous reports that there is a higher frequency of serious offences in the offending history of homicide offenders, when compared with the control sample (Cook et al., 2005). On the other hand, male offenders in the control sample had an increased likelihood of having prior offences for fraud and sexual crimes. Interestingly, Soothill et al. (2002) noted that offenders of fraud were at a decreased risk of committing murder, with a very small proportion of murderers having previously committed a sexual offence.

5.5.1 Conclusion. This research investigated the offending history of 959 SV male offenders, with a control sample of 959 perpetrators. The purpose of the research was to identify differences between males in the SV and control samples. An older age at the first offence and a higher frequency of previous convictions was found for SV offenders, when compared to the control sample. In relation to the types of crimes committed, SV offenders were reported to commit more violent and non-notifiable offences in their criminal histories, with the control group being more likely to have previously committed a sexual or fraud offence. Further research to identify predictors of SV crimes would be beneficial, to highlight and prioritise those offenders who may be at risk of committing a future SV offence. It is therefore reported that male offenders do differ, according to being classified as a SV or control perpetrator. The application of the findings to the criminal justice system are detailed in *Chapter 10*.

Chapter 6: Serious Violent Female Offenders: A Control Comparison

6.1 Aims of Chapter

This chapter examines female offenders, making comparisons between SV offenders and perpetrators in the control sample, to identify if offender characteristics and criminal history details differ for SV females. In view of earlier research, female offenders have not received as much attention as male offenders, with females seemingly increasing in their offending of SV crimes. The purpose of this research is to gain insight into SV female perpetrators, with the analysis extending the current understanding of female offenders, particularly those who commit SV crimes.

6.2 Introduction

Trägårdh, Nilsson, Granath and Sturup (2016) stated, “less is known about female homicide offenders” (p.126). Criminal literature has, for many decades, concentrated on male offenders, with female offenders receiving little attention (Campbell, 1993; Thornton et al., 2012), thus largely ignoring the role of gender in crime (Leonard, 1982) and greatly limiting the scope of previous research (Belknap & Holsinger, 2006). Yet, there are reports of an increase in violent female criminality (e.g. Nicholls et al., 2015) and thus there has been an increase in focus on female perpetrators over the past few years (Rettinger & Andrews, 2010). Yet, many attempts to explore female criminality has focused on specific variables (Loucks & Zamble, 1999), such as psychopathy, mental health and IPV.

Descriptive research of female offenders is sparse; investigation of violent female offenders appears to include another aspect, such as a focus on IPV (e.g. Caman et al., 2016; Thornton et al., 2012), sexual homicide (Chan & Frei, 2013), or psychotic disorders (e.g. Bennett et al., 2012). Onset age of female offenders is proposed to be early in life (e.g. Moffitt et al., 2001; Serbin & Karp, 2004); in comparison to nonviolent perpetrators, violent females were reported to be significantly younger (Goldstein & Higgins-D’Alessandro, 2001; Pollock et al., 2006). Regarding the age of violent female offenders, there are mixed reports in literature, as there have been reports of late-twenties (e.g. Bonta et al., 1995; Chan & Frei, 2013; Thornton

et al., 2012), with others reporting offenders to be in their thirties (e.g. Bennett et al., 2012; Pollock et al., 2006; Rettinger & Andrews, 2010). However, comparing the average age of females is problematic due to the inconsistencies within literature. For example, the average age was noted at different points (e.g. during incarceration), with other instances not specifying when the age referred to. Additionally, the offenders are argued to be from "unrepresentative subpopulations" (Loucks & Zamble, 1994, p. 22), thus making associations difficult.

Women who have engaged in violence have been reported to have a criminal history (Busch & Rosenberg, 2004; Moffitt et al., 2001). Statistics provided by MoJ (2012) reported that 15% of females, who were sentenced for an indictable offence, had no previous cautions or convictions, with 25% of female offenders having 15+ previous convictions or cautions, suggesting that a large proportion of female perpetrators do not have a substantial criminal history (Forsyth et al., 2001; Rossegger et al., 2009; Yourstone et al., 2008). This is further supported by recent reports that stated 10% of female offenders had 15 or more prior offences (MoJ, 2014). What is more, in an exploration of females who committed intimate partner homicide, a median score of two previous convictions was reported, ranging from zero to 28 prior crimes, yet when violent previous convictions were investigated, a median of zero offences was noted, with a much smaller range (zero to eight; Caman et al., 2016). In terms of the types of crime, Thornton et al. (2012) reported a range of crime types exhibited by females. When comparing violent and nonviolent female offenders, Pollock and colleagues (2006) reported that violent perpetrators were significantly more likely to have previously been convicted for stolen goods, carrying a gun, property damage, domestic dispute, motor theft and shoplifting.

6.2.1 Summary. Explorations between female SV and nonviolent, or control, perpetrators are sparse in literature (e.g. Pollock et al., 2006). While female offenders are beginning to gain focus (Rettinger & Andrews, 2010), earlier research has been criticised for the lack of attention towards gender and criminality (Shaw, 1994; Soothill et al., 2002), with this stressing the need to explore violent, and nonviolent, reoffending in female perpetrators. Furthermore, there is still a requirement for an in-depth understanding of

female offenders to assist in crime prevention strategies and to determine which offenders are at risk of reoffending (Kong & AuCoin, 2008). Regardless, an established approach to female offending is still unknown (Bonta et al., 1995), with research reporting mixed findings. Moreover, theories developed to explain female offending still fail to explain the variety of all offences committed (e.g. assault or murder; Loucks & Zamble, 1999). Thus, the aim was to investigate factors of SV offenders, with a specific focus on female offenders.

6.2.2 Objectives.

- Explore the differences between female SV and control perpetrators, in terms of age at the first offence in the dataset and frequency of offending.
- Compare SV female offenders to the control sample to identify differences in their criminal history, particularly the levels of chronicity and the presence of crime types.

6.3 Methodology

6.3.1 Sample. A total of 206 SV female offenders were classified as committing a SV offence between April 2005 and March 2011, in the Devon and Cornwall area. The control sample consisted of 447 female offenders who did not have a prior conviction for a SV offence; more information regarding the construction of the control sample can be found in *Chapter 2*.

6.3.2 Design. The retrospective approach enables the comparison of offender characteristics (age at the first offence) and criminal history details (frequency, chronicity and offence type) to detect differences between female SV and control offenders. Gender was not investigated as only female perpetrators were explored, nor was the age at the target offence due to SV and control offenders being matched on this criterion.

6.3.3 Procedure. The age of female perpetrators at the time of committing the first offence was explored, as well as the frequency of offending, levels of chronicity and types of crimes committed by the offenders according to the four categorisation schemes. Further information is detailed in *Chapter 2.*

6.3.4 Statistical analyses. Statistical analyses explored whether there were differences in the SV and the control samples, in terms of:

i. The age at the first offence in the dataset and frequency of offending (Mann Whitney U analysis);
ii. The levels of chronicity (5x2 Chi-square analysis);
iii. The presence of offence types (2x2 Chi-square analysis).

6.4 Results

6.4.1 Age at first offence (within the dataset). SV offenders with previous convictions (n = 149) and control offenders (n = 447) were compared in relation to the age at the time of committing the first offence; no significant differences were found ($p > .05$).

6.4.2 Frequency of offending. This section of the analysis considered only those offenders with previous convictions (149 SV and 447 control offenders). No significant differences were found between the sample of SV offenders, compared with the control sample, in terms of the number of previous convictions ($p > .05$).

6.4.3 Chronicity. No significant differences were detected by a 5x2 Chi-square analysis, when exploring the levels of chronicity between female SV and control offenders ($p > .05$).

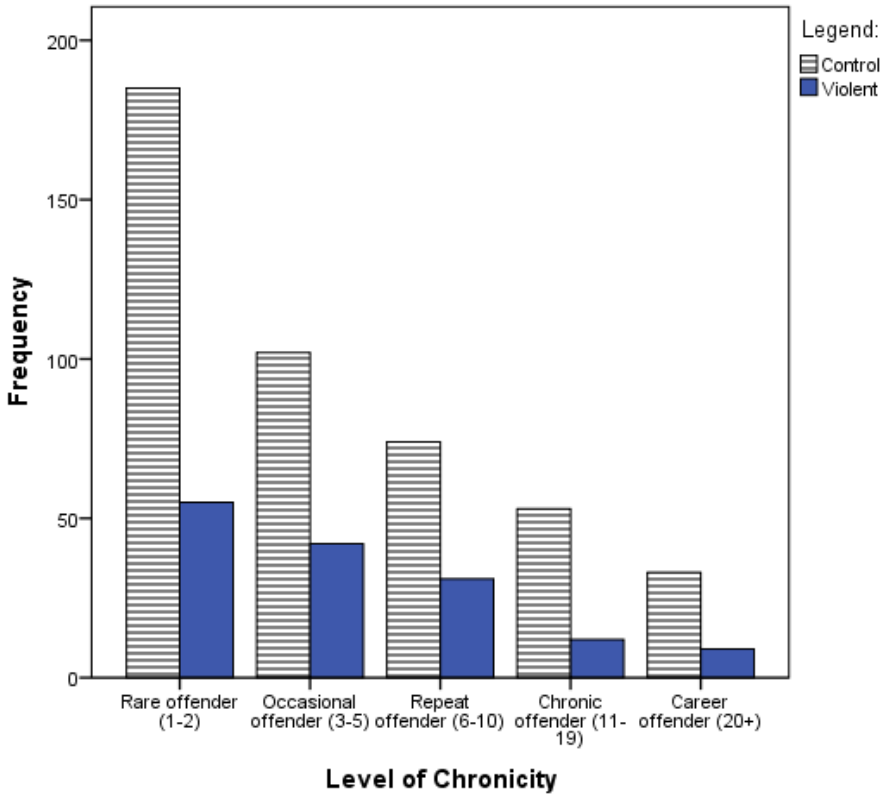

Figure 6.1 *The Chronicity of Female Serious Violent and Control Offenders*

6.4.4 Criminal history: Four crime categories. When the four crimes categorisation scheme was applied, significant differences between the SV and control groups were observed (see Table 6.1); violent offences were twice as likely to appear in the criminal histories of SV females compared to their counterparts, with the control sample being at an increased likelihood of having previously committed a property offence, compared to the SV sample.

Table 6.1

Significant Comparisons between Female SV and Control Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 149)	Control (*n* = 447)	χ^2	Odds Ratio (OR)	*p*
Violence	75.8%	60.0%	12.226	2.096	.0001***
Property	43.6%	57.9%	9.234	0.562	.002**

***$p < .001$, ** $p < .01$, * $p < .05$

6.4.5 Criminal history: Eight crime categories. In relation to the eight offences categorisation scheme (Table 6.2), SV female offenders were found to have double the probability of having a previous conviction for violence, whilst the control offenders had a significantly higher likelihood of committing theft/handling.

Table 6.2

Significant Comparisons between Female SV and Control Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 149)	Control (*n* = 447)	χ^2	Odds Ratio (OR)	*p*
Violence	74.5%	59.1%	11.413	2.025	.001**
Theft/handling	39.6%	54.4%	9.747	0.550	.002**

***$p < .001$, ** $p < .01$, * $p < .05$

6.4.6 Criminal history: 15 crime categories. When comparing offender criminal histories in regards to the 15 crimes categorisation scheme (see Table 6.3), serious violent females were three times more likely to previously commit public order, and almost twice as likely to have a previous conviction for cause injury, compared to the control sample. Yet, perpetrators in the control sample were more likely to have a prior offence of theft, when compared to female SV offenders.

Table 6.3

Significant Comparisons between Female SV and Control Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 149)	Control (*n* = 447)	χ^2	Odds Ratio (OR)	*p*
Cause injury	65.8%	50.1%	11.034	1.913	.001**
Public order	11.4%	3.8%	12.019	3.258	.001**
Theft	41.6%	54.8%	7.795	0.588	.005**

***$p < .001$, ** $p < .01$, * $p < .05$

6.4.7 Criminal history: 24 crime categories. In the comparison of offences within the 24 crimes categorisation scheme (see Table 6.4), SV females were more likely to have committed ABH or assault, than control perpetrators. On the other hand, those in the control sample had an increased likelihood of having previously committed other theft, when compared to SV offenders. No other statistically significant differences were detected ($p > .05$). Small and medium effect sizes were reported.

Table 6.4

Significant Comparisons between Female SV and Control Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	SV (*n* = 149)	Control (*n* = 447)	χ^2	Odds Ratio (OR)	*p*
ABH	53.0%	38.3%	10.005	1.822	.002**
Other theft	39.6%	53.2%	8.324	0.576	.004**
Assault	36.2%	26.6%	5.020	1.567	.025*

***$p < .001$, ** $p < .01$, * $p < .05$

6.5 Chapter Summary

To reiterate, female offenders have been relatively ignored in previous research (e.g. Bonta et al., 1995; Loucks & Zamble, 1999; Nicholls et al., 2015; Soothill et al., 2002; Thornton et al., 2012). Similar to the research conducted by Soothill et al. (2002) into male offenders, this study adopted a retrospective approach to explore possible indicators of future female SV offending. The current research utilised data that ranged across a 10-year period to compare the offending histories of 149 SV female offenders to 447 non-SV female offenders (the control sample). No significant differences were detected between SV and control females at the age of the first offence recorded in the dataset. Nonetheless, the descriptive data adds to the sparse literature of SV female perpetrators (Nicholls et al., 2015). While it is difficult to make comparisons with existing literature, due to the differences in when the age of the offender was recorded or the specificity of offences, this research goes some way in painting a clearer picture of SV female offenders.

In terms of previous convictions, 72.3% of the SV sample (*n* = 149) had one or more offences recorded in their criminal history, comparable to the 68.2% of Rettinger and Andrews (2010) violent female sample. The remaining 27.7% of the SV female offenders had not been held responsible for a prior crime, during the given time frame. The frequency of offending did not differ significantly between the SV and control samples. Furthermore, no significant differences were found in the levels of chronicity.

Across the four crime categorisation schemes, females were more likely to have a prior conviction for violent offences, with perpetrators in the control sample at an increased likelihood of having theft-related offences in their criminal histories. The findings from this study lend support to previous literature that has stated the presence of general violence and aggression in violent female offender's criminal histories (Moffitt et al., 2001; Pollock et al., 2006; Thornton et al., 2012). Theft-related crimes have also been identified in the offending history of violent female perpetrators (e.g. Pollock et al., 2006), yet the current research identified such offences to be more likely associated with females in the control sample.

6.5.1 Conclusion. This research explored the offender characteristics and criminal history information of female SV offenders, with a control sample of 447 perpetrators. The purpose of the research was to identify differences between females in the SV and control samples. SV female offenders were reported to be significantly more likely, than the control sample, to commit a violent crime, whereas females in the control group were statistically more like to have been convicted for theft. As a result of using a suitable control sample, the findings assist in determining how SV offenders may differ from other offenders. Therefore, SV female offenders do demonstrate differences in the types of offences they commit, prior to committing an SV offence, when compared to lesser-, or non-, violent offenders. This has potential implications for crime prevention strategies and the identification of those offenders who are at risk of future SV offending, as the findings add to the growing literature about the differences in female, particularly SV, perpetrators. The implications of the findings are discussed further in *Chapter 10*.

Chapter 7: Serious Violent Offenders: A Comparison of Gender and Offence Type

7.1 Aims of Chapter

The aim of the study in this chapter was to compare groups of SV offenders, according to gender (male and female) and SV offence type (AMH and GBH), in terms of offender characteristics (age) and criminal history information (frequency, chronicity and offence type). As noted previously, while there is a large amount of research exploring violent offenders, there has been more of a focus on male perpetrators, and the literature is lacking somewhat lacking in determining how offenders differ according to gender and the type of SV offence they commit. Where explorations into SV, and female, offenders have occurred, criticisms often include the issue of a small sample size.

7.2 Introduction

A number of researchers have noted gender differences in offending (Broidy et al., 2003; Kling et al., 2005; Salisbury & van Voorhis, 2009), and an ongoing argument is that males are "responsible for the majority of offending" (Heidensohn & Silvestri, 2012, p. 348); more specifically, males are reported to be more likely to engage in more serious crimes than females (Siegel & Senna, 2000). For example, Crocker et al. (2013) identified males to commit the majority of SV offences (e.g. homicide: 75.9%), which was further supported by the Office of National Statistics (Flatley, 2016b) as offenders of violent crimes were more likely to be males. Overall, males are argued to be more likely to engage in violent criminality (Heidensohn & Silvestri, 2012; Lauritsen et al., 2009) and have a higher number of previous convictions, in general (MoJ, 2014).

The importance of exploring gender differences in offending has been noted in terms of how this impacts the criminal justice system, with reports that gender mediates whether the perpetrator is jailed and also the length of sentence given (e.g. Allen, 1987; Bontrager et al., 2013; Davies, 1999; Doerner & Demuth, 2010; Mitchell, 2005; Rodriguez et al., 2006;

Schanzenbach, 2005; Spohn, 2000; Starr, 2012; Tillyer et al., 2015). Yet further research is necessary (Sandler & Freeman, 2011), as it has been argued that the influence of gender on sentencing is considered in light of other variables, such as offence type and seriousness (Mustard, 2001; Rodriguez et al., 2006; Warren et al., 2012).

Further to this, researchers have pointed out the lack of agreement in literature relating to whether there are differences in violent and non-violent offenders (Piquero et al., 2012), and the risk factors of future offending; researchers have argued that such risk factors do not differ (Elliott et al., 2001; Thornton et al., 2010), with other claims that there are differences, such as violent-specific pathways (e.g. Armstrong, 2005; Cortoni et al., 2010; MacDonald, Haviland, & Morral, 2009; Vess, 2011). Additionally, literature has noted the need for further research, to validate and support current reports, relating to comparing different SV crimes (e.g. Gallo et al., 2014; Ganpat et al., 2014). Thus, it is apparent that additional explorations are needed to examine differences between both the gender of the perpetrator and the type of SV offences they commit.

There are a number of core researches to this chapter; Ganpat and colleagues (2014) compared lethal and non-lethal violent perpetrators, consisting mostly of male offenders, in relation to their criminal histories. Previous to this, Smit et al. (2003) explored offenders of attempted or completed homicide and aggravated assault, with a consideration of the gender of the criminal. In addition, Soothill et al. (2002) compared male murderers with a sample of lesser-violent control offenders. Furthermore, research has examined men and women who had been convicted of homicide, attempted murder or a sexual offence, yet who had been found ‘not criminally responsible on account of mental disorder’ (Crocker et al., 2015).

When committing a first offence, Ioane et al. (2014) reported that perpetrators convicted of committing a violent crime had a tendency to be older than those who were responsible for a non-violent offence; a finding reflected in lethal and nonlethal violent offenders, with lethally violent offenders being older at the time of the index offence (Ganpat et al., 2014; Smit et al., 2003). In addition, nonlethally violent offenders are reported to

have an earlier criminal onset than lethally violent criminals (Ganpat et al., 2014; Smit et al., 2003). Furthermore, Liem and colleagues (2014) compared onset age of types of homicide perpetrators, concluding that offenders of felony homicide begin earlier than those who commit other types of homicide (e.g. non-felony, financially-motivated, non-financially motivated). On the other hand, Heidensohn and Silvestri (2012) highlighted that females typically peak in their offending earlier than males, which tends to be in their mid-teens (Gelsthorpe et al., 2007; Home Office, 2003). Further research did not find significant differences in age (e.g. Crocker et al., 2015; Soothill et al., 2002).

Additional research regarding gender has reported that males are more likely than females to reoffend (Ioane et al., 2014; Moffitt & Caspi, 2001). This is further supported by research that claims females are less likely to have a substantial criminal history (Forsyth et al., 2001; Rossegger et al. 2009; Yourstone et al., 2008), with only 10% of female offenders having 15+ previous convictions or cautions (males 90%; MoJ, 2014). This trend is also evident in juvenile offenders, with males found to be more likely to be serious, violent and chronic offenders, when compared to females (Baglivio et al., 2014; Kempf-Leonard et al., 2001). Schwartz et al. (2009) supported that males engage in higher rates of violent crimes, especially serious violence, compared to females (Sandler & Freeman, 2011; Siegel & Senna, 2000). This is typically represented in research, as SV samples typically consist of a majority of male perpetrators (e.g. Ganpat et al., 2014; Roberts et al., 2007).

Nonlethally violent perpetrators have a higher frequency of previous offences than lethally violent offenders, including more prior violent records (Ganpat et al., 2014). However, Smit et al. (2003) reported that the sample of attempted and completed homicide perpetrators demonstrated more active criminal careers. In regards to the types of offences in an offender's criminal history, nonlethally violent perpetrators were significantly more likely to have previously committed violence, drug and other offences, in comparison to criminals of lethal violence (Ganpat et al., 2014). Further, offenders of completed and attempted homicides were characterised by prior offences of weapon use and drug offences, yet less violence; this was also reflected in

the males within the sample (Smit et al., 2003). However, violence was noted in being more likely to appear in the criminal histories of murderers, particularly burglary, robbery, arson and wounding (Soothill et al., 2002). Almost half of the offenders in a sample of attempted murderers had at least one prior criminal record, with this applying to approximately one-quarter of homicide offenders (Crocker et al., 2015), with both samples including both violent and non-violent previous crimes.

While previous research that has explored the offending history of serious offenders has failed to consider gender (e.g. Ganpat et al., 2014; Soothill et al., 2002), various researchers discuss the prior convictions of male, and female, offenders independently. Prior offences of females have been reported to include minor offences (Alder & Worrall, 2004). Research identified “all types of offending behaviour” (p. 1412) in females (Thornton et al., 2012), particularly including general aggression and antisocial behaviour (Moffitt et al., 2001). Female offenders, who had been convicted of property and drug crimes, noted committing a previous violent offence (Pollock et al., 2006); such violent offenders were more likely to have the offences of theft of vehicle, weapons, handling, gang membership, shoplifting and damaged property in their criminal histories, when compared to non-violent offenders. Further, female homicide offender’s criminal histories have also been reported to include fewer serious and drug offences, with males having a higher number of previous convictions for property crime (Smit et al., 2003).

7.2.1 Summary. While there is extensive research relating to the offending of male perpetrators (e.g. Crocker et al., 2013; Soothill et al., 2002), and some consideration to female offenders (e.g. Bonta et al., 1995; Thornton et al., 2012), research exploring gender differences in SV offenders has been limited. While authors have reported such differences (e.g. Kling et al., 2005; Salisbury & van Voorhis, 2009), direct comparisons between males and females would be beneficial due to the perception of gender and violent crimes, and the impact this can have on the criminal justice system (e.g. Bontrager et al., 2013; Sandler & Freeman, 2011; Tillyer et al., 2015), for example. In addition, when exploring types of violent crime, the samples are often restricted to a particular subset, such as homicide offenders including only males (e.g. Soothill et al., 2002) or those with psychosis (Kooyman et

al., 2012). As highlighted by Gallo and colleagues (2014), further comparisons between violent crimes are needed. Thus, the aim is to investigate factors of SV offenders, with a particular focus on how variables may differ according to the gender of the offender or the type of SV crime committed.

7.2.2 Objectives.

The objectives were as follows:

- Investigate the age (at the first offence in the dataset and at the time of the SV crime) and criminal history details (offence frequency, chronicity and crime type) of SV male and female offenders, in order to identify differences in their previous convictions;
- Compare the age at the first offence in the dataset and at the time of the SV crime and criminal history information (offence frequency, chronicity and crime type) of AMH and GBH perpetrators.

7.3 Methodology

7.3.1 Sample. A total of 1317 male and 206 female SV offenders are compared in this chapter; these were 959 males and 149 females with previous convictions. To explore the differences within SV offenders, the sample was grouped according to whether they had been convicted for AMH (*n* = 132) or for GBH (*n* = 1391).

7.3.2 Design. As with the preceding comparison chapters, a retrospective analysis was employed, in which the individuals within the sample are examined through their offender characteristics (age) and criminal history information. The analysis explores the differences between:

i. Serious violent males and females;
ii. AMH and GBH offenders.

7.3.3 Procedure. Subgroups of offenders were compared according to their age, frequency of offending, level of chronicity and types of crime within the offending history. In instances of multiple comparisons, it was appropriate to apply Holm's Bonferroni correction, as detailed in *Chapter 2*.

The interaction between gender and SV offenders (AMH females; AMH males; GBH females; GBH males) was also examined, yet due to the large differences in sample sizes, the interaction investigation was removed from the chapter. The output from the comparisons can be found in the Appendix E.

7.3.4 Statistical analyses. Statistical analyses explored differences between SV offenders in two sections. Firstly, comparisons between SV male and female perpetrators were conducted. Secondly, differences between offenders of AMH and GBH were evaluated. Both sections were assessed in terms of:

i. Age and frequency of previous convictions (Mann Whitney U test).
ii. Level of chronicity (5x2 Chi-square analysis).
iii. The presence of offence types (2x2 Chi-square analysis).

7.4 Results

7.4.1 Serious violent male and female offenders: A comparison.

7.4.1.1 Age at first offence (within the dataset) and age at target offence. All SV male (*n* = 1317) and female (*n* = 206) offenders were compared in relation to the age at the time of committing the target offence; no significant differences were detected (*p* = .613). Next, only offenders with previous convictions were explored; no significant differences were found between male (*n* = 959) and female (*n* = 149) offenders in terms of age at target offence (*p* = .188) or age at first offence recorded (*p* = .176).

7.4.1.2 Frequency of offending. No significant differences were found between the samples of male (*Mdn* = 4.00), compared with female (*Mdn* = 4.00), offenders, in terms of the number of previous convictions (*p* = .055).

7.4.1.3 Chronicity. Male and female offenders were compared in terms of the levels of chronicity demonstrated in their criminal histories; no significant differences were reported ($p > .05$). However, similarities were detected, as for both male and female offenders the most common levels of chronicity were rare offenders (34.3% and 36.9%, respectively), with both groups also being unlikely to demonstrate career offenders (9.5% and 6.0%, respectively; see Figure 7.1).

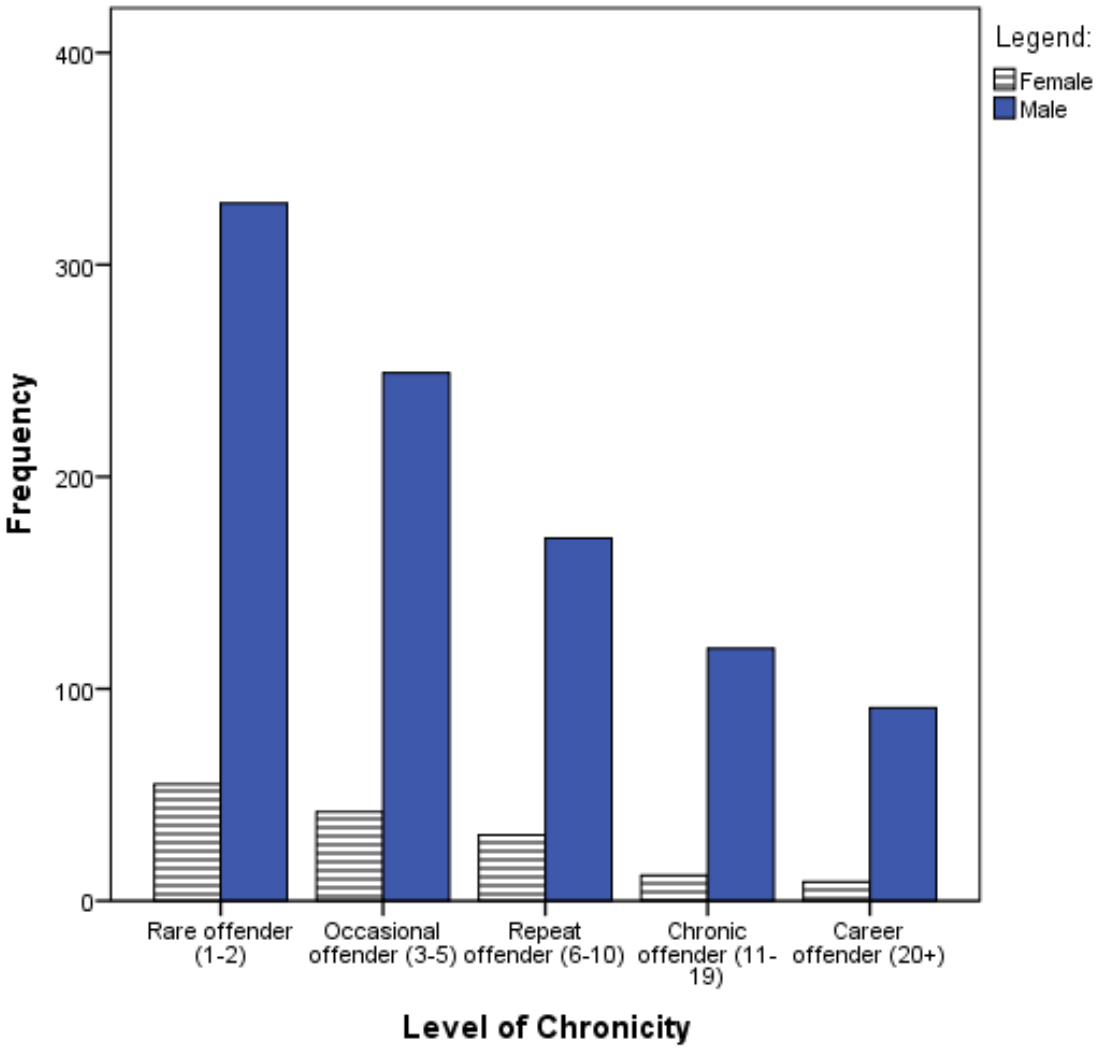

Figure 7.1 The Chronicity of Serious Violent Male and Female Offenders

7.4.1.4 Criminal history: Four crime categories. Chi-square analysis was used to explore the differences in the types of crimes committed in the offending histories of male, compared to female, SV offenders according to four offence categories (Table 7.1). SV male

perpetrators were 1.80 times more likely to be held responsible for other offences, when compared to SV female offenders; the significant difference was found to have a small effect size.

Table 7.1

Significant Comparisons of Male and Female SV Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	**SV Male (*n* = 959)**	**SV Female (*n* = 149)**	**χ^2**	**Odds Ratio (OR)**	***p***
Other	75.5%	63.1%	10.275	1.803	.001**

** p < .01

7.4.1.5 Criminal history: Eight crime categories. When investigating eight crime categories (Table 7.2), there were relatively small effect sizes reported with the significant findings; SV male offenders had an almost tripled likelihood that burglary would appear in their offending history and were twice as likely to have a previous conviction for drug or criminal damage offences, compared to SV female perpetrators.

Table 7.2

Significant Comparisons of Male and Female SV Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	**SV Male (*n* = 959)**	**SV Female (*n* = 149)**	**χ^2**	**Odds Ratio (OR)**	***P***
Burglary	23.5%	9.4%	15.082	2.956	.0001***
Criminal damage	44.0%	26.8%	15.618	2.141	.0001***
Drug	31.0%	18.1%	10.290	2.027	.001**

* $p < .05$, ** $p < .01$, *** $p < .001$

7.4.1.6 Criminal history: 15 crime categories. When investigating 15 crime categories (Table 7.3), SV males were approximately twice as likely to have a previous conviction of property damage and drugs offences, than SV female perpetrators, yet moderately small effect sizes were found. Further significant differences demonstrated medium effect sizes, with SV

male offenders over three times as likely to have burglary and traffic in their criminal history. Finally, a substantial medium effect size was reported for the significant difference between SV male and female perpetrators, in reference to weapon offences; males were almost five times more likely to have previously committed this crime.

Table 7.3

Significant Comparisons of Male and Female SV Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	**SV Male (*n* = 959)**	**SV Female (*n* = 149)**	**χ^2**	**Odds Ratio (OR)**	***P***
Burglary	20.4%	6.7%	16.054	3.571	.0001***
Property damage	44.1%	26.8%	15.799	2.151	.0001***
Weapon	13.5%	3.4%	12.364	4.476	.0001***
Drugs	31.1%	18.1%	10.439	2.037	.001**
Traffic	14.0%	4.7%	9.989	3.295	.002**

** $p < .01$, *** $p < .001$

7.4.1.7 Criminal history: 24 crime categories. When investigating 24 crime categories (Table 8.4), a significantly large effect size was found for theft from vehicle offences, with SV males being 15.89 times more likely to have this crime in their criminal history, compared to SV female offenders. SV male perpetrators were 6.30 times more likely to have a previous conviction for non-domestic burglary, and 4.48 times at an increased likelihood of being held responsible for possession of weapon, crimes; such findings produced strong, medium effect sizes. Further significant differences were identified, yet produced small effect sizes; SV male offenders were almost three times at an increased likelihood of having previously committed domestic burglary, compared to SV females, and were similarly 2.50 times more likely to have a conviction for theft of vehicle. In addition, SV males were twice as likely to have been convicted for criminal damage and drug offences, compared to SV females. Finally, SV male perpetrators were at a 1.70, and a 1.58, increased chance of having previously been held

responsible for miscellaneous, and harassment, offences, when compared to SV female offenders. No further significant differences were found between SV male and female perpetrators.

Table 7.4

Significant Comparisons of Male and Female SV Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	**SV Male (*n* = 959)**	**SV Female (*n* = 149)**	**χ^2**	**Odds Ratio (OR)**	***p***
Criminal damage	43.4%	26.2%	15.772	2.161	.0001***
Non-domestic burglary	14.8%	2.7%	16.565	6.300	.0001***
Possession of weapon	13.5%	3.4%	12.364	4.476	.0001***
Theft from vehicle	9.7%	0.7%	13.534	15.894	.0001***
Drugs	31.1%	18.1%	10.439	2.037	.001**
Domestic burglary	11.1%	4.0%	7.007	2.962	.008**
Theft of vehicle	12.4%	5.4%	6.298	2.497	.012*
Miscellaneous	28.3%	18.8%	5.866	1.702	.015*
Harassment	28.5%	20.1%	4.507	1.579	.034*

* $p < .05$, ** $p < .01$, *** $p < .001$

7.4.2 AMH and GBH offenders: A comparison.

7.4.2.1 Age at first offence (within the dataset) and age at target offence. AMH offenders were found to be significantly older (*n* = 132, *Mdn* = 29.50) than GBH offenders (*n* = 1391, *Mdn* = 23.00), when all offenders were compared in terms of the age when committing the SV offence, *U* = 65278.50, Z = -5.499, $p < .001$. Similarly, when offenders with previous convictions only were compared, AMH offenders were, again, found to be significantly older (*n* = 90, *Mdn* = 26.00) than GBH perpetrators (*n* = 1018, *Mdn* = 22.50) at the time of the target offence, *U* = 36200.50, Z = -3.306, *p* <

.01. Furthermore, AMH offenders (*n* = 90) were reported to be significantly older (*Mdn* = 22.50) than GBH offenders (*n* = 1018, *Mdn* = 18.00) when the first offence was recorded, *U* = 36025.00, Z = -3.306, *p* < .01; this finding demonstrated a small effect size.

***7.4.2.2 Frequency of offending*.** There were no significant differences in the number of previous convictions held by AMH (*Mdn* = 4.00), compared to GBH (*Mdn* = 4.00), perpetrators (*p* = .868).

7.4.2.3 Chronicity. A 5x2 Chi-square analysis detected a significant difference between the levels of chronicity and the type of serious violent offender, χ^2 (4) = 11.878, *p* < 0.05, *V* = 0.104. Subsequent 2x2 Chi-square analyses did not produce significant differences following the application of Holm's Bonferroni correction (*p* > .01). Figure 7.2 shows the allocation of AMH and GBH offenders to the various levels of chronicity.

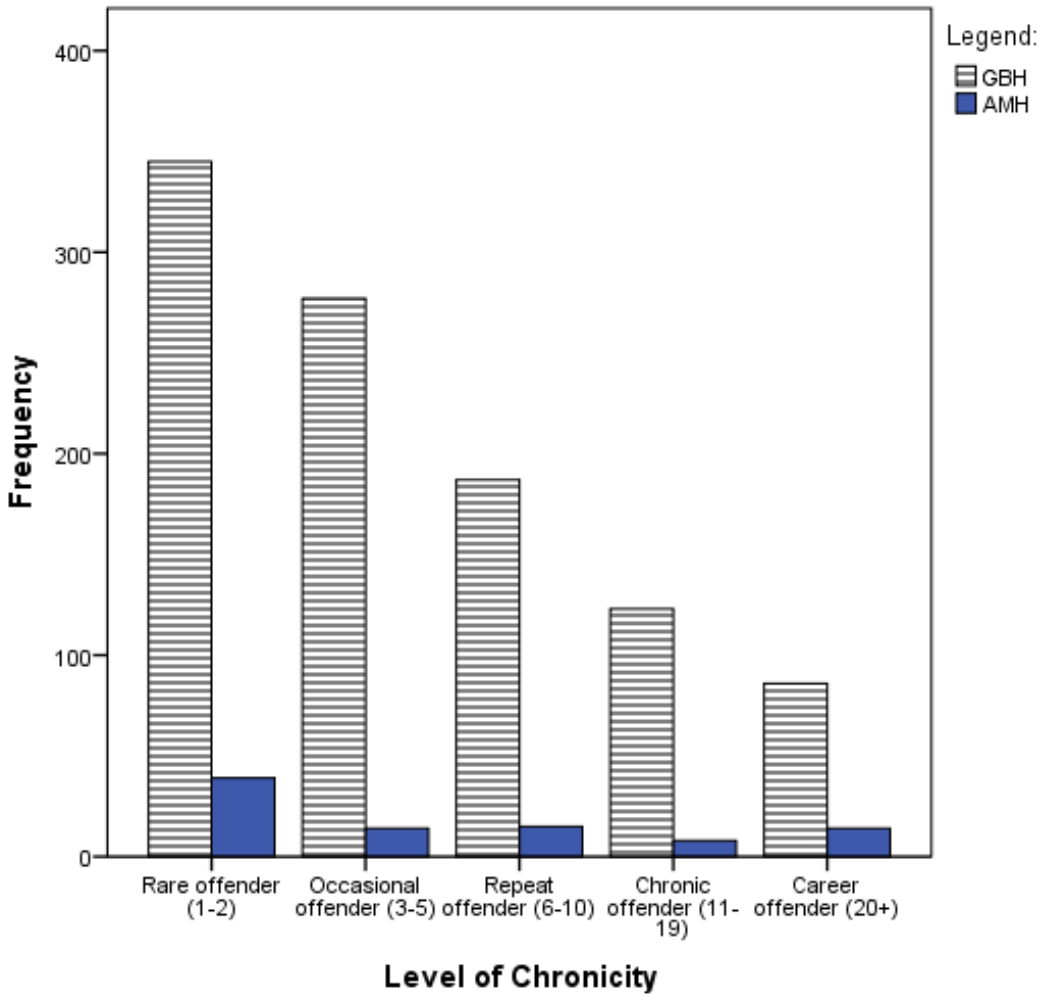

Figure 7.2 *The Chronicity of AMH and GBH Offenders*

7.4.2.4 Criminal history: Four crime categories. AMH offenders were found to be significantly more likely to have a prior conviction for violence, compared to GBH perpetrators, at an increased likelihood of 1.71 (see Table 7.5).

Table 7.5

Significant Comparisons of AMH and GBH Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	**AMH (*n* = 90)**	**GBH (*n* = 1018)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	66.7%	77.4%	5.311	1.713	.021*

*$p < .05$

7.4.2.5 Criminal history: Eight crime categories. Table 7.6 shows AMH perpetrators were statistically 1.79 times more likely to have violence within their criminal history, than GBH offenders. In addition, AMH offenders had a reduced likelihood of a previous conviction of burglary/robbery, when compared to GBH offenders, yet there was a very weak, small effect size.

Table 7.6

Significant Comparisons of AMH and GBH Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	**AMH (*n* = 90)**	**GBH (*n* = 1018)**	**χ^2**	**Odds Ratio (OR)**	***p***
Violence	64.4%	76.4%	6.407	1.789	.011*
Burglary/robbery	30.0%	20.8%	4.114	0.614	.043*

*$p < .05$

7.4.2.6 Criminal history: 15 crime categories. When exploring the offender's criminal histories according to 15 offence categories two significant differences were detected; AMH offenders were found to be 2.32 times more likely, than GBH perpetrators, to have a previous conviction of cause injury; this is supported with small to medium effect size (see Table

7.7). On the other hand, AMH offenders had a decreased likelihood of having previously committed burglary, compared to GBH offenders; although, this was supported by a weak, small effect size.

Table 7.7

Significant Comparisons of AMH and GBH Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	**AMH (*n* = 90)**	**GBH (*n* = 1018)**	**χ^2**	**Odds Ratio (OR)**	***p***
Cause injury	45.6%	66.0%	15.083	2.321	.0001***
Burglary	26.7%	17.9%	4.220	0.599	.040*

*$p < .05$, ***$p < .001$

7.4.2.7 Criminal history: 24 crime categories. In relation to the perpetrators offending history, AMH offenders were almost twice as likely to have previously been held responsible for ABH and assault, compared to GBH perpetrators (see Table 7.8). In consideration of vehicle interference and other theft, AMH offenders were at a statistically decreased probability of having such prior offences, than GBH offenders, albeit a very small effect size. No additional significant differences were identified between AMH and GBH perpetrators ($p > .05$). Small effect sizes were reported.

Table 7.8

Significant Comparisons of AMH and GBH Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	**AMH (*n* = 90)**	**GBH (*n* = 1018)**	**χ^2**	**Odds Ratio (OR)**	***p***
ABH	40.0%	55.1%	7.595	1.841	.006**
Assault	21.1%	33.7%	5.951	1.899	.015*
Vehicle interference	6.7%	2.1%	7.372	0.295	.018^*
Other theft	45.6%	35.1%	3.951	0.645	.047*

*$p < .05$, **$p < .01$, ^Fisher's exact value

7.5 Chapter Summary

There remains some disagreement in research relating to gender and violent offences regarding whether there are differences in violent offenders and the risk factors that increase the likelihood of future offending (e.g. Gallo et al., 2014; Piquero et al., 2012). Although there has been some consideration of gender in previous literature, the female sample is usually limited in size (e.g. Adeagbo et al., 2008; Zagar et al., 2009) and research remains sparse (e.g. Nicholls et al., 2015). Moreover, research noted the need for further investigation into types of SV crime (e.g. Gallo et al., 2014; Ganpat et al., 2014). Therefore, the aim of the current research was to investigate factors of SV offenders using a retrospective approach to compare SV offenders, based on characteristics and their criminal histories, similarly to the research carried out by Soothill and colleagues (2002). The analysis comprised of two sections: (i) SV male and female offenders, and (ii) AMH and GBH perpetrators, in which comparisons were made according to age and their criminal history information.

There were no differences found between male and female SV perpetrators, in terms of the offender characteristics of age at the first offence and age at the SV crime. Yet, when the type of SV offender was explored, AMH perpetrators were found to be older than GBH offenders, both at the time of the first, and the target, offence. Thus lending support to previous literature that has noted that violent offenders are typically older at the first crime (Ioane et al., 2014), particularly lethally violent criminals (Ganpat et al., 2014; Smit et al., 2003), and at the time of committing the SV offence (Ganpat et al., 2014; Smit et al., 2003).

When comparing the number of previous convictions between offenders, no significant differences were detected in the comparison of gender; this was somewhat surprising due to the substantial literature that argues males are more likely to reoffend (Ioane et al., 2014; Moffitt & Caspi, 2001; Steffensmeier & Allan, 1996) and therefore have a more extensive criminal history (Forsyth et al., 2001; Heidensohn & Silvestri, 2012; Lauritsen et al., 2009; Rossegger et al., 2009; Yourstone et al., 2008), than females. There were no differences between AMH and GBH perpetrators, which was

unexpected due to earlier findings of differences in the frequency of offending (e.g. Ganpat et al., 2014; Smit et al., 2003).

During the comparative analysis of male and female SV offenders, according to the types of previous convictions, significant differences were found, yet males were always more likely to have a given offence in their criminal history; in no instance were females more likely to commit a certain type of offence than males. Males were more likely to have been previously convicted of burglary-, and robbery-, related offences, criminal damage and drug offences. In addition, males tended to have theft-related, or violent, offences in their offending history, when compared to females. This adds weight to literature that has proposed males demonstrate a broader range of offending, which includes robbery, homicide, property and violent crimes (e.g. Belknap, 2001; Chesney-Lind & Belknap, 2004; Messerschmidt, 2000; Sandler & Freeman, 2011; Schwartz et al., 2009; Siegel & Senna, 2000; Smit et al., 2003).

The current sample found significant differences between the types of SV offenders, in that those who were held responsible for GBH were more likely to have committed burglary and theft-related offences, whereas those responsible for AMH had a tendency to have violent offences amongst the previous convictions. Such findings suggest differences in the types of previous convictions committed by different SV offenders. Smit and colleagues (2003) claimed fewer violent instances were noted in attempted and completed homicide perpetrators, however this was not reflected in the current sample. On the other hand, Kooyman and colleagues (2012), although in a sample of offenders with psychosis, reported that homicide offenders had previous convictions of ABH, GBH, criminal damage and acquisitive offences. Similarly, crimes including burglary, robbery, wounding and theft-related were observed in murderers (Soothill et al., 2002); there are similarities, as previous violence was associated with AMH perpetrators, yet this also highlights some dissimilarities in the current research, as burglary and theft offences appeared in the history of GBH offenders. The implications and limitations of the findings are discussed in *Chapter 10.*

7.5.1 Conclusion. When exploring SV offenders, some research has investigated those with mental disorders (e.g. Clarke et al., 2016; Kooyman

et al., 2012) or isolated male (e.g. Liem et al., 2014; Soothill et al., 2002), or female (e.g. Pollock et al., 2006), offenders only, for example, and so further research was needed to explore the various types of SV offences and the gender of perpetrators who commit them. It is evident that both violent and non-violent crimes are present in the offender's criminal histories in the current sample, as evidenced in earlier explorations (e.g. Cook et al., 2005; Liem et al., 2014). In addition, there were differences found in the offending history of both SV male and female, and AMH and GBH, offenders, indicating heterogeneity amongst subgroups of SV offenders. This lends support to arguments for gender- (e.g. Leschied, 2011), and violent- (e.g. Armstrong, 2005; Cortoni et al., 2010; MacDonald et al., 2009; Vess, 2011), specific pathways to offending.

Chapter 8: The Specialisation of Serious Violent Offenders

8.1 Aims of Chapter

This next chapter examines the specialisation, or diversity, of SV offenders. Therefore, the criminal history details (offence frequency and crime type) of offenders are explored, in addition to the factors of age and gender. Research has been largely inconclusive in determining whether offenders display specialisation, with contradictory arguments about the versatility of violent perpetrators. Furthermore, earlier literature has applied different categorisation schemes and various methods, thus making comparisons between investigations difficult. Recent explorations have utilised specialisation thresholds and the diversity index, yet this has focussed more so on sex offenders; therefore, this chapter explores the specialisation, or lack of, in subgroups of SV offenders using such methodologies.

8.2 Introduction

While research has investigated the specialisation of perpetrators for many years, determining whether an offender specialises in committing a specific crime type is still a key question in current literature (e.g. Howard, Barnett, & Mann, 2014), as a result of the impact for theory and policy (Baker et al., 2013; Howard et al., 2014; Nieuwbeerta et al., 2011; Piquero et al., 2012), such as offender risk assessment and the prevention of committing future crimes. Explorations into this topic focus both on the theory and method (Baker et al., 2013), yet due to claims that the offender specialisation debate is a complex one (Jennings et al., 2014) there are theoretical and methodological challenges (Tumminello, Edling, Liljeros, Mantegna, & Sarnecki, 2013); the challenges, including that of crime categories and methodologies employed (Kempf, 1987), are discussed throughout this chapter. Previous research reports that it is likely for homicide offenders to have an offending history, which is often characterised by violent crimes (Broidy et al., 2006; Pizarro et al., 2011). However, there has been a lack of attention to such violent offenders, in regards to specialisation (e.g. Trojan &

Salfati, 2010; Wright et al., 2008), particularly in comparison to the multitude of investigations into sexual offenders (e.g. Almond et al., 2015; Harris et al., 2009; Lussier, 2005; Miethe et al., 2006; Soothill et al., 2000) and in terms of the measures used to investigate the specialisation, and diversity, of offenders. Thus, research has explored the specialisation of violent offenders, but there has been a lack of consistency in the approach and method used in the analysis.

Specialisation has important implications for theory, which is crucial in terms of research and offender interventions. For example, if violent offenders are versatile in their offending, it would be appropriate to apply Gottfredson and Hirschi's (1990) GTC; this approach would indicate offenders are homogenous and therefore would argue that theories and interventions are applicable to all offenders, regardless of the crimes they have committed; this theoretical approach would also support the argument for the diversity of offenders (DeLisi et al., 2011; Mazerolle et al., 2000; Miethe et al., 2006; Nieuwbeerta et al., 2011). Whereas, Moffitt's (1993) stance regarded offenders as heterogeneous; offenders who are deemed to specialise in one crime type would require crime-specific interventions. Early research identified certain traits of SV offenders (e.g. gender, race, socio-economic status), suggesting those who specialise in violent crime may be a certain type of perpetrator (e.g. Elliot et al., 1986). Although Snyder (1998) supported a 'type' of violent offender, it was argued that this was a rare occurrence and did not necessarily mean that such an offender would limit their criminality to violent offences. Thus, there remains a debate within research relating to the specialisation of offenders, with particular disagreements surrounding violent offending.

Specialisation research explores both empirical and longitudinal data, enabling for a varied and broader understanding of offending behaviours in relation to predictors and trajectories of offending (Farrington, 2003). In a recent review of offender specialisation, Eker and Mus (2016) outlined that the common belief amongst practitioners in the criminal justice system is that offenders demonstrate specialisation, thus focusing on one crime type in their offending history (Mazerolle et al., 2000). The need to understand criminal specialisation is noted in supporting decision-making and

determining the resources that should be applied by practitioners (Guerette et al., 2005; Tumminello et al., 2013), particularly due to the cautions highlighted by Eker and Mus (2016); many criminal justice practices, such as analytical strategies and investigative tools, have been proposed to have been shaped by the notion of offender specialisation, and so practitioners should take care in not immediately discounting criminal versatility (Eker & Mus, 2016). Further, previous chapters have underlined the value of criminal history information in informing future offending, yet specialisation would not place any significance on this (Eker & Mus, 2016; Farrington et al., 1988).

8.2.1 Theory. The association between empirical findings and theory in specialisation was introduced in *Chapter 1*, with an importance placed on the offender specialisation/versatility debate to theoretical knowledge (Eker & Mus, 2016). From the specialisation view, multiple theories would be required to account for the various types of offenders and criminal behavior, whereas the versatility approach could be explained by one overarching theory (Eker & Mus, 2016; Farrington et al., 1988). Proponents for criminal specialisation argue that an offender will engage in the same crime type throughout their criminal career, as a result of a scarcity of other options and peer influences (e.g. Cloward & Ohlin, 1960, 2003; Sutherland & Cressey, 2003). In particular, Cloward and Ohlin (2003) proposed three subgroups of specialisation offences, according to subcultures: (i) criminal (income related), (ii) conflict (violent related), and (ii) retreatist (drug related). This perspective of offender specialisation has been supported with empirical research (e.g. Armstrong & Britt, 2004; Lattimore et al., 1994), with particular claims for specialisation in violence and property offences (Paternoster, Brame, Piquero, Mazerolle, & Dean, 1998).

However, opponents of specialisation, and thus advocates of offender versatility, argue that perpetrators rarely demonstrate specialisation (e.g. Gottfredson & Hirschi, 1990; Richards, Jennings, Tomsich, & Gover, 2013). The underlying theoretical argument for the criminal versatility approach suggests that as a result of offenders having low levels of self-control, criminals partake in various crime types (Gottfredson & Hirschi, 1990; Paternoster et al., 1998; Tumminello et al., 2013). From a rational choice theoretical approach (Cornish & Clarke, 1989), perpetrators commit a

criminal act based on their individual needs at that time, which is therefore likely to lead to offender versatility and does not propose specialisation in certain crimes (Guerette et al., 2005). Although, there are reports of offender versatility (e.g. DeLisi et al., 2011; Mazerolle et al., 2000; Miethe et al., 2006; Nieuwbeerta et al., 2011; Piquero, 2000), Jennings and colleagues (2014) highlighted the acknowledgement from this perspective that empirical support for this belief is fairly unconvincing.

Other researchers have proposed that offenders can demonstrate specialisation and diversity throughout their criminal careers (e.g. Richards et al., 2013). This combined approach to criminal specialisation and versatility is largely supported by development theories. Moffitt's (1993) life-course approach noted differences in the offenders, and offending behaviours, for adolescence-limited and life-course persistent offenders, thus suggesting perpetrators are likely to change over time (Piquero, 2000). Particularly, literature suggests offenders are likely to be more versatile as they become older (e.g. Paternoster et al., 1998; Richards et al., 2013).

8.2.1 Research methods. To measure the specialisation of offenders, typically a threshold is applied "to the percentage of an offender's total prior arrests, charges, or sentencing occasions that are for a particular offense type" (Harris et al., 2009, p. 39). An offender is identified as a specialist when a given percentage of the previous crimes committed are of a specific crime type, yet there has been variation in previous literature relating to what percentage of an offender's criminal history must contain one crime type, in order to be deemed a specialist. For example, researchers have argued that a minimum of 50% of an offender's convictions within one crime category is required for specialisation (Cohen, 1986; Tracy & Kempf-Leonard, 1996), whereas Horning, Salfati and Crawford (2010) defined a specialist as having at least 75% of their previous offences within one crime type. However, a number of researches have applied the STs of 50%, 75% and 100% (e.g. Harris et al., 2009; Jennings et al., 2014; Miethe et al., 2006).

The DI was developed from research conducted by Agresti and Agresti (1978), and has since been used in the exploration of offender specialisation and versatility (e.g. Harris et al., 2009; Mazerolle et al., 2000; Piquero et al., 1999; Sullivan et al., 2006). The DI considers an offender's

criminal history and calculates the potential occurrence of a given number of offences from a number of crime categories (Harris et al., 2009; Piquero et al., 1999). This approach has been preferred when exploring diversity, over the past decade; previous to this, research typically used the forward specialisation coefficient (FSC; e.g. Paternoster et al., 1998). However, Mazerolle et al. (2000) argued for the DI, compared to the FSC, due to the interpretation of the score and its applicability. The DI has been utilised in a number of criminal investigations (e.g. Piquero et al., 1999), including those of sexual offenders (e.g. Harris et al., 2009; Jennings et al., 2014) and multiple homicide offenders (Wright et al., 2008), yet applying the DI to a sample of SV offenders is absent from literature. Moreover, research has noted the importance of addressing specialisation at an individual level (Armstrong & Britt, 2004; McGloin et al., 2007; Sullivan et al., 2006), which is achievable using the DI.

Mazerolle et al. (2000) pointed out that the number of categories used is subjective to the researchers and there are no standard categories (see Table 8.1), leading to discrepancies in the offence categories that are used (Guerette et al., 2005). Sullivan et al. (2006) considered the issues relating to the aggregation of crime categories, with the importance of considering the categories being highlighted by Wikstrom (1987); the number of categories has an influence on the offender's diversity (e.g. the fewer the categories, the less likely diversity would be detected).

Table 8.1

Offence Categories Used in Previous Literature

Research	N	Offence categories
Almond et al. (2015)	15	Arson; burglary; criminal damage; criminal justice matters; driving; drugs; weapon; kidnap; miscellaneous; robbery; sexual-contact; sexual-threat; theft; violence-contact; violence-threat
Baker et al. (2013)	4	Drug; other; property; violent
Harris et al. (2009)	20	From the original Australian Bureau of Statistics classification scheme (not given in the research)
	6	Rape; child molestation; noncontact sexual offences; nonsexual violence; property; other
	4	Sexual offences; nonsexual violence; property; other
Horning et al. (2010)	3	Violent crime against person; sexual crime against person; burglary/theft
Mazerolle et al. (2000)	3	Other; property; violent
Nieuwbeerta et al. (2011)	3	Crimes against persons; property; others
Piquero et al. (1999)	3	Other; property; violent
Sullivan et al. (2006)	10	Burglary; business robbery; personal robbery; assault; theft; auto theft; forgery; fraud; drug crimes; rape
Wright et al. (2008)	10	Aggravated assault; burglary; drug use or sale charges; kidnapping; molestation charges; murder; rape; robbery; theft; weapons charges

Eker and Mus (2016) eluded to the common use of three crime categories, being violent, non-violent (or property) and other (e.g. Mazerolle

et al., 2000; Osgood & Schreck, 2007; Piquero et al., 1999), with other observations employing four categories (e.g. Baker et al., 2013; Harris et al., 2009) too, but there have been some variations. Harris et al. (2009) used 20 categories based on the Australian Bureau of Statistics (ABS) crime classifications, with further research employing 10 offence categories (Sullivan et al., 2006; Wright et al., 2008). Using fewer offence categories has been maintained in research, due to the clarity (e.g. Baker et al., 2013; Cohen, 1986; Spelman, 1994). However, Nieuwbeerta et al. (2011) highlighted the chance of missing an offender switching between crimes if broad categories are used, and suggested that "various categorisation schemes" (p.19) should be considered. Additionally, it has been noted that specialisation tends to be reported when using broader crime categories (e.g. Armstrong, 2008a, 2008b; Piquero et al., 1999; Sullivan et al., 2006), as fewer categories can limit the exploration of offender's and their offending history (Adams & Pizarro, 2014).

8.2.2 Offence specialisation and diversity. Specialisation has been defined as "the tendency to repeat the same offence type on successive arrests" (Blumstein et al., 1986, p. 81), whereas engaging in "a wide variety of criminal acts" (Gottfredson & Hirschi, 1990, p. 91) defines versatile offending. The ongoing offender specialisation/versatility debate, particularly the exploration into SV offenders, has yielded conflicting findings. Violence has been associated more so with generalised offending (e.g. Stander et al., 1989), with further reports that the majority of perpetrators, SV offenders in particular, are versatile in the crimes they commit (e.g. Blumstein et al., 1988b; Brame et al., 2001; Cohen, 1986; DeLisi, 2005; Elliott, 1994; Piquero, 2000; Piquero et al., 2007). However, some research disputes this, proposing specialisation (Lattimore et al., 1994), particularly in violent offenders (Loeber et al., 2008; Lynam et al., 2004). Offender characteristics (age and gender) and criminal history information (offending frequency and crime types) have been investigated to determine whether such factors influence offence specialisation.

8.2.3 Age. Theoretically, offenders are likely to learn during their criminal career and identify the types of offences they are more likely to repeat, based on identifying the likely rewards and risks from committing

such a crime (Spelman, 1994); therefore, specialisation tends to be associated with older offenders (McGloin et al., 2007). Adult offenders have been reported as more likely to specialise, when compared to juveniles (Blumstein et al., 1986; Brame et al., 2004; Farrington, 1986; Piquero et al., 1999), with older offenders demonstrating specialisation in violent offences (Loeber et al., 2008). More specifically, Nieuwbeerta et al. (2011) identified an age-diversity curve, in that diversity was identified between adolescence and early adulthood, with offenders then demonstrating specialisation during adulthood. This relationship between age and specialisation has been supported, in that specialisation increases with age (Tumminello et al., 2013). Yet again, reports from Francis et al. (2010) indicated that diversity increased with age in female offenders.

A review by Reiss and Roth (1993) proposed that offenders who engaged in violent offences had an older onset age, when compared to those who commit nonviolent crimes; further support stems from research into criminal careers that identified violent crimes being committed later (Reiss & Roth, 1993). In addition, onset age has been linked to offending frequency, in that those who begin offending early in life are more likely to engage in a higher frequency of offences and demonstrate diversity in the types of crimes (Gottfredson & Hirschi, 1990; Mazerolle et al., 2000; Piquero et al., 1999). Specifically, adolescence-limited offenders are likely to demonstrate specialisation, with life-course persistent perpetrators proposed to be versatile in their offending with some specialisation evident as the offenders become older (Moffitt, 1993). On the other hand, an early onset age has been proposed to be associated more so with specialisation, as an offender is likely to have been raised in such an environment that encompasses learning a given crime type (Armstrong & Britt, 2004).

8.2.4 Criminal history information. Violent offenders are proposed to have a more extensive offending history, when compared to nonviolent perpetrators (MacDonald et al., 2009; Piquero, 2000), in that an increase in offending frequency increases the likelihood of engaging in violence (Piquero, 2000). Piquero, Farrington and Blumstein (2003) argued that those offenders who engage in criminal careers, and therefore have an extensive criminal history, are more likely to demonstrate versatility in their offence

record (e.g. Blokland, 1995; Cohen, 1986; Gottfredson & Hirschi, 1990; LeBlanc & Frechette, 1989; Mazerolle et al., 2000); Monahan and Piquero (2009) also pointed out the positive relationship between versatility and offence frequency, in that an offender must commit numerous crimes in order to engage in different types of offences. From a theoretical perspective, this is supported by general theories of crime, which would posit that as versatility decreases, frequency of offending also decreases. While presenting further support for the versatility of violent perpetrators, homicide offenders in particular, Farrington et al. (2012) reported an increased prevalence of offending in violent and property crimes.

Elliott (1989) argued against versatile violent offenders, claiming that SV offenders had at least three SV crimes in their offending history, with further support that specialising in violence was noted in perpetrators with 3, or more, arrests (Brennan et al., 1989). However, further research has reported that the majority of violent perpetrators only had one prior conviction for a violent crime (e.g. Reiss & Roth, 1993; Wolfgang et al., 1972). This is supported by longitudinal research conducted by Laub and Sampson (2003), as they argued that violent crime accounts for a smaller proportion of offences, when compared to all crimes committed; particularly, violent offenders demonstrated a higher rate of offending, argued to be in relation to various crime types (Elliott et al., 1986; Elliott, 1994; Farrington, 1991). Furthermore, it was argued that those who do engage in violent offending, and have a high rate of offending, are just as likely to partake in non-violent offending (Blokland & Nieuwbeerta, 2005; Brame et al., 2001; Piquero, 2000; Piquero et al., 2007). The general argument for violent offenders, in support of versatility, is that those offenders with an extensive criminal history happen to commit a violent offence, amongst the other crimes they commit (e.g. Tracy et al., 1990).

While there is disagreement in literature surrounding the idea of violent specialisation, Armstrong (2008b) reported higher levels of specialisation in offenders who partook in property-related crimes and Gottfredson and Hirschi (1990) identified specialisation as being most common in sexual and drug-related offenders. Further nonviolent specialisation has been reported in burglary, theft and fraud (Britt, 1996;

Farrington et al., 1988). Additionally, Loeber et al. (2008) reported similarities in the offender's trajectories towards theft and violence, suggesting an overlap between the two offences; offenders were reported to be versatile, engaging in both types of offences. Yet again, specialisation in violence (Brennan et al., 1989; Britt, 1996; Loeber et al., 2008; Osgood & Schreck, 2007), theft (Loeber et al., 2008), fraud (Brennan et al., 1989), property and drug crimes (Britt, 1996) has been reported. What is more, when comparing single-, with multiple-, victim homicide offenders, Trojan and Salfati (2010) noted differences in specialisation; both demonstrated specialisation in instrumental crimes (e.g. theft, burglary), with single victim homicide perpetrators also specialising in violence. Further, research has argued that offenders may demonstrate instances of specialisation, such that younger perpetrators engage in homicide, vandalism and drugs, with older criminals being associated with temporarily specialising in arson offences (Tumminello et al., 2013). Thus, literature indicates possible differences in specialisation between the types of violent offenders and the need for further research.

8.2.5 Gender. Differences in gender and SV offending have been discussed in detail in *Chapter 7*, with the view that violent behaviour is still largely associated with males (Burman & Batchelor, 2009; Chesney-Lind & Faith, 2001). Eker and Mus (2016) highlighted that this remained a key limitation in the field of specialisation research. As noted by Osgood and Schreck (2007), there have been contradictory reports relating to gender and specialisation. Higher levels of specialisation have been linked to males, compared to females (Kempf, 1986), yet this research was criticised by Mazerolle et al. (2000) for the lack of analytical support for the findings. Farrington et al. (1988), on the other hand, reported that, when exploring persistent offenders, females were in fact more likely to be deemed specialists than males (Tumminello et al., 2013), but when identifying the types of crime, males were more likely to specialise in serious crime, particularly violence (Osgood & Schreck, 2007), compared to females and their participation in runaway crimes (e.g. running away from home, Rojek & Erickson, 1982), fraud or forgery, and disorderly behaviour. Whereas, others argue females specialise in violent crime (Bouffard et al., 2008). Yet again, Mazerolle et al. (2000) did not find any significant differences between male

and female offending in terms of specialisation (Rojek & Erickson, 1982). However, when onset age was factored in, Mazerolle and colleagues (2000) reported that females who engage in criminality early on demonstrate more diversity in their offending, compared to males who were more likely to be identified as versatile offenders when they had a late onset age; this produced interesting findings, as much research argues for a late onset being linked to specialisation, thus further explorations are warranted.

8.2.6 Summary. In order to effectively address theory and practice, it is essential to develop our understanding of the specialisation, or diversity, of offenders and to determine whether offenders should be treated homogeneously or heterogeneously (Baker et al., 2013; Howard et al., 2014; Nieuwbeerta et al., 2011). While there is extensive research on the topic of criminal careers (e.g. Armstrong & Britt, 2004; Mazerolle et al., 2000; Osgood & Schreck, 2007; Piquero, 2000), and a focus on specialisation and diversity (e.g. Howard et al., 2014) there is some disagreement regarding the offending of SV and nonviolent offenders, in addition to gender and type of SV offence, both in terms of findings and the methods used in the investigation. Therefore, further research is needed, using consistent measures to allow for comparisons with other research. The aim is to investigate factors of SV offenders, thus the age and criminal history information (including type of offence and frequency of offending) of offenders are explored, specifically in terms of specialisation and diversity.

8.2.7 Objectives.

The objectives were as follows:

- Investigate the specialisation of subgroups of SV offenders according to (i) the type of offender, (ii) gender, and (iii) the type of SV crime committed.
- Explore the SV subgroups, in terms of age, the STs (50/50, 50%, 75%, 100%) and the diversity index according to the four crime categorisation schemes (4, 8, 15 and 24).
- Compare the SV subgroups, (i) SV versus control, (ii) male versus female, and (iii) AMH versus GBH, relating to the scores on the diversity index.
- Explore the relationship between frequency of offending, the

age of the first offence and the age at the target offence with diversity index scores for the subgroups of SV perpetrators.

8.3 Methodology

8.3.1 Sample. As previously noted, SV offenders were those who had been held responsible for attempted murder, GBH or homicide. The sample contained 1523 SV perpetrators; however, only those with two or more previous convictions were included in the analysis, due to the requirements of the diversity index (e.g. Piquero et al., 1999), the sample contained 889 SV offenders (780 SV male, and 109 SV female, perpetrators). The initial control sample consisted of 1406 offenders; this was reduced to 1125 perpetrators, when excluding those with either one or zero prior offences.

8.3.2 Procedure. The data consisted of the criminal histories of a total of 2014 offenders, provided by Devon and Cornwall police force. Two measures were applied to measure specialisation: the specialisation threshold (ST) and the diversity index (DI). The analyses explored a number of crime categorisation schemes; crimes were broken down according to four, eight, 15 and 24 crime categories (see Table 8.2). For each offender, the offence categories were recorded dichotomously (present or not present), according to four, eight, 15 and 24 categories, with the frequency of previous convictions recorded as a continuous variable for each offence type. The interaction between gender and SV offenders (AMH females; AMH males; GBH females; GBH males) was also explored, but due to the large differences in sample sizes, the interaction was removed from the chapter; the output from the exploration of specialisation is in Appendix F.

The use of four categories was based on previous research (e.g. Harris et al., 2009), with eight categories based on the categories presented in the data set. As used by Harris et al. (2009), the present research used the current Australian and New Zealand Standard Offence Classification (ANZSOC; Pink, 2011); this identified 16 categories, however one category was not applicable (Dangerous or negligent acts endangering persons) and therefore 15 categories remained. The 24 categories were identified from those used by the Home Office (2012).

Table 8.2

Breakdown of Categories in the Current Research

Number of categories	**Offence categories**
4	Other; Property; Sexual; Violent.
8	Burglary/robbery; Criminal damage; Drugs; Non-notifiable; Other crime; Sexual offences; Theft/handling; Violence/against the person.
15	Abduction; Burglary; Cause injury; Drugs; Fraud; Justice; Miscellaneous; Property damage; Public order; Robbery; Serious violent; Sexual; Theft; Traffic; Weapons.
24	Abduction; Arson; Assault occasioning actual bodily harm (ABH); Attempted murder; Criminal damage; Domestic burglary; Drug offences; Fraud and forgery; GBH; Harassment; Homicide; Miscellaneous; Non-domestic burglary; Non-notifiable; Other assault; Other theft; Other violence; Possession of weapon; Robbery; Sexual offences; Theft from vehicle; Theft of Vehicle; Threats to kill; Vehicle interference.

8.3.2.1 Specialisation threshold. STs were applied in order to ascertain those offenders in the sample who were deemed specialists. The current research implemented the approach used in earlier literature (Harris et al., 2009; Jennings et al., 2014; Miethe et al., 2006) in employing the thresholds of 50%, 75% and 100%. For each ST, the frequencies are reported according to the subgroups (SV and control; SV male and females; AMH and GBH offenders).

***8.3.2.2 Diversity index*.** The DI value ranges from 0 to 1; a score of 0 indicates complete specialisation of one crime category. If, on the other hand, the DI were closer to 1, this would suggest complete diversity of the offender. The formula used to calculate the DI is $(k – 1)/k$, where k represents the number of offence categories. Using the same methods employed in earlier research (Harris et al., 2009; Miethe et al., 2006; Sullivan et al., 2006), an average DI score was computed for each offender's criminal

past to indicate their overall diversity, or specialisation, in offending. In addition to exploring the DI scores for each individual, they were also calculated for subgroups of the sample (SV and control; AMH and GBH offenders).

8.3.2.3 Frequency of offending. The number of crimes committed was recorded for each offender, according to each offence category. In terms of the number of previous convictions, research has not adopted a uniform approach; a varied number of required previous offences have been used, such as nine (Wolfgang et al., cited in Bursik, 1980), five (Bursik, 1980; Youngs et al., 2016) and two (Baker et al., 2013; Farrington et al., 1988; Harris et al., 2009; McGloin et al., 2007; Piquero et al., 1999; Sullivan et al., 2006) prior convictions. Harris et al. (2009) further emphasised that investigations into specialisation would be restricted if offenders with limited criminal histories were explored. Furthermore, research has noted the need for a minimum of two previous convictions to be included to calculate the diversity index (Sullivan et al., 2009). As a result, the current chapter included only offenders with two or more previous offences.

8.3.2.4 How previous convictions are measured. Investigations into diversity and specialisation tend to include sentencing occasions, arrests or convictions as the measurement (Bursik, 1980; Guerette et al., 2005). Harris et al. (2009) discusses the use of recording the most serious offence of each criminal occasion in prior research, but highlights the issues surrounding this (see Fisher & Ross, 2006; Harris et al., 2009; Lattimore et al., 1994; Sullivan et al., 2009). Thus, in accordance with Harris et al. (2009), all offences recorded for the offender (e.g. each individual crime) were included.

8.3.3 Statistical analyses. Although descriptive statistics are detailed in *Chapter 3* the descriptives are reported due to the sample now focusing on only offenders with two or more previous convictions. Age and prior criminal history have been found to be associated in previous research with specialisation and versatility (e.g. Freeman & Sandler, 2008; Harris et al., 2009; McGloin et al., 2007; Sullivan et al., 2006), and so have also been explored in this analysis. The STs investigate the frequency of offenders that fall within the various thresholds. The DI was found to be skewed and thus non-parametric tests were employed; Spearman's correlations explored the

relationships between the DI and the age of the offender, at the time of committing the first offence and the target offence, and the frequency of offending, with Mann-Whitney U tests investigating the differences in the DI scores between the groups of offenders.

8.4 Results

A total of 2014 offenders had two or more previous convictions and were, therefore, included in the analysis. Of this sample, 55.86% (*n* = 1125) were control perpetrators and 44.14% (*n* = 889) were SV offenders, consisting of 109 females (12.26%) and 780 males (87.74%). When exploring the SV sample further, 92.35% (*n* = 821) of perpetrators were held responsible for GBH as the target offence and 7.65% (*n* = 68) for AMH. The specialisation threshold and diversity index has been calculated for, and comparisons made between: (i) SV and control, (ii) SV male and SV female, and (iii) AMH and GBH offenders. The analyses explore the criminal histories of perpetrators, according to four, eight, 15 and 24 offence categories.

SECTION (i)

8.4.1 SV VS. CONTROL.

8.4.1.1 Descriptive statistics. At the time of committing the first offence in the dataset, SV offenders were of a similar age (*n* = 889, *M* = 20.89, *SD* = 9.03, *Mdn* = 18.00) to control perpetrators (*n* = 1125, *M* = 20.63, *SD* = 9.33, *Mdn* = 17.00), as offenders did not significantly differ (*p* = .125). This was also the case for the age of control (*M* = 25.78, *SD* = 11.72, *Mdn* = 23.00) and SV offenders (*M* = 25.53, *SD* = 9.17, *Mdn* = 23.00) when convicted for the target offence (*p* = .714).

8.4.1.2 Specialisation threshold. The ST identifies the offenders in the sample who are considered specialists, according to a number of thresholds. When exploring the previous convictions of offenders, according to four categories, the majority of both SV and control perpetrators were classified as 100% (16.9% and 16.7%, respectively) or 50% (42.0% and 40.4%, respectively) specialists (see Table 8.3). In particular, of the 16.9% of SV offenders who demonstrated complete specialisation, 8.9% were violent specialists, followed by other (6.6%) and property (1.3%) specialists.

Similarly, the 100% control specialists comprised of those who specialised in other (7.6%), violent (5.7%) and property (3.4%) offences. The SV offenders who demonstrated 50% specialisation in their offending specifically engaged in other (18.1%), violent (14.5%) and property (9.3%) crimes; this was also evident for the control perpetrators (other, 17.7%; violent, 11.6%; property, 11.0%). Interestingly, a proportion of the SV and control samples also revealed a 50/50 split in their criminal histories. In the SV sample, 13.9% engaged in ‘dual specialisation’, partaking in violent and other (9.6%), property and other (2.2%), violent and property (1.9%) and other and sexual (0.2%) offences. Additionally, 16.4% of the control sample exhibited dual specialisation in their previous convictions (violent and other, 9.2%; property and other, 4.6%; violent and property, 2.5%; violent and sexual, 0.2%).

Table 8.3

The Specialisation Threshold for SV and Control Offenders

	100%	**≤ 75%**	**≤ 50%**	**50/50**	**Generalist**
	% (*n*)	**% (*n*)**	**% (*n*)**	**% (*n*)**	**% (*n*)**
4 categories					
SV	16.9 (150)	13.6 (121)	42.0 (373)	13.9 (124)	13.6 (889)
Control	16.7 (188)	14.1 (159)	40.4 (454)	16.4 (185)	12.4 (139)
8 categories					
SV	12.3 (109)	8.3 (74)	33.1 (294)	13.0 (116)	33.3 (296)
Control	12.5 (141)	9.2 (103)	30.9 (348)	16.8 (189)	30.6 (344)
15 categories					
SV	9.3 (83)	6.2 (55)	25.0 (222)	13.4 (119)	46.1 (410)
Control	10.6 (119)	8.3 (93)	27.0 (304)	17.2 (193)	37.0 (416)
24 categories					
SV	6.5 (58)	4.3 (38)	20.2 (180)	14.7 (131)	54.2 (482)
Control	8.4 (95)	6.3 (71)	23.7 (267)	18.3 (206)	43.2 (486)

When applying eight categories to the offender's criminal history, most control offenders were assigned as 50% specialists (30.9%), followed by generalists (30.6%). Whereas, the majority of SV offenders were classed as generalists (33.3%) or 50% specialists (33.1%), with fewer offenders showing 100% specialisation (12.3%) that tended to specialise in violent offences (8.8%). There were similarities in the control and SV 50% specialists in the offences they committed, including violent (12.3% and 16.8%, respectively), theft (8.9% and 6.7%, respectively), non-notifiable (2.7% and 3.4%, respectively), drug (2.6% and 2.4%, respectively) and criminal damage (2.6% and 2.2%, respectively). Multiple combinations of crimes were noted in dual specialists; of the13.0% of SV offenders, perpetrators tended to commit violent crimes along with criminal damage (2.2%), drug offences (2.0%), non-notifiable (2.0%) and theft (1.6%). Within the 16.8% of control offenders who feel into the 50/50 ST, dual combinations of violent offences with criminal damage (3.5%), theft (2.0%), non-notifiable (2.0%), drug (1.4%) and other (1.0%) crimes, in addition to criminal damage and theft (1.5%) and non-notifiable and theft (1.0%) were reported.

When 15 crime categories were applied to the offending histories of criminals, more offenders were then reported as generalists for both SV (46.1%) and control (37.0%) perpetrators. Approximately one-quarter of both samples demonstrated 50% specialisation, with fewer exhibiting 100% specialisation (SV = 9.3%; control = 10.6%). The SV 100% specialists exhibited offences of cause injury (6.0%), theft, property, miscellaneous, drug, abduction and burglary (<1.0%). In comparison, the control 100% specialists showed a more even distribution of the crimes the offenders specialised in, including cause injury (3.0%), theft (2.6%), drug (2.5%), property (1.1%), fraud, miscellaneous, abduction and traffic (<1.0%).

The use of 24 categories increased the number of generalists to approximately half of the samples (SV = 54.2%; control = 43.2%). In consideration of those deemed 100% specialists, perpetrators were more likely to specialise in ABH offences (2.8%) in the SV sample, compared to drug offences (2.5%) and criminal damage (1.1%) in the control sample.

8.4.1.3 Diversity index. The mean DI was calculated for offenders with two or more previous convictions (*n* = 2014), for each of the category

groupings. The average DI scores for the SV and control offenders can be found in Table 8.4, with the values being more representative of diverse offending. The closer the DI score is to 0, the more specialisation the offender demonstrates in their offending history; the closer to 1, the more generalised the perpetrators criminal behaviour is.

Table 8.4

The Diversity Index Scores for SV and Control Offenders

		Diversity Index							
		4 categories		**8 categories**		**15 categories**		**24 categories**	
	N	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**
SV	889	.479 (.229)	.500	.583 (.247)	.667	.621 (.239)	.667	.666 (.223)	.750
Control	1125	.475 (.226)	.500	.563 (.243)	.667	.592 (.239)	.667	.621 (.233)	.667
Total	**2014**	**.477 (.227)**	**.500**	**.572 (.245)**	**.667**	**.609 (.240)**	**.667**	**.641 (.229)**	**.667**

8.4.1.4 A comparison of DI scores between SV and control offenders. No significant differences were identified between SV and control offenders, in terms of their DI scores, when investigating four categories (p = .324). However, a Mann-Whitney U test indicated that SV offenders were significantly more likely to be diverse in their offending history, when compared to control perpetrators, regardless of whether eight categories, U = 464584.50, p < .01, r = .06, 15 categories, U = 434820.50, p < .001, r = .11, or 24 categories, U = 432759.00, p < .001, r = .12, of offences were applied.

8.4.1.5 Correlations: Frequency of previous convictions and the DI. To determine whether there was an association between the frequency of offending and DI, spearman correlations were conducted. SV offenders demonstrated strong, positive correlations indicating that as the frequency of offences increases, the offender's criminal history becomes more diverse, according to four categories (r_s = .69, p < .001), eight categories (r_s = .81, p < .001), 15 categories (r_s = .85, p < .001) and 24 categories (r_s = .87, p < .001).

8.4.1.6 Correlations: Age at the time of committing the first offence and the DI. All spearman's correlations between the age at the time of committing the first offence and the DI, for both SV and control perpetrators, were found to have a significant negative association. Although the strength of the correlations were moderately weak (r_s = -.16 to -.23), the highly significant relationships (p < .001) suggest that offenders who are younger at the time of committing their first offence typically engage in a variety of crime types and therefore exhibit more diversity in their criminal histories.

8.4.1.7 Correlations: Age at the time of committing the target offence and the DI. When exploring the relationship between the age of the offender, at the time of committing the target offence, and the DI score, relationships were not found to be significant when applying the 8, 15 and 24 categories of crime types (p > .05). However, a significant, weak, association between age and DI was detected when employing the four crime categories for both the SV (r_s = -.10, p < .01) and the control (r_s = -.11, p < .001) samples, indicating that those who were younger when held responsible for their target offence were also more likely to be more diverse in the offences they committed.

SECTION (ii)

8.4.2 SV MALES VS. SV FEMALES.

8.4.2.1 Descriptive statistics. When committing the first offence in the dataset, SV female offenders were, on average, slightly older (*n* = 109, *M* = 21.24, *SD* = 8.87, *Mdn* = 18.00) to SV male perpetrators (*n* = 780, *M* = 20.84, *SD* = 9.05, *Mdn* = 17.50), yet this was not a significant difference (*p* = .761). Similarly, at the time of being held responsible for the target offence, SV females were found to be older (*M* = 26.02, *SD* = 9.15, *Mdn* = 24.00), albeit non-significantly (*p* = .544), than SV male offenders (*M* = 25.46, *SD* = 9.17, *Mdn* = 22.00).

8.4.2.2 Specialisation threshold. In the investigation of four offence categories for SV male and female offenders, most offenders demonstrated specialisation in either 50% (41.8% and 43.1%, respectively) or 100% (16.8% and 17.4%, respectively) of their criminal history (see Table 8.5). The 50% specialists showed a higher proportion of violent offences in the SV female sample (18.3%), compared to the SV male sample (14.0%). Other offences were also present in the SV male (18.7%) and SV female (13.8%) previous convictions, in addition to property crimes (9.1% and 11.0%, respectively). SV perpetrators who exhibited 100% specialisation, in both males and females, typically did so in violent (8.7% and 10.1%, respectively), other (6.8% and 5.5% respectively) and property (1.3% and 1.8%, respectively) crimes. Sexual offences were absent from the criminal histories of SV female offenders; such crimes were, however, reported for 0.3% of SV male perpetrators who engaged in dual specialisation (other and sexual offences).

Table 8.5

The Specialisation Threshold for SV Male and SV Female Offenders, According to Frequency

	100%	**≤ 75%**	**≤ 50%**	**50/50**	**Generalist**
	% (*n*)	**% (*n*)**	**% (*n*)**	**% (*n*)**	**% (*n*)**
4 categories					
SV Male	16.8 (131)	13.1 (102)	41.8 (326)	14.4 (112)	14.0 (109)
SV Female	17.4 (19)	17.4 (19)	43.1 (47)	11.0 (12)	11.0 (12)
8 categories					
SV Male	12.1 (94)	7.3 (57)	32.3 (252)	13.5 (105)	34.9 (272)
SV Female	13.8 (15)	15.6 (17)	38.5 (42)	10.1 (11)	22.0 (24)
15 categories					
SV Male	9.0 (70)	5.1 (40)	23.7 (185)	14.2 (111)	47.9 (374)
SV Female	11.9 (13)	13.8 (15)	33.9 (37)	7.3 (8)	33.0 (36)
24 categories					
SV Male	6.7 (52)	3.5 (27)	19.0 (148)	15.3 (119)	55.6 (434)
SV Female	5.5 (6)	10.1 (11)	29.4 (32)	11.0 (12)	44.0 (48)

When the offenders' criminal histories were considered in terms of the eight crime categories, SV male offenders were distributed mostly across the generalist (34.9%) and 50% (32.3%) specialisation thresholds; the latter included specialisation in violent (16.5%), theft (6.0%), non-notifiable (3.2%), drug (2.6%) and criminal damage (2.3%) offences. SV female perpetrators exhibited a higher proportion of 50% specialists (38.5%), followed by those engaging in versatile offending (22.0%); similarly to SV male offenders, females also typically participated in violent (18.3%), theft (11.9%) and non-notifiable (4.6%) crimes. In terms of dual specialisation, this was noted in a similar amount of SV males (13.5%) and SV females (10.1%). SV female offenders typically engaged in violent crimes with drug (2.8%), non-notifiable (1.8%), theft (1.8%) and other (0.9%) offences, in addition to non-notifiable crimes with other (1.8%) and drug (0.9%) offences. In comparison, SV male perpetrators participated in a wider variety of dual offences; for example, violent crimes with criminal damage (2.6%), non-notifiable (2.1%), drug (1.9%), theft (1.5%), burglary (0.4%) and other (0.4%) offences, and burglary crimes with drug (0.4%), non-notifiable (0.3%), theft (0.1%), other crime (0.1%) and drug (0.1%) offences.

Fifteen crime categories were applied to the offender's criminal history. Almost half of the SV male offenders were classified as generalists (47.9%), compared to fewer SV female perpetrators (33.0%). A fairly small proportion of SV females were 100% specialists (11.9%), focusing on the crimes of cause injury (9.2%), miscellaneous (0.9%) property (0.9%) and theft (0.9%). Similarly, 9.0% of SV male offenders demonstrated 100% specialisation in cause injury (5.5%), theft (0.9%), property (0.8%), drug (0.5%), miscellaneous (0.5%), abduction (0.4%) and burglary (0.1%) offences. Almost one-quarter of SV males (23.7%) and approximately one-third of SV females (33.9%) exhibited 50% specialisation in their criminal histories. In particular, SV female offenders committed the offences of cause injury (13.8%) and theft (11.0%), with fewer perpetrators' previous convictions featuring miscellaneous (3.7%) abduction (1.8%), property (1.8%), robbery (0.9%) and drug (0.9%) crimes. Comparably, SV male perpetrators demonstrated 50% specialisation in terms of cause injury (8.1%) and theft (6.2%), yet other male offender specialists displayed a broader

range of crimes, unlike SV females, including drug (2.4%), property (2.4%), miscellaneous (1.8%), burglary (0.8%), abduction (0.6%), fraud (0.5%), traffic (0.4%), weapon (0.3%), public order (0.1%) and robbery (0.1%) offences.

Finally, the more specific 24 categories were utilised to explore SV perpetrators previous convictions. A small fraction of SV offenders were categorised as complete (100%) specialists (SV females = 5.5%; SV males = 6.7%), with offenders specialising in ABH (SV females = 3.7%; SV males = 2.7%), criminal damage (SV females = 0.9%; SV males = 0.8%), drug (SV males = 0.5%), harassment (SV males = 0.4%) and assault (SV males = 0.3%).

8.4.2.3 Diversity index. The average DI scores for the male and female SV offenders can be found in Table 8.6. The scores for both male and female offenders were more suggestive of diverse offending, which became stronger as the number of offences in the crime categorisation schemes increased.

Table 8.6

The Diversity Index Scores for SV Male and SV Female Offenders

		Diversity Index							
		4 categories		8 categories		15 categories		24 categories	
	N	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**
SV Male	780	.481 (.229)	.500	.588 (.249)	.667	.637 (.238)	.667	.669 (.226)	.750
SV Female	109	.466 (.228)	.500	. 545 (.235)	.667	.584 (.243)	.667	.641 (.199)	.667
Total	**889**	**.479 (.229)**	**.500**	**.583 (247)**	**.667**	**.621 (.239)**	**.667**	**.666 (.223)**	**.750**

8.4.2.4 A comparison of DI scores between SV male and SV female offenders. In the comparison of SV male and female offenders, no significant differences were detected when calculating the DI score based on four offence categories (p = .261, see Table 8.6). Yet, when investigating the DI in terms of more specific crime categories, significantly more diversity was found in the SV male's previous convictions, compared to SV females (eight categories: U = 35342.00, p < .01, r = .10; 15 categories: U = 34768.50, p < .01, r = .11; 24 categories: U = 36240.50, p < .05, r = .09).

8.4.2.5 Correlations: Frequency of previous convictions and the DI. All spearman's correlations were found to be significant, demonstrating that as the number of previous convictions increases, so does the diversity of the crimes the offender partakes in. SV male perpetrators demonstrated strong positive relationships when classifying offences according to four categories (r_s = .70, p < .001), eight categories (r_s = .83, p < .001), 15 categories (r_s = .87, p < .001) and 24 categories (r_s = .89, p < .001). The relationship was also reported for SV female offenders, with the strength of the association ranging from moderate, when applying broader categories (four categories: r_s = .59, p < .001; eight categories: r_s = .69, p < .001) to strong, pertaining to the specific offence groupings (15 categories: r_s = .72, p < .001; 24 categories: r_s = .75, p < .001).

8.4.2.6 Correlations: Age at the time of committing the first offence and the DI. SV male offenders reported significant negative relationships between the DI score and the age of the offender at the time of committing the first offence; specifically, younger offenders were more likely to have diverse previous convictions. However, the associations were found to be weak for four categories (r_s = -.25, p < .001), eight categories (r_s = -.18, p < .001), 15 categories (r_s = -.18, p < .001) and 24 categories (r_s = -.23, p < .001). No significant differences were detected for SV female offenders, in terms of their age at the first offence and the DI.

8.4.2.7 Correlations: Age at the time of committing the target offence and the DI. When exploring the relationship between the age of the offender at the time of committing the target offence and the DI score, a significant negative association was found for SV male perpetrators, when

employing the four crime categories; younger offenders were more diverse in their offending behaviour (r_s = -.11, p < .01). No further significant findings were reported.

SECTION (iii)

8.4.3 AMH VS. GBH

8.4.3.1 Descriptive statistics. Within the sample of AMH (n = 68) and GBH (n = 821) perpetrators, AMH offenders (M = 23.13, SD = 9.04, Mdn = 22.00) were significantly older than GBH offenders (M = 20.70, SD = 9.01, Mdn = 17.00) both at the time of committing the first offence in the dataset, U = 22769.00, p < .05, r = .09, and at the target offence (M = 27.66, SD = 9.01, Mdn = 25.00, and M = 25.35, SD = 9.16, Mdn = 22.00, respectively), U = 23027.00, p < .05, r = .08.

8.4.3.2 Specialisation threshold. When applying four categories to the offender's criminal history, a moderate proportion of AMH and GBH offenders exhibited 50% specialisation (39.7% and 42.1%, respectively), followed by 100% specialists (16.2% and 16.9%, respectively). For AMH offenders, the distribution of specialists was equal for 100%, 75% and dual specialist thresholds (16.2%), with fewest offenders being deemed generalists (11.8%). In comparison, the smallest proportion of GBH perpetrators was categorised as 75% specialists (13.4%), with a similar distribution of offenders in the dual specialist and generalist categories (13.8%). In particular, violence was recorded in the offending history of AMH perpetrators, yet the higher proportions of offending were noted amongst other categories; of the 100% specialists, 8.8% were classified as other specialists, with 4.4% violent and 2.9% property specialists. Similarly, in relation to the 75% and 50% STs, most offenders represented specialisation in other offences (7.4% and 19.1%, respectively), followed by property (5.9% and 16.2%, respectively) and violent (2.9% and 4.4%, respectively) specialisation. The same three offence categories were also present in dual specialists, as offenders were found to engage in violence with other (8.8%) and property (2.9%) offences, in addition to property and other (4.4%) crimes. Of note is the absence of specialisation in sexual offending of AMH perpetrators.

Differences are observed in the GBH sample, in that a higher proportion of offenders specialised in violent crimes; regarding the 100% and 75% STs, more perpetrators favoured violent (9.3% and 4.5%, respectively), followed by other (6.5% and 5.1%, respectively) and property (1.2% and 3.8%, respectively) crimes. When exploring 50% specialists, a greater distribution of offenders was noted for other crimes (18.0%), closely followed by violent (15.3%) offending. Interestingly, albeit a small proportion, dual specialists demonstrated specialisation in sexual and other (0.2%) crimes, which is the only instance of sexual specialisation in the sample. Dual specialists further showed specialisation in violent offences, with other (9.6%) and property (1.8%) crimes, as well as property and other offences (2.1%).

Table 8.7 shows the distribution of offenders across the STs when using eight categories; most AMH offenders are classified as generalists (38.2%), with just over one quarter of the sample representing 50% specialists (27.9%) and 19.1% exhibiting dual specialisation. Specifically, almost twice as many offenders specialised in theft offences (10.3%), compared to 5.9% of violent 50% specialists. The dual specialisation was distributed across violent crimes, with theft, criminal damage and drug offences (2.9% each), and non-notifiable (1.5%) offences, in addition to burglary with criminal damage, drugs and theft (each 1.5%), criminal damage with drug and theft offences (both 1.5%), and non-notifiable with other crimes (1.5%). GBH offenders were largely representative of 50% specialists (33.5%), with 12.5% demonstrating 100% specialisation; the complete specialists favoured violence (9.1%), with smaller proportions specialising in criminal damage (1.0%), non-notifiable (1.0%), theft (1.0%), burglary (0.2%) and drug (0.2%) crimes. Similarly to complete specialists, those that demonstrated 50% specialisation in their offending typically did so in violent offending (17.7%), followed by theft (6.5%) non-notifiable (3.2%), criminal damage (2.4%), drug (2.3%), burglary (0.9%) and other (0.6%) crimes.

Table 8.7

The Specialisation Thresholds for AMH and GBH Offenders

	100%	**≤ 75%**	**≤ 50%**	**50/50**	**Generalist**
	% (*n*)	**% (*n*)**	**% (*n*)**	**% (*n*)**	**% (*n*)**
4 categories					
AMH	16.2 (11)	16.2 (11)	39.7 (27)	16.2 (11)	11.8 (8)
GBH	16.9 (139)	13.4 (110)	42.1 (346)	13.8 (113)	13.8 (113)
8 categories					
AMH	8.8 (6)	5.9 (4)	27.9 (19)	19.1 (13)	38.2 (26)
GBH	12.5 (103)	8.5 (70)	33.5 (275)	12.5 (103)	32.9 (270)
15 categories					
AMH	8.8 (6)	1.5 (1)	25.0 (17)	19.1 (13)	45.6 (31)
GBH	9.4 (77)	6.6 (54)	25.0 (205)	12.9 (106)	46.2 (379)
24 categories					
AMH	7.4 (5)	1.5 (1)	22.1 (15)	17.6 (12)	51.5 (35)
GBH	6.5 (53)	4.5 (37)	20.1 (165)	14.5 (119)	54.4 (447)

In exploration of the 15 categories, just under half of the AMH (45.6%) and GBH (46.5%) samples were deemed generalists, with a quarter of both offender types showing 50% specialisation. AMH 50% specialists typically specialised in theft (8.8%) and cause injury (4.4%) offences followed by drug (4.4%), miscellaneous (2.9%), burglary (1.5%), fraud (1.5%) and weapon (1.5%) crimes. Comparably, GBH 50% specialists were more likely to specialise in cause injury (9.1%) and theft (6.6%) offences, in addition to a wider variety of crimes: property (2.6%), drug (2.1%), miscellaneous (1.9%), abduction (0.9%), burglary (0.6%), fraud (0.4%), traffic (0.4%), robbery (0.2%), public order (0.1%) and weapon (0.1%).

Finally, when applying 24 categories to the previous convictions, over half of AMH (51.5%) and GBH (54.4%) perpetrators were considered generalists. As shown in Table 9.7, approximately one-fifth of the samples were classified as 50% generalists (AMH = 22.1%; GBH = 20.1%). More AMH 50% specialists offended in drug crimes (4.4%), with the remaining 50% specialists being spread across ABH (2.9%), criminal damage (2.9%), non-notifiable (2.9%), other theft (2.9%), fraud (1.5%), non-domestic burglary (1.5%), possession of weapon (1.5%) and theft from vehicle (1.5%) offences. As observed with other categorisation schemes discussed, GBH specialists (50%) were typically more likely to specialise in violent-related offences, such as ABH (4.6%) and assault (1.6%), followed by other theft (3.8%), criminal damage (2.6%), drug (2.1%), non-notifiable (2.1%), harassment (0.7%), miscellaneous (0.6%), theft from vehicle (0.6%), fraud (0.4%), theft of vehicle (0.4%), non-domestic burglary (0.2%), robbery (0.2%), domestic burglary (0.1%) and possession of weapon (0.1%). Complete specialisation was reported in 7.4% of AMH offenders, particularly ABH and drug (2.9% each) offences, with 6.5% of 100% specialisation demonstrated by GBH perpetrators; this was predominantly for ABH crimes (2.8%), in addition to criminal damage (0.9%), harassment (0.4%), assault (0.2%) and drug (0.2%) offences.

8.4.3.3 Diversity index. Table 8.8 shows the DI scores for AMH and GBH offenders. As in earlier sections, offenders typically demonstrated diverse offending patterns.

Table 8.8

The Diversity Index Scores for AMH and GBH Offenders

		Diversity Index							
		4 categories		**8 categories**		**15 categories**		**24 categories**	
	N	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**
AMH	68	.491 (.231)	.500	.619 (.235)	.667	.650 (.242)	.750	.676 (.237)	.750
GBH	821	.478 (.229)	.500	.580 (.248)	.667	.629 (.239)	.667	.665 (.222)	.750
Total	**889**	**.479 (.229)**	**.500**	**.583 (247)**	**.667**	**.621 (.239)**	**.667**	**.666 (.223)**	**.750**

***8.4.3.4 A comparison of DI scores between AMH and GBH offenders*.** In the comparison of AMH and GBH offenders, no significant differences were detected when calculating the DI score for any of the categorisation schemes (four categories, $p = .450$; eight categories, $p = .119$; 15 categories, $p = .268$; 24 categories, $p = .350$).

8.4.3.5 Correlations: Frequency of previous convictions and the DI. The correlations for the DI scores, with the frequency of offending, showed strong positive relationships for both AMH and GBH offenders ($p < .001$), according to each of the four categorisation schemes (four categories: $r_s = .78$ and $r_s = .68$, respectively; eight categories: $r_s = .88$ and $r_s = .81$, respectively; 15 categories: $r_s = .91$ and $r_s = .84$, respectively; 24 categories: $r_s = .92$ and $r_s = .87$, respectively). Relationships were stronger for AMH offenders, with the associations increasing in strength for all violent offenders as more specific categorisation schemes were applied. Thus, for all offenders in the sample, as the frequency of offending increased, so did the diversity score, indicating more versatility in criminals with more extensive offending histories.

8.4.3.6 Correlations: Age at the time of committing the first offence and the DI. Significant correlations were found between the age of the offender at the time of committing the first offence in the dataset and the DI; AMH perpetrators demonstrated negative, moderate relationships for the four ($r_s = -.43$, $p < .001$), eight ($r_s = -.41$, $p < .001$), 15 ($r_s = -.37$, $p < .005$) and 24 ($r_s = -.44$, $p < .001$) crime categorisation schemes. Signification negative correlations were also found for GBH offenders, yet weak associations were reported for the four ($r_s = -.22$, $p < .001$), eight ($r_s = -.14$, $p < .001$), 15 ($r_s = -.14$, $p < .001$) and 24 ($r_s = -.19$, $p < .001$) categories. The negative correlations indicated that those who began offending earlier in life were more likely to be versatile in the offending history.

***8.4.3.7 Correlations: Age at the time of committing the SV and the DI*.** Weak, negative relationships were found between the age of AMH offenders at the time of the SV and the DI score when the categorisation scheme featured four categories ($r_s = -.27$, $p < .05$), eight categories ($r_s = -.26$, $p < .05$) and 24 categories ($r_s = -.27$, $p < .05$), yet a significant correlation was not found for 15 categories ($p = .069$). A highly weak, yet significant,

association was found for GBH offenders at the SV age and the DI score for four categories (r_s = -.09, p < .05); no significant relationships were reported for eight (p = .740), 15 (p = .685) and 24 (p = .509) categories. Therefore, the associations showed a slight correlation indicating that younger perpetrators, when being convicted of a SV offence, were more diverse in their offences.

8.5 Chapter Summary

The current research explored offender specialisation and diversity in the offending histories of SV offenders. Initially, the subgroups of SV offenders were explored, followed by the comparison of SV offenders to the control sample; violent perpetrators were further explored according to SV males and SV females, and AMH and GBH offenders. Specialisation was determined using STs (generalists; dual specialists; 50% specialists; 75% specialists; 100% specialists), with diversity of offender's being indicated by the DI score; both approaches were investigated using four different crime categorisation schemes (four, eight, 15 and 24 offence categories). Much of the literature has focused on sexual offenders, with a lack of analysis of SV perpetrators and a further gap in research surrounding specialisation and gender; thus, the present analysis aimed to explore the specialisation, and diversity, of SV offenders and consequent subgroups. In addition, the relationships between the DI and offender characteristics (e.g. age, offending frequency) were explored.

The study of specialisation identified the frequency of offenders within various STs. The SV and control samples showed similarities in the distribution of offenders across the STs; higher proportions of offenders were mostly spread between the 50% specialist and generalist thresholds. Yet, for each categorisation scheme, higher percentages of the SV sample were observed within the generalist category, compared to the control offenders. SV males and SV females largely reflected this pattern, in terms of more offenders being distributed within the 50% specialist and generalist thresholds; in this case, more SV male offenders were classed as generalists, compared to SV female perpetrators. Again, AMH and GBH offenders had very similar percentages distributed across the STs, with greater proportions in the 50% specialist and generalist classifications. The

findings lean more towards supporting claims that violent offenders are largely versatile in the crimes they commit (e.g. Brame et al., 2001; Piquero, 2000; Piquero et al., 2007). Yet, the current results are inconclusive, with reports of high frequencies of offender's also demonstrating 50% specialisation and some observations of complete specialisation. The various SV groups of offenders who did show specialisation typically did so in violent offences, particularly SV males, SV females and GBH perpetrators, with some variations depending on the ST and crime categorisation scheme; for example, specialisation in 'other' offences were recorded in SV offenders, with AMH perpetrators exhibiting specialisation in theft and drug crimes. Specialisation in violence, theft and drug offences has previously been identified in literature, yet differences in analytical methods make comparisons difficult (e.g. distributional specialisation, Brennan et al., 1989; FSC, Britt, 1996; item response theory and modelling, Osgood & Schreck, 2007).

Interestingly, during the analysis, it was apparent that numerous offenders displayed 50% in one offence and 50% in another offence; this was deemed dual specialisation and the researcher is unaware of such considerations in previous literature. Such implications are somewhat touched on by Loeber et al. (2008), in considering an overlap between violence and theft, yet the conclusion was that perpetrators were versatile, but within two types of crimes. In the current research, between 13% and 18% of the SV and control, 7% and 15% of the SV male and SV female, and 12% and 19% of the AMH and GBH samples displayed dual specialisation. Within the analysis, the control, SV male, AMH and AMH male offenders showed slightly higher frequencies of offenders within the 50/50 ST, than their counterparts. This raises suggestions of whether, in addition to offenders who specialise in one type of offence, and offenders who engage in various crimes, there may also be perpetrators who 'specialise' in two types of offences. This draws into question whether this is another subset of specialisation to be explored or if such offenders should in fact be classified as generalists, due to not specialising in one offence only. This links to suggestions by Francis et al. (2010) in the discussion of lifestyle and offending domains, such that an offender who engages in burglary may be

more likely to also commit theft and handling offences, yet less likely to commit violent acts. On the other hand, other offenders who commit burglary in residential dwellings may also partake in violence, but not theft. The current exploration identified violent crimes as a common occurrence in the dual combinations; for SV, control and GBH perpetrators, this was most frequently paired with 'other' offences, with SV females showing dual specialisation with drug offences and with criminal damage for SV male offenders.

Comparisons of DI scores identified numerous significant differences; firstly, SV offenders were found to be more diverse than the control sample, in terms of their offending history when eight, 15 and 24 categories were applied. Similarly, SV males significantly differed from SV females, in that their previous convictions included a greater variety of crimes, for all categorisation schemes (excluding four categories). Unfortunately, no differences were discovered between AMH and GBH offenders. While all offenders demonstrated versatility in their criminal offences, SV offenders showed more diversity in their offending, when compared to the control sample; thus supporting research that claims many criminals, specifically SV perpetrators, are versatile (e.g. Brame et al., 2001; DeLisi, 2005; Piquero et al., 2007; Stander et al., 1989). Interestingly, no significant differences between AMH and GBH perpetrators were reported, suggesting that while SV offenders may differ to other offenders in terms of the crime types they commit, types of SV offenders may not. Additionally, no significant differences were identified between any of the offender sub-groups when the four offence categories were applied to the DI scores. However, Harris et al. (2009) noted that the use of broader categories identified more differences and therefore suggested that using fewer offence categories might be more advantageous, in terms of methodology. Thus, the research from the current findings disputes this, and highlights problems in literature surrounding disagreements about, and a lack of consistency in, the offence categories used.

For all offenders in the sample, strong, positive relationships were reported between the frequency of offending and the DI scores, for each of the categorisation schemes. Thus, the findings support literature in that an

offender with more previous convictions is likely to be associated with a more diverse criminal history (e.g. Blokland, 1995; Gottfredson & Hirschi, 1990; Mazerolle et al., 2000; Monahan & Piquero, 2009). Moreover, correlations between the age of the offender at the time of the first offence and the DI score, although weak to moderate for SV, control, SV male, AMH and GBH offenders, suggest that perpetrators who had an earlier onset age demonstrated more versatility in their offending. Negative relationships between the age of the offender at the time of committing the target and the DI score were found to be weak for SV and control offenders, in addition to SV males; although this was only found to be significant when four offence categories were applied to the criminal history. Furthermore, weak associations were found for AMH offenders when the eight and 24 categorisation schemes were used; such findings support claims that younger offenders are more diverse in their offending (e.g. Nieuwbeerta et al, 2011) and may go some way in adding to research claims that specialisation is associated more so with older offenders (e.g. Loeber et al., 2008; McGloin et al., 2007). However, age was not found to be associated with versatility in SV female offenders, thus conflicting findings by Francis et al. (2010) who reported diversity increased with age in females.

In consideration of all findings from the current research, Gottfredson and Hirschi's (1990) GTC is supported; significant findings identified the proportions of generalists in the samples, in addition to their criminal histories containing diverse crimes, thus strengthening the claim that offenders largely display diverse offending, the underlying premise of this theoretical approach. Yet again, elements of specialisation were evident and such versatility findings may be a result of a number of limitations of this exploration. In light of this, specialisation theories (e.g. Cloward & Ohlin, 1960; Moffitt, 1993; Wolfgang & Ferracuti, 1967) should not be discounted. Small proportions of offenders did demonstrate specialisation, such as approximately 16-18% of all subgroups were classified as 100% specialists (when four offence categories were applied), thus lending some support to the proposition of a violent subculture within crime (e.g. Wolfgang & Ferracuti, 1967). The findings and limitations of this research are considered further in *Chapter 10*.

8.5.1 Conclusion. Hopefully, the current research has added to the growing literature on offender specialisation and versatility. In particular, there has been limited exploration into SV offenders; while some research has opened up this area of investigation, such as examining multiple homicide offenders (e.g. Trojan & Salfati, 2010), additional research was needed, particularly in comparison to the wealth of findings on the specialisation and versatility of sexual offenders (e.g. Almond et al., 2015; Harris et al., 2009; Lussier, 2005; Miethe et al., 2006; Soothill et al., 2000). As highlighted by Soothill et al. (2000), it may not be that we categorise offenders on a purely *either* generalists *or* specialists basis, but rather that some offenders may in fact be both. Furthermore, there are suggestions for the need to ensure consistent methods are used; there are difficulties comparing different researches due to the use of varying types and numbers of crime categories, and alternative statistical analyses.

Chapter 9: Predictive Models of Serious Violent Offending

9.1 Aims of Chapter

The current chapter explores offender characteristics (age and gender), criminal history variables (offending frequency and crime types) and the diversity index in predicting the likelihood of an offender belonging to a subgroup of perpetrators as follows:

i. SV versus control;
ii. SV male versus female;
iii. AMH versus GBH;
iv. AMH, GBH versus control;
v. SV male, SV female, control female versus control male.

Research has identified various offender characteristics and types of previous convictions that have been found to significantly differentiate between sub-groups of offenders. Previous explorations have applied logistic regression analyses. Thus, the analyses investigate gender and types of SV offences in relation to predictive factors. Furthermore, following on from the inconsistencies and literature regarding crime categorisation schemes discussed in earlier chapters, this chapter considers which crime categorisation schemes (four; eight; 15; 24) could be argued to show the most predictive utility.

9.2 Introduction

The importance of furthering our knowledge of criminals and their offending careers, particularly for those offenders who commit SV offences, has been highlighted in earlier research, in terms of improving methods for both prevention and investigation, and thus having theoretical and practical importance (e.g. Soothill et al., 2002; Soothill et al., 2008a). Variables, including the age of the offender and criminal history, have been proposed to be indicative of the risk of reoffending (Blokland, 2005; Bonta, Law, & Hanson, 1998; Gendreau, Little, & Goggin, 1996; Stalans et al., 2004); Trojan and Salfati (2016) pointed out the utility of the offending history to practitioners. In particular, research has noted that determining whether the

presence of certain crimes in offending histories increases the likelihood of an offender committing a future SV offence is critical (Soothill et al., 2008a). Furthermore, Soothill et al. (2008a) pointed out the need to consider the versatility, or specialisation, of offenders to determine if general, or specific, theories would be more applicable in explaining, and understanding, such criminals. Determining the factors that are the best predictors for future reoffending is crucial to inform policy, practitioners and treatment (Gendreau, Hertz, & Laporte, 1994; Gendreau et al., 1996). While there have been explorations into determining if violent offenders differ from other criminals, researchers have been unable to agree whether they are a homogenous group of criminals or not (Lattimore, Visher & Linster, 1995). Further, research has noted the scarcity of comparisons between types of violent offenders, such as between homicide perpetrators and lesser violent perpetrators (e.g. Farrington et al., 2012; Ganpat et al., 2014; Loeber, LaCourse et al., 2005; Soothill et al., 2002), and violent offenders with other types of criminals (e.g. Liem et al., 2014).

9.2.1 Research methods. As detailed in *Chapter 1,* empirical research into future SV offending has tended to adopt retrospective or prospective designs, and tends to utilise logistic regression analyses to explore variables that increase the likelihood of such criminality (e.g. Ganpat et al., 2014; Soothill et al., 2002). Research has explored both continuous (e.g. age) and categorical (e.g. presence of a criminal history) variables, in determining the factors significantly able to predict an outcome. Previous findings of such earlier research are discussed below (further to *Chapter 1*). Additionally, research has utilised various crime categories; this has been discussed in earlier chapters and was also a key aspect of current specialisation research (*Chapter 8*). For example, previous investigations using logistic regression analyses have explored the presence of a violent criminal record (Ganpat et al., 2014), yet other crime types were not considered, whereas Soothill et al. (2002) explored numerous offences in terms of increasing, or decreasing, the risk of murder, such as criminal damage, arson, kidnapping, shoplifting, drugs offences and fraud. Craissati and Sindall (2009), in an exploration of offenders who committed serious further offences, noted a limitation in their study was to consider only the

index offence, recommending that offender's complete criminal histories should be investigated.

9.2.2 Offender characteristics. The offender characteristics of age and gender are important factors when exploring offenders (Bontrager et al., 2013; Wermink et al., 2016). Perpetrators engaging in SV crime are reported to have a younger onset age (Berk, Sherman, Barnes, Kurtz, & Ahlman, 2009; Moffitt, 1993), with an increased likelihood of continuing their criminality as they get older (Loucks, 2002). Yet again, further research reported that the first offence of many homicide perpetrators was recorded during adulthood (Ganpat et al., 2014; Soothill et al., 2002). Similarly, Ganpat et al. (2014) noted that having an older onset age, in regards to violent criminality, predicted a lethal, compared to a non-lethal, violent offence. This was also evident when exploring the age of the offender at the time of committing the target offence, as homicide offenders were older than other violent perpetrators (e.g. Dobash et al., 2007; Smit et al., 2003; Soothill et al., 2002). In consideration of offender characteristics, gender is argued to be an important factor in predicting the risk of future violence (e.g. Henning & Feder, 2004; Loucks, 2002); with males proposed to be more likely than females to engage in serious, violent and chronic offending (Feld, 2006; Loucks, 2002; Steffensmeier, Schwartz, Zhong, & Ackerman, 2005).

9.2.3 Criminal history information. The frequency of violent offences within an offender's criminal history has been reported to be a good indicator of reoffending, with a higher rate of offending likely to be associated with a greater likelihood of recidivism (Loucks, 2002; Wartna et al., 2005). Particularly, having a higher frequency of previous offences was predictive of lethal violence, yet a history of multiple violent offences decreased the likelihood of engaging in a lethally violent crime (Ganpat et al., 2014). Having a history of violence was argued to be a strong predictor of being reconvicted of a general (Wartna et al., 2005), violent (Stalans et al., 2004) or homicide (e.g. Dobash et al., 2007; Farrington et al., 2012; Loeber, LaCourse et al., 2005; Loeber, Pardini et al., 2005; Soothill et al., 2002) offence. Soothill and colleagues (2002) reported that the presence of blackmail, kidnapping and manslaughter, albeit rare occurrences, had a high risk for a future murder conviction; for example, when compared to the control sample, those with a

prior conviction for blackmail were over five times more likely to have a future conviction for murder (Soothill et al., 2002).

9.2.4 Differentiating between SV offenders. Additional literature has underlined an issue in research, in limiting the data to explore differences between the broad categories of violent, and non-violent, crimes; it is argued this could limit the findings and differences that could otherwise be detected by further exploring the types of offending and offenders (Soothill, Francis, Ackerley, & Humphreys, 2008b. In a comparison of typologies of violent perpetrators (family only, nonfamily only and generalised aggressors), differences were reported between the groups (Stalans et al., 2004), supporting the argument for heterogeneity amongst violent offenders. In particular, generalised aggressors had a higher frequency of prior arrests, with approximately 80% of the sample being held responsible for two or more previous violent offences, when compared to the nonfamily only aggressors (36%) and family only aggressors (14%). In the exploration of murderers, versus non-violent offenders, having a previous conviction for arson, kidnapping, robbery and wounding were indicative of a future murder conviction, as opposed to a lesser-violent crime (Soothill et al., 2002). Further to this, public order is less likely to appear in the offending history of a lethally violent perpetrator (Smit et al., 2003), with burglary and drug crimes more likely (Soothill et al., 2002). Further differences between lethal, and nonlethal, violent offenders have been noted; Smit et al. (2003) reported a higher number of previous convictions for attempted murder offenders, compared to perpetrators of attempted aggravated assault, with Dobash and colleagues (2007) arguing that a criminal history was more likely to be found with nonlethal, rather than lethal, violent offenders. Furthermore, as reviewed previously in *Chapter 7*, significant differences have been reported between male and female perpetrators (e.g. Crocker et al., 2013; Heidensohn & Silvestri, 2012). Thus, there is a need to explore factors that differentiates offenders, both in terms of the type of SV offence and the offender's gender.

9.2.5 Specialisation. Researchers have noted that determining if an offender specialises in their offending, assumptions can be made about both their past and future criminality (Youngs et al., 2016). While there have been explorations into specialisation and offending, as discussed in *Chapter 8*, a

diversity measure has not previously been included in regression analyses as far as the researcher is aware. Typically, diversity has been associated with younger offenders and a higher frequency of offending (e.g. Blokland, 1995; Cohen, 1986; Gottfredson & Hirschi, 1990; LeBlanc & Frechette, 1989; Mazerolle et al., 2000; McGloin et al., 2007; Nieuwbeerta et al., 2011; Piquero et al., 1999). There are mixed findings, when exploring the diversity, or specialisation, of violent offenders; Farrington et al. (2012) argued for versatility in violent perpetrators, yet this was disputed with claims that specialisation was evident in violent offenders (Brennan et al., 1989; Elliott, 1989). Yet, this argument appears to be somewhat related to the frequency of offending; research has suggested that those who partake in violent crime, with a high number of previous convictions, are also likely to have committed non-violent offending (e.g. Brame et al., 2001; Blokland & Nieuwbeerta, 2005; Piquero, 2000; Piquero et al., 2007; Tracy et al., 1990). Therefore, the current investigation explores whether a diversity score aids in predicting the likelihood of an offender to belong to a given outcome.

9.2.6 Summary. Although there is a wealth of literature exploring important variables for predicting future offending, there is a need to further ones understanding of violent offenders, particularly in terms of differentiating between types of SV perpetrators (e.g. Farrington et al., 2012; Lattimore et al., 1995; Liem et al., 2014). This is further supported by inconclusive findings; for example, research has disagreed on the age at onset (e.g. Berk et al., 2009; Ganpat et al., 2014) and having a history of violence has been argued to be predictive of general (Wartna et al., 2005), violent (Stalans et al., 2004) and homicide (Soothill et al., 2002) offending. Moreover, a measure of specialisation (in this case, the diversity index) has not previously been explored as a predictor for future SV offending. Further explorations are necessary; thus, the aim is to investigate factors that may be predictive of SV offenders.

9.2.7 Objectives.

The objectives were as follows:

- Identify significant predictor variables that assist in determining the likelihood of belonging to a specific offender group.
- Explore the four categorisation schemes (four; eight; 15; 24) to

determine which categorisation scheme is deemed the most useful in predicting offender outcomes.

- Consider the predictive accuracy of the binary logistic regression models.

9.3 Methodology

9.3.1 Sample. As noted in earlier chapters, the current data were recorded between April 2005 and March 2011 in the Devon and Cornwall area. Following statistical assumptions, a number of cases were excluded from the analyses (detailed below); the sample size ranged from 1088 to 2466 offenders, according to the outcome variable of the statistical tests.

9.3.2 Design. A retrospective approach examined perpetrators through their offender characteristics (age and gender) and criminal history information (frequency, chronicity and offence type). Five logistic regression models are produced to identify significant predictor variables in predicting the likelihood of offenders belonging to a particular subgroup. The binary logistic regression models explore the dichotomous offender outcomes of (i) SV versus control, (ii) SV male versus female, and (iii) AMH versus GBH. The multinomial logistic regression models investigate the perpetrator categorical outcomes of (i) AMH, GBH versus control, and (ii) SV male, SV female, control male versus control female. The predictor variables include onset age (based on the age of the first offence in the dataset), age at target offence, gender, DI and a number of offence types; the diversity index and offence types included in the analysis were dependent upon whether the four, eight, 15 or 24 crime categorisation scheme was applied. Also, gender was not included in the logistic regression models that featured gender within the outcome variable. Table 9.1 provides additional details regarding the predictor variables.

9.3.3 Procedure. A number of assumptions need to be fulfilled in order to run regression analyses. As outlined by Bakke (2013) and Pallant (2007), outliers, multicollinearity and sample size must be considered. With regard to outliers, Tabachnick and Fidell (2013) have noted there are instances in which the extreme values are drawn from the specified population, but the variable itself is characterised by such scores, rather than

the outliers being due to errors in the data; thus, the decision to remove the outliers is not straightforward, and there is an option to retain the cases. Specifically with regard to regression, univariate and multivariate outliers must be considered. Dichotomous variables with a 90/10 split (Rummel, 1970), and continuous variables with standardised scores greater than 3.29, should be reviewed as possible univariate outliers (Tabachnick & Fidell, 2013). To determine the presence of multivariate outliers in continuous variables, Mahalanobis distance was calculated (Tabachnick & Fidell, 2013); the critical value was 13.82 (based on a *df* of 2: frequency of offending and age at target offence), thus any Mahalanobis distance scores greater than this were cause for concern. Cases demonstrating univariate and/or multivariate outliers were removed from the subsequent analyses; this resulted in a number of crime types being excluded from the analyses (e.g. sexual).

Following this, the multicollinearity for the variables was calculated; tolerance values below 0.1, and variance inflation factor values greater than 10, would indicate cause for concern. No issues were detected. Additionally, the researcher opted to produce separate models for each of the categorisation schemes, as including all variables in one model increased the risk of multicollinearity between a number of the offence categories (e.g. violence in both the four and eight categorisation schemes). Table 9.1 shows the predictor variables used within the analyses.

Finally, the ratio of cases to predictor variables was reviewed; a rule of thumb of 10 cases per predictor variable has been reported (e.g. Concato, Peduzzi, & Holford, 1995; Peduzzi, Concato, Feinstein, & Holford, 1995), yet Vittinghoff and McCulloch (2007) argued this rule of thumb to be too conservative. Due to the large size of the current sample, this was not deemed an issue; the highest number of predictor variables included in one model was 14 with the smallest sample being 1088 offenders.

As in earlier chapters (see *Chapters 3* to *8*), offender characteristics, criminal history information and specialisation of SV offending have been explored. The levels of chronicity (*Chapter 3*) and the specialisation threshold (*Chapter 8*) were not included in the analysis, as such variables were considered to be represented by the frequency of offending and DI,

respectively, and were therefore deemed to be at risk of multicollinearity if they were included. Furthermore, the age of offenders at the target offence, explored in previous chapters was recoded to a dichotomous variable ‘onset age’. Literature has previously reported multicollinearity between variables of age of the first offence and age of the target offence, and has thus recommended recoding the variable of the age of the first offence into a dichotomous variable (Baker et al., 2013); subsequently, the dichotomous variable of onset age was created, representing offenders with early onset (1), who were younger than 14 when the first offence in the dataset was recorded, and with late onset (0), who were aged 14 and older when the first offence in the dataset was recorded. This decision has further been supported to align with theory (Moffitt, 1993) and overcomes the issue of confounding the variable of age at the target offence (Piquero et al., 1999). In addition to the inclusion of onset age, frequency of offending and diversity scores, age at target offence and the presence of prior offences (categorised according to the four categorisation schemes [four; eight; 15; 24]) were investigated (see Table 9.1).

Table 9.1

Predictor Variables Included in Regression Models

Variable	**Type of Variable**	**Coding / Measurement**
Onset age	Categorical	Early onset (prior to 14 years) = 1; Late onset (14+ years) = 0
Age at target offence	Continuous	High score indicates an older offender
Frequency of offending	Continuous	High score indicates a high frequency of offending
4 categories: Other; Property; Violent	Categorical	Present = 1; Not present = 0
8 categories: Burglary; Criminal damage; Drugs; Non-notifiable; Theft; Violent	Categorical	Present = 1; Not present = 0
15 categories: Abduction; Burglary; Cause injury; Drugs; Fraud; Miscellaneous; Property damage; Public order; Robbery; Theft; Traffic; Weapon	Categorical	Present = 1; Not present = 0
24 categories: ABH; Assault; Criminal damage; Domestic burglary; Drugs; Fraud; Harassment; Miscellaneous; Non-notifiable; Non-domestic burglary; Other theft; Possession of weapon; Robbery; Theft from vehicle; Theft of vehicle; Threat to kill; Vehicle interference	Categorical	Present = 1; Not present = 0
Diversity index: 8 categories; 15 categories; 24 categories	Continuous	High score indicates a diverse criminal history

As five independent outcomes were investigated according to the four crime categorisation schemes, this produced a total of 20 regression models. However, it was not considered logical to report each regression analysis. Therefore, for each independent outcome variable, one model (from the four categorisation schemes) was selected, based on which model was deemed most effective. This was considered by reviewing the significance of the model, the overall percentage correctly classified and the amount of variance explained. Finally, predictive probabilities were saved during the logistic regression analyses to enable the production of ROC curves for the binary tests.

9.3.4 Statistical analyses. The current investigation used logistic regression analyses to identify the influence of offender characteristics and criminal history factors on the type of offender outcomes. Logistic regression was used to ascertain whether certain predictor variables could differentiate between various subgroups of offenders. This method of analysis was selected based on its use of a dichotomous dependent (or outcome) variable, with continuous and dichotomous independent (or predictor) variables (Champion & Hartley, 2010). Moreover, logistic regression is a prevalent analytical method within this field of research (Ngo et al., 2014). Regression analyses have been used to explore violence in previous research, such as investigating juvenile murderers (Heide et al., 2012), lethally violent offenders (Ganpat et al., 2014; Liem et al, 2014; Soothill et al., 2002), violent juveniles (Stephenson, Woodhams, & Cooke, 2014) and offence seriousness (Lulham & Ringland, 2010).

Binary logistic regression was utilised to produce models to explore the extent that offender characteristics and criminal history factors can identify the likelihood of an offender being a given type of offender, dependent upon the models given outcomes. The binary logistic regression analyses explored the outcomes of:

i. SV or control offender;
ii. SV male or SV female offender;
iii. AMH or GBH offender.

Binary logistic regression is limited in its requirement for the dependent variable to have a dichotomous outcome; therefore, multinomial

logistic regression was employed to allow investigation of multiple outcomes (more than two categorical outcomes). Multinomial logistic regression uses one of the possible outcomes, known as the reference category, to compare the other outcomes against. Therefore, research has suggested using the category with the highest frequency, or the control group, as the comparison category (*). The multinomial logistic regression investigated the outcomes of:

i. AMH, GBH or control* offender
ii. SV male, SV female, control male* or control female offender

Upon conducting the regression analyses, the odds ratios (OR) are reviewed; ORs enable a comparison of the impact of predictor variables for the specified outcome. An OR greater than one indicates that the presence of the given predictor variable is associated with higher odds of the outcome occurring, with an OR less than one being associated with lower odds of the outcome if the predictor variable is present in the offender's criminal history. Additionally, ORs closer to one are representative of a small effect size (Tabachnick & Fidell, 2013). The 95% confidence intervals are reviewed to ensure the lower and upper values do not overlap the null value (OR = 1; Szumilas, 2010), as this would draw into question the significance of the OR.

Furthermore, the AUC of the ROC is produced as an appropriate measure of association for binary logistic regressions (Tabachnick & Fidell, 2013). The ROC curve evaluates the fit of the model based on measures of sensitivity (true positives) and specificity (true negatives); sensitivity indicates the models ability to accurately predict a positive outcome (e.g. coded 1), and specificity is the probability the model accurately predicts a negative outcome (e.g. coded 0). For example, a model that produced 100% sensitivity, and 100 % specificity, would be deemed a perfect model. The ROC curve plots the values of sensitivity, against one minus specificity, providing an illustration of the fit of the model (see Figures 10.1 to 10.2); the dashed diagonal line represents the base line and the full line indicates the ROC curve. The closer the ROC curve runs up to the upper left corner of the plot, the more accurate the model is proposed to be in terms of accurately predicting the correct outcome of a case; the AUC is likely to produce a value closer to 1.0. On the other hand, the closer the ROC curve is to the dashed

line, the less accurate the logistic regression model is argued to be, with AUC scores closer to 0.5.

There does not appear to be a standardised rule of thumb regarding the strength of the AUC statistic, yet models varying from .69 to .71 were reported to demonstrate adequate fit (Chan et al., 2015). Hosmer and Lemeshow (2000) proposed an AUC statistic of 0.9 and above showed a model with outstanding predictive accuracy, with 0.8 and above deemed excellent, and 0.7 and above as acceptable, yet there are others who argue an AUC value of 0.75 and higher would show a large effect (e.g. Dolan & Doyle, 2000; Shapiro, 1999). Additionally, the AUC statistic represents a measure of association and can be squared to provide an effect size (Tabachnick & Fidell, 2013).

Specificity, which reflects the percentage of correctly classified cases, is higher when the AUC produces a higher statistic, and thus indicates a tool with better predictive performance, (Kallis, Bui, Yang, & Coid, 2014). Research investigating the predictive accuracy of diagnostic tools further utilises the AUC to identify a cut-off point(s) for determining levels of risk (e.g. Rossegger, Endrass, Gerth, & Singh, 2014). However, as this chapter does not propose a risk assessment measure, the analyses did not proceed to this depth. The purpose of utilising the ROC curve in this chapter is as a means of exploring the predictive power of the significant predictor variables in the binary logistic regression models.

9.4 Results

The logistic regression analyses investigated the outcomes of (i) SV versus control, (ii) SV male versus female, (iii) AMH versus GBH, (iv) AMH, GBH versus control, and (v) SV male, SV female, control female versus control male. For each outcome, four models were produced; each of the models included offender characteristics, frequency of offending, DI scores and crime categories. The models differentiated according to the DI scores and crime categories, applying the four, eight, 15 and 24 crime categorisation schemes; the ‘best’ model is discussed within this section, in terms of the most significant model correctly classifying the highest overall percentage of cases and accounting for the most variance. Following the regression

analyses, the ROC curve and AUC statistic are calculated to provide further insight into the significant binary logistic regression models, in terms of its predictive accuracy.

9.4.1 Binary logistic regression. Logistic regressions explored the impact of numerous predictor variables, in regards to predicting the risk of an offender belonging to one of two outcomes.

9.4.1.1 SV versus control offenders. The eight crime categorisation scheme was employed to explore the likelihood of an offender being classified as a SV (1) or control (0) offender. A binary logistic regression model identified five predictor variables that had a significant impact on the likelihood of predicting an offender to be a SV perpetrator, χ^2 (12) = 203.84, p < .001 (see Table 9.2). An early age of onset, a younger age at the time of committing the target offence and being more specialised in their offending decreased the probability of being held responsible for a SV offence. Whereas, having a prior violent offence almost doubled the chance of committing a future SV offence, with being a male offender almost tripling this risk. The model correctly identified 62.4% of cases and explains 10.7% (Nagelkerke R^2) of the variance in SV perpetrating.

Table 9.2

Logistic Regression Model for Offender Characteristics, Criminal History Details and the DI (Eight Offence Categorisation Scheme): Serious Violent (1, n = 1083) Vs. Control (0, n = 1378) Offender (N = 2461).

			Exp (β) 95% CI	
Variable	**β**	**Exp (β)**	**Lower**	**Upper**
Onset age	-0.636	0.53***	0.412	0.682
Gender	1.075	2.931***	2.363	3.634
Violence	0.639	1.895***	1.492	2.407
Age at target offence	-0.012	0.988*	0.978	0.998
DI8	-0.678	0.507*	0.286	0.901
Frequency of offending	0.018	1.018	1.000	1.036
Burglary/robbery	0.231	1.260	0.978	1.624
Non-notifiable	0.203	1.225	0.977	1.537
Theft/handling	-0.185	0.831	0.657	1.051
Other crime	0.141	1.151	0.896	1.478
Drug	-0.036	0.965	0.769	1.212
Criminal damage	0.027	1.027	0.822	1.283
(Constant)	-0.989	0.372***		

*** $p < .001$, ** $p < .01$, * $p < .05$

9.4.1.2 Serious violent male versus female offenders. Logistic regression analysis, applying the 24 crime categorisation scheme, investigated the likelihood of being a SV male offender (1), compared to a SV female (0), based on the influence of the aforementioned predictor variables. The analysis investigated the effects of 12 predictor variables on the likelihood a SV offender would be male; a statistically significant model explained 6.8% (Nagelkerke R^2) of the variation in SV male offending and correctly classified 86.4% of cases, χ^2 (12) = 41.140, $p < .001$ (see Table 9.3). The presence of criminal damage and drug offences in the criminal history had a positive effect on the outcome being a SV male, as the presence of such crimes indicated a higher likelihood of this; whereas, the

absence of other theft had a negative effect, as this decreased the probability of the SV perpetrator being male. In other words, SV males were less likely to have other theft as a prior offence.

Table 9.3

Logistic Regression Model for Offender Characteristics, Criminal History Details and the DI (24 Offence Categorisation Scheme): Serious Violent Male (1, n = 941) Vs. Serious Violent Female (0, n = 148) Offender (N = 1089).

			Exp (β) 95% CI	
Variable	**β**	**Exp (β)**	**Lower**	**Upper**
Criminal damage	0.574	1.776*	1.133	2.782
Other theft	-0.54	0.583*	0.372	0.913
Drug	0.586	1.796*	1.078	2.994
Assault	-0.418	0.658	0.431	1.006
Age at target offence	-0.016	0.984	0.965	1.003
Miscellaneous	0.361	1.435	0.883	2.334
Frequency of offending	0.022	1.022	0.983	1.062
Harassment	0.21	1.233	0.767	1.984
Non-notifiable	-0.191	0.826	0.527	1.296
ABH	-0.143	0.867	0.577	1.301
DI24	0.205	1.227	0.494	3.049
Onset age	-0.031	0.969	0.543	1.73
(Constant)	2.062	7.858***		

*** $p < .001$, ** $p < .01$, * $p < .05$

9.4.1.3 AMH versus GBH offenders. Binary logistic regression analysis explored the impact of 13 predictor variables, with the use of the 15 crime categorisation scheme, in regards to predicting the probability of SV offenders being classified as AMH (1), or GBH (0), offenders. A statistically significant model, χ^2 (13) = 35.79, $p < .01$, examined the influence of predictor variables on the likelihood of being an AMH offender (see Table

9.4). The model classified 91.9% of cases correctly and explained 7.4% (Nagelkerke R^2) of the variance in AMH perpetrating. The offender's age at the target offence had a positive effect on committing AMH, in that being older increased the likelihood of partaking in this offence, whereas the absence of a prior conviction for cause injury reported a negative effect as it reduced the likelihood of being an AMH offender.

Table 9.4

Logistic Regression Model for Offender Characteristics, Criminal History Details and the DI (15 Offence Categorisation Scheme): AMH (1, n = 88) Vs. GBH (0, n = 1000) Offender (N = 1088).

			Exp (β) 95% CI	
Variable	**β**	**Exp (β)**	**Lower**	**Upper**
Age at target offence	0.036	1.037**	1.014	1.06
Cause Injury	-0.886	0.412**	0.247	0.688
Property damage	0.407	1.503	0.877	2.576
Frequency of offending	0.026	1.026	0.991	1.063
Burglary	0.42	1.522	0.8	2.894
DI15	-0.765	0.465	0.135	1.606
Theft	0.317	1.374	0.776	2.432
Public order	0.368	1.445	0.744	2.808
Weapons	-0.384	0.681	0.32	1.451
Miscellaneous	0.142	1.152	0.654	2.028
Traffic	-0.135	0.873	0.436	1.751
Drug	0.059	1.061	0.598	1.88
Abduction	-0.038	0.963	0.553	1.675
(Constant)	-3.196	0.041***		

*** $p < .001$, ** $p < .01$, * $p < .05$

9.4.2 ROC analysis. Plots were produced to illustrate the ROC curve, for each of the binary logistic regression analyses, in order to determine the predictive accuracy of the significant predictor variables within the models in correctly classifying a case.

9.4.2.1 Serious violent versus control offenders. Figure 9.1 shows the ROC curve for the predictive model of SV, versus control, offenders; the AUC reported a moderate, significant fit (*AUC* = .661, *p* < .001, *95% CI* = .640, .683). Thus, the ROC curve indicates that the logistic regression model, utilising eight crime categories, classifies the offenders significantly better than by chance.

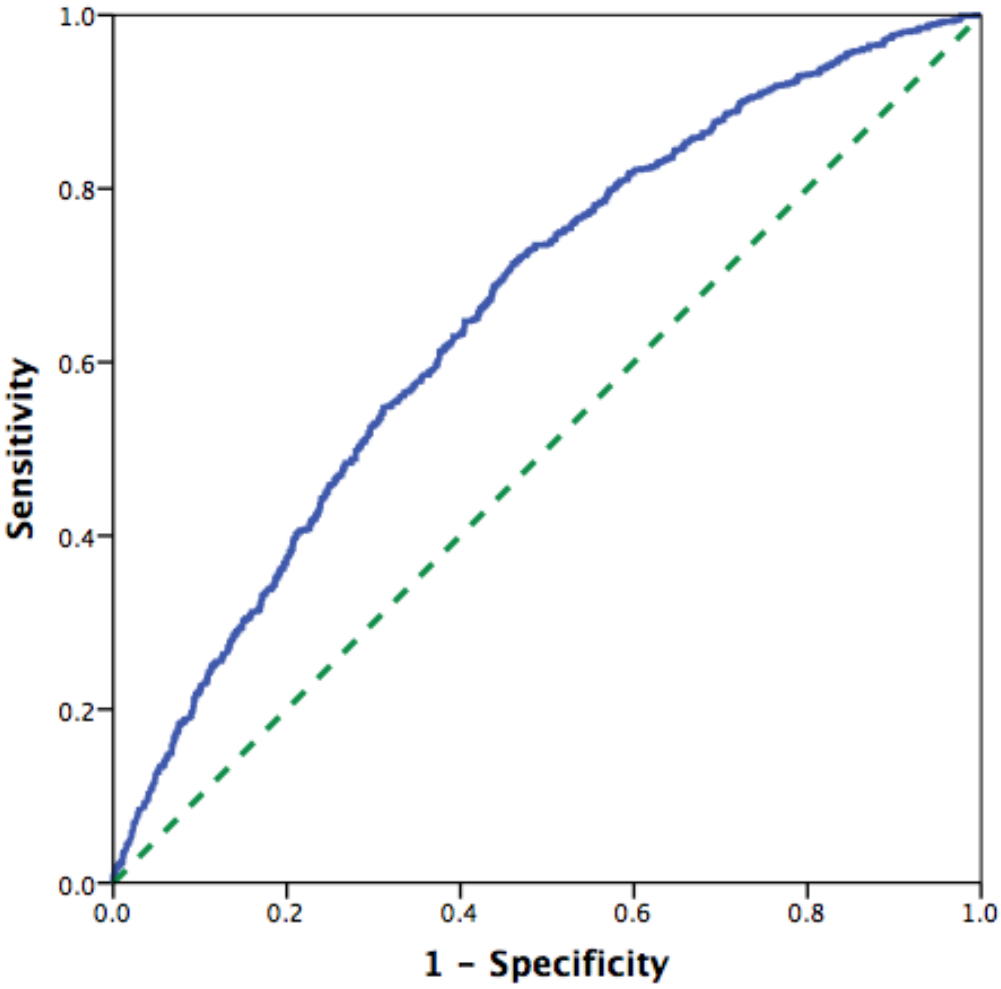

Figure 9.1 *ROC Curve for the Logistic Regression Model of Serious Violent Versus Control Offenders*

9.4.2.2 Serious violent male versus serious violent female offenders. The ROC curve illustrates a fairly moderate fit for the logistic regression model predicting SV males versus SV females (see Figure 9.2). The AUC was found to be significant (*AUC* = .660, *p* < .001, *95% CI* = .616 - .705).

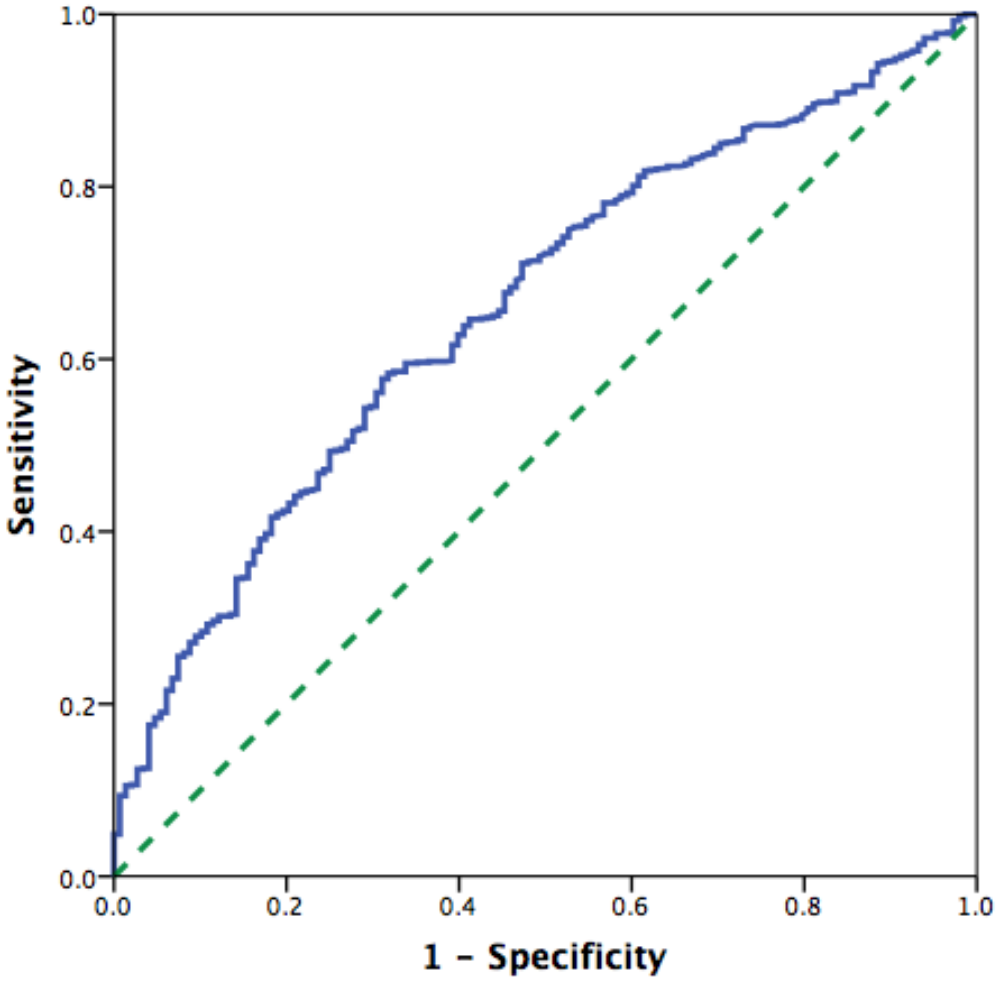

Figure 9.2 *ROC Curve for the Logistic Regression Model of Serious Violent Males versus Serious Violent Females*

9.4.2.1 AMH versus GBH offenders. Upon ROC curve analyses, the model was reported to classify offenders significantly better than by chance, with the AUC representing a fair fit of the model (*AUC* = .682, *p* < .001, *95% CI* = .626 - .738; Figure 9.3).

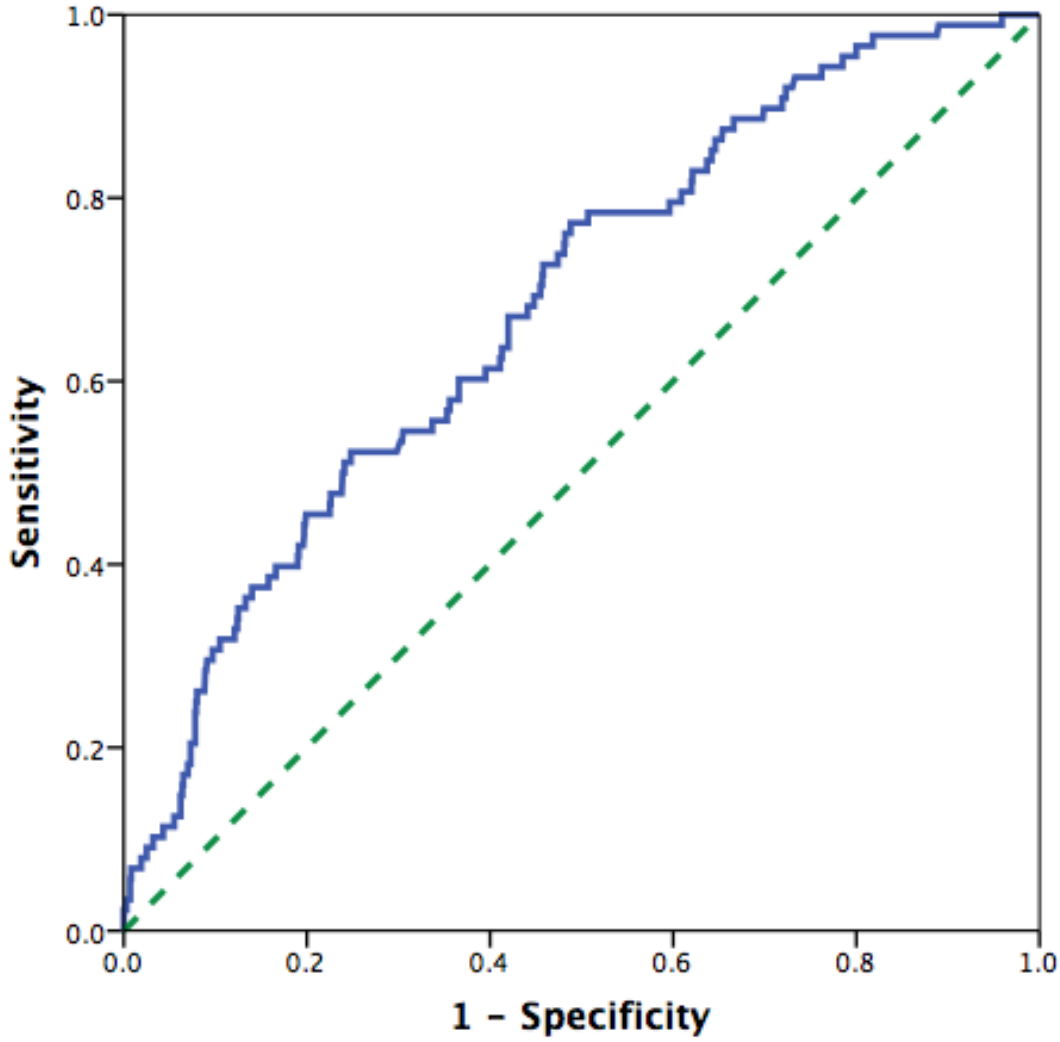

Figure 9.3 *ROC Curve for the Logistic Regression Model of AMH versus GBH Offenders*

9.4.3 Multinomial logistic regression. Due to the increased number of statistical analyses that are run within the multinomial logistic regression, it is crucial to consider the increased risk of a Type 1 error (Petrucci, 2009). Consequently, a corrected *p* value must be applied (Tabachnick & Fidell, 2013); as with earlier chapters, Holm's Bonferroni adjustment is used, due to the conservative nature of the Bonferroni correction (see *Chapter 2, section 2.5*).

9.4.3.1 AMH and GBH perpetrators versus control offenders. A multinomial logistic regression analysed the effect of 12 predictor variables, including offences from the 24 crime categorisation scheme, in calculating the likelihood of an offender being classified as an AMH or GBH offender, compared to the control group (see Table 9.5). The model explained 6.3% (Nagelkerke R^2) of the variance and correctly identified 58.6% of cases, χ^2 (24) = 128.11, $p < .001$. Following the Bonferroni correction ($p < .004$), four significant findings were reported; offenders who were older at the time of the target offence were more likely to partake in AMH offending. The presence of ABH and miscellaneous offences in the offender's criminal history decreased the chances of being a GBH offender, versus the control group, with the presence of other theft crimes increasing the likelihood of the offender engaging in GBH offending.

Table 9.5

Multinomial Regression Model for Offender Characteristics, Criminal History Details and the DI (24 Offence Categorisation Scheme): AMH (n = 89) Vs. GBH (n = 998) Vs. Control (n = 1378) Offender (N = 2465)

	AMH Offender				GBH Offender			
			Exp(β) 95% CI				Exp(β) 95% CI	
Variable	**β**	**Exp(β)**	**Lower**	**Upper**	**β**	**Exp(β)**	**Lower**	**Upper**
ABH	-0.086	0.917	0.556	1.514	-0.559	0.572***	0.473	0.691
Other theft	-0.015	0.985	0.567	1.713	0.444	1.559***	1.263	1.923
Miscellaneous	-0.550	0.577	0.342	0.972	-0.330	0.719**	0.579	0.892
Age at target offence	0.032	1.033**	1.011	1.055	-0.006	0.994	0.984	1.003
Frequency of offending	0.035	1.036	1.000	1.073	0.008	1.008	0.990	1.026
DI24	-1.042	0.353	0.114	1.088	-0.082	0.921	0.594	1.430
Non-domestic burglary	-0.577	0.562	0.281	1.122	-0.158	0.853	0.633	1.150
Criminal damage	-0.433	0.648	0.385	1.091	0.053	1.054	0.865	1.285
Assault	0.489	1.631	0.899	2.958	-0.165	0.848	0.693	1.039
Non-notifiable	-0.305	0.737	0.431	1.260	-0.071	0.932	0.757	1.146
Drug	0.010	1.010	0.588	1.733	-0.042	0.959	0.778	1.182
Harassment	0.026	1.025	0.590	1.784	0.055	1.057	0.857	1.303
(Intercept)	-2.330				0.373			

Note. The reference category for the logistic regression analyses was the control group, so all findings should be read as the impact on the odds of the outcomes compared to the control group. *p = .05; **p = .01; ***p = .001. CI: confidence interval.

9.4.3.2 SV male and female perpetrators versus control male and female offenders. A multinomial logistic regression was utilised to investigate the likelihood of an offender being classified as a SV male, SV female or control female offender compared to control male perpetrators (the reference category), based on the influence of predictor variables with the use of the 24 crime categorisation scheme. The multinomial logistic regression model accurately predicted 44.7% and accounted for 10.5% (Nagelkerke R^2) of the variation, χ^2 (33) = 248.51, $p < .001$ (see Table 9.6); following a Bonferroni correction ($p < .005$), six significant effects were reported. The probability of becoming a SV male perpetrator increased when crimes of ABH were not present in their offending history. The absence of ABH previous convictions also increased the chances of a case being categorised as a SV female offender, with the presence of criminal damage having the opposite effect; prior criminal damage offences approximately doubled the likelihood of belonging to the SV female group. In addition, cases with criminal damage and miscellaneous offences present in their previous convictions were almost twice as likely to be a control female perpetrator, whereas a lack of other theft crimes decreased this likelihood.

Table 9.6

Multinomial Regression Model for Offender Characteristics, Criminal History Details and the DI (24 Offence Categorisation Scheme): SV Male (n = 940) Vs. SV Female (n = 148) Vs. Control Male (n = 939) Vs. Control Female (n = 439) Offender (N = 2466)

	SV Male Offender				SV Female Offender				Control Female Offender			
			Exp(β) 95% CI				Exp(β) 95% CI				Exp(β) 95% CI	
Variable	**β**	**Exp(β)**	**Lower**	**Upper**	**β**	**Exp(β)**	**Lower**	**Upper**	**β**	**Exp(β)**	**Lower**	**Upper**
ABH	-0.534	0.586***	0.476	0.722	-0.654	0.520**	0.347	0.779	-0.199	0.820	0.626	1.073
Criminal damage	0.167	1.182	0.952	1.466	0.726	2.066**	1.320	3.232	0.724	2.063***	1.546	2.753
Miscellaneous	-0.182	0.834	0.661	1.052	0.177	1.194	0.734	1.941	0.650	1.915***	1.352	2.711
Other theft	0.262	1.299	1.030	1.639	-0.289	0.749	0.480	1.170	-0.766	0.465***	0.348	0.621
Frequency of offending	0.025	1.026	1.006	1.045	0.007	1.007	0.969	1.048	0.022	1.022	0.999	1.046
Assault	-0.058	0.944	0.754	1.181	-0.530	0.589	0.387	0.895	-0.094	0.910	0.681	1.218
Drug	0.032	1.033	0.824	1.294	0.680	1.973	1.196	3.255	0.412	1.510	1.114	2.045
Age at target offence	-0.002	0.998	0.988	1.008	0.016	1.016	0.998	1.035	0.013	1.013	1.001	1.026
DI24	-0.275	0.759	0.471	1.225	-0.597	0.551	0.220	1.378	-0.801	0.449	0.247	0.816
Non-notifiable	-0.164	0.849	0.676	1.066	-0.300	0.741	0.477	1.151	-0.387	0.679	0.508	0.908
Harassment	0.030	1.031	0.820	1.295	0.241	1.272	0.792	2.043	-0.056	0.946	0.701	1.276
(Intercept)	0.302				-2.252				-1.256			

Note. The reference category for the logistic regression analyses was the control male group, so all findings should be read as the impact on the odds of the outcomes compared to the control male group. *p = .05; **p = .01; ***p = .001. CI: confidence interval.

9.5 Chapter Summary

Literature continues to produce contradictory arguments relating to differences between SV and control offenders, males and females, and types of SV offenders, with a need to evaluate differences between such groups of SV perpetrators and to identify significant predictors of such future offending, to add to current knowledge within research and the CJS (e.g. Francis et al., 2004; Gallo et al., 2014; Ganpat et al., 2014). Thus, this chapter proposed to investigate offender characteristics and criminal history variables, in addition to a diversity score, in predicting the likelihood of an offender belonging to an offender subgroup, using a retrospective design and logistic regression analyses.

As detailed, for each outcome, one model was selected from the four produced, according to the crime categorisation schemes. When exploring the outcomes of SV or control offenders, having an early onset age, a younger age at the time of the target offence and demonstrating specialism in offending decreased the likelihood of being a SV perpetrator, whereas being male and exhibiting prior violence were predictors of future SV offending. This model accurately predicted 62.4% of outcomes correctly; although this did not reflect an overwhelming predictive accuracy, which was also reflected in the ROC curve, it classified cases significantly better than chance. The findings dispute earlier reports in SV offenders having an earlier age at criminal onset (e.g. Berk et al., 2009) and a younger age when committing the target offence (e.g. Piquero et al., 2012). However, the results do present support for research that proposes SV perpetrators are older (e.g. Crocker et al., 2013; Ganpat et al., 2014) and are more likely to be male (e.g. Feld, 2006; Steffensmeier et al., 2005). Previous violent crimes have also been argued to be indicative of future serious violence (e.g. Soothill et al., 2002). In regard to specialisation, there are arguments proposing versatility in violent criminals (Farrington et al., 2012), with others supporting the perspective of specialisation in violent offending (e.g. Brennan et al., 1989); while specialisation has not previously been examined as a predictive factor, the current thesis presents support for specialisation being more suggestive of the control sample, and thus non-SV offenders.

In the investigation of SV males and females, prior convictions of criminal damage and drugs increased the likelihood of being a male SV perpetrator, with the presence of previous other theft crimes reducing this likelihood, and thus being more indicative of SV female offenders. The model accurately classified a substantial percentage of case (86.4%), yet there are concerns surrounding the moderate predictive accuracy demonstrated by the ROC curve.

Investigating the type of SV offender indicated a couple of significant differences, presenting support for Ahonen et al.'s (2015) claim that few variables differentiate between homicide offenders from other violent criminals, with such subgroups of offending showing more similarities. Perpetrators who were older when committing the SV offence were more likely to be offenders of AMH, yet the presence of previous cause injury offences reduced this probability. Although few significant predictors were found, the model was excellent in accurately predicting 91.9% of outcomes. However, this accuracy was not reflected in the ROC curve and thus requires further exploration. Similar reports have been noted, claiming that homicide offenders are older than lesser violent offenders (e.g. Dobash et al., 2007; Ganpat et al., 2014; Smit et al., 2003; Soothill et al., 2002), yet caution should be taken with comparisons due to the differences in how SV offenders have been grouped. Furthermore, in regards to prior violent offending (e.g. cause injury offences), Ganpat et al. (2014) also found that this decreased the likelihood of future lethal violence.

When exploring multinomial logistic regression analyses, similar findings were reported. Being older at the time of the target offence was more predictive of AMH offenders (e.g. Dobash et al., 2007; Ganpat et al., 2014; Smit et al., 2003; Soothill et al., 2002), with the presence of other theft crimes increasing the likelihood of future GBH offending; yet, the presence of ABH and miscellaneous crimes decreased the risk of becoming a GBH offender. The latter point is noteworthy, in adding to the debate as to whether prior violence is predictive of future violence; previous violence has been argued to reduce the risk of future homicide offending (Ganpat et al., 2014), yet the current findings suggest this may also apply to other SV offences.

Finally, the gender and type of offender were examined; the presence of a previous conviction of ABH lowered the odds of being a SV male or female perpetrator, compared to the male control group, thus lending weight to claims that prior violence is more indicative of general, or lesser violent, offending (e.g. Francis & Soothill, 2000; Ganpat et al., 2014). Additionally, the presence of criminal damage increased the likelihood of being a female perpetrator, whether this was as a SV or control offender. Prior miscellaneous offences indicated a higher risk of being classified as a female control offender, in comparison to a male control perpetrator, with the absence of other theft decreasing this likelihood. While Smit et al. (2003) proposed that females had a criminal history characterised more so by less serious offences, further explorations of SV male and females is necessary for comparisons to be made.

Interestingly, using more particular crime categories produced the logistic regression models argued to demonstrate the 'best fit', thus is a crucial point for further consideration. This argument is more commonly associated with specialisation research (see *Chapter 8*), yet there are indications this is a crucial aspect that applies to all explorations of criminality. This is discussed in more detail in *Chapter 10*, as are the limitations of the current study.

9.5.1 Conclusion. The empirical findings from this chapter add to our understanding of predictive factors of SV offending, in terms of SV perpetrators as a whole and with more particular emphasis on gender and AMH and GBH criminals. There are clear indications of differences between SV offenders, compared to the lesser-, and non-, violent perpetrators within the control sample. Moreover, there are further suggestions of differences dependent on the offender's gender and the type of SV offence committed, thus supporting previous findings (e.g. Crocker et al., 2013; Ganpat et al., 2014; Heidensohn & Silvestri, 2012; Smit et al, 2003; Soothill et al., 2002). Further to this, the current results suggest versatility may be a predictor to future SV offending, though this requires additional exploration. Implications of the findings are discussed in *Chapter 10*.

Chapter 10: General Discussion

10.1 Introduction

As emphasised at the very beginning of this thesis, there has been a marked statistical increase in violent offending in England and Wales in recent years (Flatley 2016a). Given the importance of empirical research to practitioners within the criminal justice system, particularly in relation to informing practice and decision-making (e.g. Soothill et al., 2008a; Wermink et al., 2016), it would seem essential for researchers to continue to examine the characteristics of SV offenders (Lai et al., 2015). Therefore, this thesis aimed to investigate further the characteristics of SV offenders, not only to contribute generally to the existing knowledge of SV offenders in theory and research, but also help offer some guidance to practitioners. Specifically, therefore, subgroups of SV offenders were explored in relation to their offender characteristics (age and gender), criminal history information (offence frequency, chronicity and crime types) and specialisation. A retrospective, quantitative approach was used to both investigate, and compare, the subgroups of seriously violent criminals; data containing 10-years of crimes were provided by Devon and Cornwall Police Force. In addition, methodological issues were considered throughout, particularly in terms of the analyses used in specialisation research and the use of various crime categories.

To investigate the factors of SV offenders, the thesis sought primarily to identify differences and similarities between offending subgroups, and to determine significant predictors of SV offending outcomes. The key findings from the current research are plentiful and are discussed according to three core outcomes. Firstly, the explorations support claims of dissimilarities between perpetrators, in terms of SV offenders compared to a control sample and also between subgroups of SV criminals. Furthermore, this thesis demonstrated the diversity of offenders, adding to the debate of offender specialisation, with interesting input relating to chronic and persistent perpetrators. What is more, the investigation ascertained important characteristic and criminal history information in predicting future SV

offending. As the results are discussed in detail within each chapter, this chapter focuses on the central findings. Therefore, this chapter:

i. reviews the main findings of this thesis, with consideration of earlier investigations;
ii. discusses the theoretical and practical implications of the core findings;
iii. identifies the strengths and weaknesses of the methodologies used;
iv. considers recommendations for future research.

10.2 Key Findings

So again, the central aim of this thesis was to investigate characteristics of SV offenders. In order to fulfil this aim, four objectives were proposed: (i) to examine to what extent offender characteristics and criminal history information differ between subgroups of offenders: (a) SV versus control; (b) SV male versus control male; (c) SV female versus control female; (d) SV male versus female; (e) AMH versus GBH; (ii) to determine to what extent SV offenders specialise in their criminality and how this differs between subgroups; (iii) to explore the relationships between diversity scores and (a) the frequency of offending, (b) the age at the time of committing the first offence within the dataset, and (c) the age at the time of committing the SV offence; and (iv) to assess the variables deemed to significantly predict future SV outcomes: (a) SV versus control, (b) SV male versus female, (c) AMH versus GBH, (d) AMH, ABH versus control, and (e) SV male, SV female, control male versus control female.

10.2.1 Comparisons between offenders. Firstly, the thesis established differences between SV offenders and an offender control sample (see *Chapters 4* to *6*), thus addressing the first objective; SV perpetrators, as an overall group and in consideration of males, had a higher number of previous convictions (e.g. Ahonen et al., 2015; Mulder et al., 2010; Soothill et al., 2002). Further to this, the offending histories of SV offenders, applicable to both males and females, displayed both violent and non-violent crimes, whereas perpetrators in the control sample were characterised by

non-violent prior offences, such as property, other and theft crimes; males in the control group also demonstrated sexual offending. This is generally reflective of earlier findings (e.g. Liem et al., 2014; Soothill et al., 2002), yet there are difficulties in reviewing the findings between SV and control females, as a result of the paucity of this in literature; prior violence and public order were characteristic of SV female criminals, whereas property and theft crimes were more likely to appear in the histories of the female control sample, contradicting earlier findings of theft being suggestive of violent females (Pollock et al., 2006).

In addition, determining how SV offenders differed according to gender and offence type produced significant findings (see *Chapter 7*); SV males exhibited a variety of non-violent previous convictions, when compared to females. This goes some way in supporting arguments for males being more extensive in their criminality (e.g. Rossegger et al., 2009; Yourstone et al., 2008), yet does not support claims of males demonstrating more violence than females (e.g. Crocker et al., 2013; Heidensohn & Silvestri, 2012; Lauritsen et al., 2009; MoJ, 2014). The current study did not identify differences in the age of SV males and females, which has also been demonstrated in previous reports (e.g. Crocker et al., 2015; Soothill et al., 2002). Perpetrators of AMH were typified by an older age at the first offence in the dataset, and the SV offence, and a history of violence, whereas the presence of burglary-, or theft-, related prior offences were more likely to be present in the criminal history of GBH offenders. Lethally violent offenders have also reported an older age in earlier literature (e.g. Ganpat et al., 2014; Ioane et al., 2014; Smit et al., 2003) and to be more likely to have committed violence (Soothill et al., 2002). Yet, the current findings dispute earlier research that argued previous violence was more likely to occur in the offending behaviour of non-lethally violent criminals (e.g. Ganpat et al., 2014; Smit et al., 2003) and that lethally violent offenders were more likely to commit burglary, robbery and theft offences (Soothill et al., 2002).

10.2.2 Specialisation. Secondly, an exploration of the specialisation of SV criminals (see *Chapter 8*) identified overall versatile criminal histories (e.g. Jennings et al., 2014; Piquero et al., 2007), yet there were also instances of specialisation (e.g. Loeber et al., 2008; Osgood & Schreck,

2007; Tumminello et al., 2013). For example, complete specialisation in violent and property offending was observed in small proportions of SV offenders, as has been reported in previous investigations (e.g. Armstrong, 2008b; Farrington et al., 2012). Overall, SV offenders were more diverse in their offending than the control sample, with SV males demonstrating more diversity than SV females; thus fulfilling the second objective to determine the extent SV offenders specialise in their criminality and how this differs between subgroups. This goes some way in adding to the current argument for specialisation in females (e.g. Tumminello et al., 2013). However, no differences relating to specialisation were identified between AMH and GBH offenders.

Further to this, the third objective was achieved, in exploring, and identifying, relationships between specialisation (represented by the DI score) and offending frequency and age. Specifically, a higher offending frequency and younger ages, at both the time at the first offence and the target offence, increased the versatility of a SV offender's criminal history; this finding applied to the control sample too, yet the associations between diversity and age were not present for SV females. This is reflective of previous literature that proposed specialisation was associated with older criminals (e.g. McGloin et al., 2007; Tumminello et al., 2013), disputing claims that specialisation is evident early on (Armstrong & Britt, 2004), and supportive of the association between offending frequency and diversity (e.g. Monahan & Piquero, 2009). What is more, research has proposed versatility is observed in older female offenders (Francis et al., 2010) and may provide an explanation as to why SV females did not demonstrate diversity at younger ages. Of further relevance to the field of criminal careers is the levels of chronicity exhibited by SV perpetrators; although no significant differences were found, approximately 6 to 9% of offenders throughout the SV subgroups exhibited persistent, chronic criminality (see *Chapter 3*), as has been consistently noted in research (e.g. Gottfredson & Hirschi, 1990; Vaughn et al., 2014).

10.2.3 Predictors of serious violent offending. Thirdly, predictive models identified variables that proved useful in predicting the likelihood of future serious violence (see *Chapter 9*); therefore, the fourth objective was

completed, in assessing the variables deemed to significantly predict future SV outcomes. The models recognised predictor variables that successfully classified cases to a number of offending outcomes. An early onset, younger age at the time of committing the target offence and demonstrating offending specialisation decreased the odds of the offender being a future SV perpetrator, whereas being male and having violent previous offences were more indicative of SV offenders, compared to those in the control sample. A history of criminal damage and drug offences, and an absence of other theft, increased the likelihood of a SV offender being male, compared to female. Furthermore, a higher probability of future AMH offending was indicated by an older age at the target offence and an absence of cause injury previous convictions, compared to GBH offending. Similarly, when exploring the outcomes of AMH, GBH and control criminality, the likelihood of committing an AMH offence was noted in older individuals; additionally, the presence of other theft, and absence of prior ABH and miscellaneous offences increased the risk of future GBH offending. The final model considered SV and control offenders, according to males and females; the presence of ABH crimes decreased the probability of both SV male and female offenders, with the presence of criminal damage increasing the likelihood of being classified as a SV female, when compared to the control male sample. What is more, the presence of criminal damage and miscellaneous, and the absence of other theft, offences were indicative of control female perpetrators.

Thus, it appears older offenders are indicative of SV offending, and more specifically lethal violence (e.g. Ganpat et al., 2014; Smit et al., 2003; Soothill et al., 2002). Additionally, being male was found to be predictive of SV criminality (e.g. Feld, 2006), but differences in violence were not identified when determining the likelihood of either male or female violent offending. Although frequency of offending has previously been reported to be an indicator of future offending (e.g. Wartna et al., 2005), it was not found to be a significant variable within the current analyses. Prior violence was found to predict SV reoffending (e.g. Stalans et al., 2004; Farrington et al., 2012; Soothill et al., 2002), yet the *absence* of particular violent crimes was reported to increase the likelihood of GBH, SV males and SV females, when reviewing particular gender and SV outcomes. Further, while specialisation

measures have not specifically been included in predicting future serious violence previously, this thesis supports the concept of specialisation in differentiating between offenders in the SV and control samples, with specialisation being predictive of the control group. As noted in *section 10.2.2*, versatility was the average observation in the sample (Farrington, 2012), yet pockets of specialisation in violent criminals was also evident (e.g. Brennan et al., 1989).

10.3 Implications

Within the general area of forensic psychology, a number of significant relationships have emerged between researchers and practitioners; this has developed into a strong partnership which benefits both parties, resulting in a demand for evidence-based research, with outcomes that may have a subsequent impact on operational practice in the community (Taylor et al., 2015). For example, Wermink et al. (2016) highlighted the use of empirical research to inform the sentencing of offenders, in addition to other judicial and practical decisions, such as the type of action, treatment, community management and supervision needs (Craig et al., 2013; Hilton, Harris, & Rice, 2010; Soothill et al., 2008a). Determining an offender's risk of recidivism is a recurring problem (Zhang et al., 2014), yet predicting violent behaviour is essential for parole decisions and public safety (Kubiak, Kim, Bybee, & Eshelman, 2014). Determining the factors that are the best predictors for future reoffending is crucial to inform policy, practitioners and treatment (Gendreau et al., 1994; Gendreau et al., 1996), as research has suggested that prior behaviour has been argued to be the best predictor of future actions (Gottfredson & Hirschi, 1990; Robins, 1966); in particular, criminal history and offender characteristics are strong indicators for future criminality (Armstrong & Britt, 2004; Blokland, 2005; Bonta et al., 1998).

The assessment of risk by practitioners is essential (Hollin, 2009), as a practitioner must make decisions about offenders that may lead to the public being at risk if the practitioner was to make the wrong decision. Furthermore, the predictors for further criminality may differ according to the offender and the crime that they commit, as if offenders are not a homogenous group they would require different risk assessment tools (Hollin, 2009). What is more,

there are practical implications of differentiating between violent and nonviolent offenders; the presence of differences between these perpetrators would suggest the allocation of resources should therefore differ according to the type of offender (Lai, Zeng, & Chu, 2015).

What is more, Zagar, Grove and Busch (2013) reported the need for policies to review violence due to the impact this has, in terms of the costs to society and increasing demands on the prison system. As a result of the recent economic crisis and cuts to the police force in the UK, it is necessary to adapt, develop and implement cost-effective approaches. To address this issue, research suggests targeting offenders deemed most at risk; identifying future violent offenders early on in their criminal careers and applying effective preventative methods would aid in reducing the frequency of offending, reduce the cost on society and improve public safety (Loeber & Farrington, 1998; Zagar et al., 2013).

10.3.1 Theoretical implications. Offending specialisation has important implications for theory, which is crucial in terms of research and offender interventions (Baker et al., 2013; Howard et al., 2014; Nieuwbeerta et al., 2011). For example, if violent offenders are versatile in their offending, it would be appropriate to apply Gottfredson and Hirschi's (1990) GTC; this approach would indicate offenders are homogenous and therefore would argue that theories and interventions are applicable to all offenders, regardless of the crimes they have committed. Whereas, Moffitt's (1993) stance regarded offenders as heterogeneous; offenders who are deemed to specialise in one crime type would require crime-specific interventions.

Therefore, the findings from this thesis support Gottfredson and Hirschi's (1990) GTC; diverse offending was displayed by all subgroups of offenders, both by the diversity index scores and the application of the specialisation thresholds. Thus, the findings support the perspective that perpetrators largely display offence versatility, which is an essential basis of this theory. Yet, it is important not to discount theories of specialisation in offending; the current research reported instances of specialisation amongst the SV offenders, which may lend some support to the argument for violent subcultures (e.g. Cloward & Ohlin, 1960; Moffitt, 1993; Wolfgang & Ferracuti, 1967).

The findings identify significant differences between SV offenders and the control sample, SV males and females, and types of SV offenders, indicating possible differences in offending trajectories. To an extent, this presents further support for the GTC approach as static factors were reported to identify those at an increased future risk of SV offending (Gottfredson & Hirschi, 1990). However, the current research also proposes AMH offenders are in fact older than GBH perpetrators, with the control sample being characterised by a younger age at the first offence and at the target offence, disputing the theoretical perspective of Gottfredson and Hirschi (1990) that all offenders demonstrated an early onset to criminality. This challenges a premise of the GTC, in that offenders have little self-control; it could be argued that SV offenders, and AMH offenders more specifically, demonstrate a higher degree of self-control in being older at the time of offending, when compared to a control sample of the non-SV criminal population. On the other hand, there is general support for Moffitt's (1993) theoretical suggestions of adolescence-limited and life-course persistent offenders, although further exploration would be required. As the SV sample were more likely to exhibit older ages, this would be suggestive of adolescence-limited offending, yet it would be useful to also know the length of the criminal career. In addition, there was evidence of life-course persistent offending in identifying significant positive relationships between a younger age and being more diverse, with an increased versatility associated to a higher frequency of previous convictions.

As has been discussed throughout this thesis, comparisons between males and females in research are limited, with a failure to agree if theories of crime can be applied to both sexes (Alarid, Burton, & Cullen, 2000; Benda, 2002; Benda, 2005; Giordano, Cernkovich, & Holland, 2003; Kruttschnitt et al., 2000). Males were more likely to have previous convictions of both violent and non-violent crime types, with prior criminal damage and drug offences being more indicative of SV males; additionally, a history of other theft was predictive of SV offending in females. Thus, it is evident that there are differences in the offending patterns of SV male and female perpetrators; while further details (e.g. peers, relationships, motivations) would be necessary to comment on specific theories of crime, the current thesis

suggests that theory must consider the gender of the offender and should not treat offenders as a homogenous group.

10.3.2 Practical implications. Primarily, the overarching finding of this thesis is the heterogeneity amongst offenders; as noted, in terms of differences between violent and nonviolent criminals, this has implications for the criminal justice system, such as allocating resources appropriately to those at most risk of harm to society (Lai et al., 2015). Furthermore, literature (e.g. Gottfredson & Hirschi, 1990; Vaughn et al., 2014) and the current research has identified a subset of the offending population as serious, violent and chronic offenders, as approximately 6 to 9% of offenders throughout the SV subgroups exhibited persistent, chronic criminality (see *Chapter 3*); the implications of this are twofold. Firstly, although a small proportion of offenders, they prove the most problematic to the criminal justice system, thus reinforcing the need to strengthen, or adapt, existing analytical strategies and investigative tools in order to accurately identify and assess offenders at risk of future serious violence. Secondly, persistent offending would imply that current risk assessments, interventions or treatments are not effective in the desistance of SV crime (Haapanen et al., 2007); persistent offenders add to the rates of violent offending (Souverein, Ward, Visser, & Burton, 2015) and tackling this problem would therefore be beneficial to the criminal justice system. The importance of interfering with offenders who pose a risk of serious offending has been highlighted, as Craissati and Sindall (2009) found that 60% of the offenders in their sample were on a community supervision order at the time of committing a serious further offence.

Additionally, Soothill and colleagues (2002) stressed the value of understanding criminal careers for those within the criminal justice system; in particular, offender characteristics, criminal history and the severity of the crime have been argued to have an impact on this decision-making (Spohn, 2000; Wermink et al., 2016). Therefore, strengthening existing knowledge and producing empirical findings assists in developing accurate, and amending existing, risk assessment methods and supports the application of more appropriate risk management techniques.

An essential facet of current research and practice is ensuring that

future reoffending is accurately predicted (Loeber & Ahonen, 2014). The risk-need-responsivity (RNR) model requires offenders to be reviewed and categorised, in order to implement an intervention that is individualised to their needs (Andrews & Bonta, 1998; Andrews & Bonta, 2010). Thus, of particular importance to policy is the way in which offenders are categorised; Loeber and Ahonen (2014) outlined that further research into serious, violent and chronic perpetrators would be advantageous to policy makers. Offenders deemed to be serious, violent and/or chronic are reported to have an increased number of risk factors for recidivism, when compared with other offenders (e.g. Andrews & Bonta, 1998; Loeber & Farrington, 2012; Tremblay & LeMarquand, 2001); thus, identifying risk factors relevant to subgroups of serious violent offenders will assist in the development and application of effective risk assessment tools and intervention programmes.

Moreover, as those with a high frequency of offending account for a large proportion of crimes, accurate identification of such problematic offenders is an attractive prospect to policy (Schumacher & Kurz, 1998). Although research is key to enhance this, researchers are aware of the potential limitations; identifying serious, violent and chronic offenders is not a straightforward process (Gottfredson & Hirschi, 1990; Laub & Sampson, 2003), such as criminals who desist from crime unexpectedly, or have a delayed onset, and thus do not meet theoretical and empirical expectations. Piquero (2014) informed that such cautions should not be considered, as limitations to research and researchers should continue to explore risk factors of criminality in various subgroups of offenders. Evidence-informed interventions for offenders who are general and serious, violent and/or chronic perpetrators are required (Loeber & Ahonen, 2014); Sweeten, Piquero and Steinberg (2013) argued that evidence-based findings should continue to support, and share knowledge within, the field.

Although the current exploration did not identify all expected differences, in terms of violent offending, between males and females based on earlier reports (e.g. Forsyth et al., 2001; Rossegger et al., 2009), male offenders were accountable for being more likely to have previously convicted a variety of non-violent crimes and thus argues for males demonstrating a more varied history. This adds to the argument of gender-

specific pathways (e.g. Leschied, 2011) and the need to utilise appropriate investigative tools, interventions and treatments for male and female perpetrators (e.g. Dvoskin et al., 2011). Furthermore, violent offending was recorded in females, with differences found between women in the SV and control samples; this enhances the current claims for more attention to be turned to females in research (e.g. Nicholls et al., 2015). Moreover, as established in the literature review (see *Chapter 1*), decisions relating to the likes of sentencing and parole are often influenced by the defendant's gender (e.g. Tillyer et al., 2015); thus, the current findings go some way in informing and demonstrating the criminality displayed by females (e.g. West, Hatters, Friedman, & Kim, 2011).

In relation to specialisation, *Chapter 8* observed 'dual specialisation', in that some offenders exhibited 50% specialisation in two different crime types. This draws aspects of the approach into question; is demonstrating 50% specialisation a stringent enough cut-off to argue for specialisation? Research requires an overarching definition of offender specialisation and whether, for example, an offender must show a minimum of 75% specialisation in one crime type to then be deemed a specialist. Or should dual specialisation be classed as another subset of specialisation to be explored, or if such offenders should in fact be classified as generalists due to not specialising in one offence only? Alternatively, if researches continue to include the 50% specialisation threshold, implications for dual specialists should be considered. If it is appropriate to apply different offender interventions to those considered specialists or generalists, it would also be necessary to apply suitable approaches to dual specialists. This somewhat links with reports from Soothill et al. (2000) in that offenders may not be *either* generalists *or* specialists, but rather that some offenders may in fact be both. With further evidence of this in Loeber et al.'s (2008) research, as an overlap between theft and violent offending was present.

Similarly, in regards to the predictive models, to the researcher's knowledge, this was the first empirical research to include an offending specialisation measure in the prediction of SV criminality. Although offending diversity was indicated in the descriptive exploration using the DI and in the proportions of offenders categorised as generalists in the specialisation

thresholds, there were pockets of specialisation amongst SV subgroups; specialisation was identified to be more predictive of control, than SV, offenders. Thus, the inclusion of the diversity index was effective in predicting SV, or control, outcomes. This also adds to the consideration of various degrees of specialisation, and/or diversity, displayed by offenders. Furthermore, as the current exploration identified versatile criminal histories amongst the offending samples, with indications of specialisation, this challenges the existing beliefs of offender specialisation within the criminal justice system (Eker & Mus, 2016).

In consideration of the crime categorisation schemes, the use of the four crime categories was limited in producing significant findings between the subgroups of offenders, whereas applying the eight, 15, and 24 crime categories detected differences and relationships within the data. Thus, this questions whether specific (e.g. more) offence categories would be beneficial to research and practitioners, as utilising broader crime categories risks hiding important details. However, when investigating the relationship between the DI and the age of the offender at the SV offence, only the use of four crime categories identified significant associations; Harris et al. (2009) recommended using fewer offence categories arguing it may be more advantageous in terms of methodology. Yet this could be argued to be undesirable due to the risk of grouping offenders who would otherwise be categorised differently, if more specific crime types were used. Similarly, Youngs et al. (2016) considered the limitations of using broad crime categories, warning that a perpetrators criminality could be oversimplified and thus not give an accurate representation of their offending. On the other hand, a limitation of using too many categories is the inclusion of minor crime categories, such as traffic offences, which do not demonstrate serious offences (Horning et al., 2010) and could therefore be argued to be meaningless; similarly, Brame, Mulvey, Piquero and Schubert (2014) questioned the use of ‘other’ and ‘miscellaneous’ categories. Adding support for the need for consistency amongst research, Nieuwbeerta et al. (2011) noted difficulties in making comparisons amongst research as a result of the different categories used. What is more, considering the use of categories has importance to practitioners (e.g. Loeber & Ahonen, 2014); for example,

the RNR model (Andrews & Bonta, 2010) requires appropriate identification of risk and categorisation of offenders. In particular, there have been explorations into the application of the RNR model to females and younger offenders (e.g. Hubbard & Matthews, 2008; Koehler, Losel, Akoensi & Humphreys, 2013; Wilson & Hoge, 2013).

10.3.2.1 Application of research to risk assessment. The criminal justice system must review the risk of recidivism of offenders (Andrews & Bonta, 2010), requiring effective and accurate tools to do so. Theory provides an understanding of criminality, but the risk of violent reoffending is represented according to a risk scale (Farrington, 1991, 1996). Risk factors identified in research are operationalised with risk assessment measures (Seidler, 2010). Risk assessments are professional tools that are used to identify recidivism: the likelihood of an offender committing further criminal behaviour in the future (Hollin, 2009). Actuarial risk assessment tools employ statistics to determine the risk of an offender based on certain factors (Fazel, Singh, Doll, & Grann, 2012; Zhang et al., 2014); the selection of risk factors is based on theoretical and empirical findings, resulting in the categorisation of perpetrators with others who exhibit similar recidivism likelihoods (Rice & Harris, 2005; Silver, Smith, & Banks, 2000; Zhang et al., 2014). Clinical approaches to risk assessment determine risk level on the basis of professional judgement. However, largely due to the subjectivity of the clinical approach, the accuracy is questioned (Grove & Meehl, 1996), with further arguments that actuarial tools are more accurate (Andrews, Bonta, & Wormith, 2006; Archer, Buffington-Vollum, Stredny, & Handel, 2006; Grove, Zald, Lebow, Snitz, & Nelson, 2000; Hannah-Moffat & Shaw, 2001; Hanson & Morton-Bourgen, 2009; Mossman, 1994). Actuarial violent risk assessments include the Standard Predictor (Zagar & Grove, 2010), the Violence Risk Appraisal Guide (Quinsey, Harris, Rice, & Cormier, 1998), the Violence Risk Scale (Wong & Gordon, 2000), the Violent Risk Scale-2 (Wong & Gordon, 2000, 2006) and the OGRS (Copas & Marshall, 1998). Such measures utilise static factors, such as index offence characteristics and the age of the offender at the first offence, in addition to other static information, including childhood history and family upbringing.

The utility of actuarial measures within the criminal justice system

have been widely accepted (Craig et al., 2013; Monahan et al., 2001; Zhang et al., 2014); so much so, failure to conduct and interpret actuarial risk assessment measures would be deemed “unscientific, unethical and unprofessional” (Craig et al., 2013, p. 96; Quinsey, Jones, Book, & Barr, 2006). However, this approach does risk basing the prediction of an individual’s risk of reoffending on risk factors that have been developed from research into categories of criminals (e.g. Silver & Miller, 2002) and, while argued to be favoured to clinical methods, the prediction of violence using actuarial tools is not exact (Dolan & Doyle, 2000). Additional research into violent predictors is critical, as the findings feed into the development of actuarial methods (Zhang et al., 2014), supporting decisions about parole, probation and the use of resources (Zhang et al., 2014).

As stated, actuarial methods are developed on the basis of both static and dynamic risk factors; dynamic risk factors are subject to change (e.g. attitudes) and static risk factors are constant (e.g. criminal history information). The latter has been the focus of this thesis, as strengthening the prediction of risk using static variables continues to be an issue (Andrews et al., 2006). The dependence on evidence-based findings increases the demand for linking research with practitioner decisions; this has led to the development of Andrews and Bonta’s (2010) RNR model, which identifies basic principles to aid in selecting effective offender interventions. The risk principle identifies offenders who need crime prevention services, with the need principle determining what needs to be targeted to reduce criminality and the responsivity principle dictates what strategies are best suited for the offender. The risk principle is therefore of relevance to the current research.

It is not deemed as time and cost effective for practitioners to utilise assessment tools using both static and dynamic risk factors; rather, it is argued that the same outcome, in determining an offender’s future risk, can be achieved using details available in official records in a simple model (Zhang et al., 2014). This would reduce demands on staff, whilst also providing guidance for risk decision-making and on appropriate uses of judicial resources (Zhang et al., 2014). Thus, this thesis provides a further understanding of SV offenders, in addition to how perpetrators may differ between subgroups of SV and control criminals, in terms of offender

characteristics, criminal history information and specialisation; such detail should inform the development and application of risk assessment tools. Additionally, this research has considered the use of crime categorisation schemes, which are also a crucial aspect of identifying and categorising offenders.

10.4 Methodological Strengths and Weaknesses

Nevertheless, it is important to note the limitations of the methods in the present thesis. One weakness is the varying sizes of SV subgroups; although the overall sample size is fairly large, it contained a small proportion of SV female (*n* = 149) and AMH (*n* = 90) offenders with previous convictions. Thus, the skewed sample sizes, compared to SV male (*n* = 959) and GBH (*n* = 1018), perpetrators may have had a distorting impact on findings; for example, in no instance were SV females found more likely to commit a certain type of offence than males. It is unclear if this was as a result of males being more likely to commit such offences or if it was due to the small sample size of female perpetrators. The current exploration also considered examining the interaction between gender and SV offence (AMH male, AMH female, GBH female and GBH male), yet this produced smaller offender groups (e.g. AMH female *n* = 8) that could, therefore, have implications for significant findings; earlier literature has noted that the failure to detect further significant findings may have been a result of the small sample size (Rossegger et al., 2009). However, research has generally noted the shortage of research on SV offences committed by female offenders, due to low murder arrest rates (Chan & Frei, 2013); for example, only 7.6% of those arrested for murder were females (FBI, 2010), and Rossegger and colleagues (2009) used a sample of only six female homicide perpetrators. In comparison with previous research, the present investigation has a relatively large sample size for a criminal female population; research has utilised sample sizes that have varied from 16 to 55 to 202 female offenders (Rossegger et al., 2009; Bennett et al., 2012; Chan & Frei, 2013, respectively). Additionally, in reference to the sample sizes of Roe-Sepowitz (2009; 29 female, and 107 male), Heide et al. (2012), reported them as “sufficiently large samples to examine gender differences” (p. 359). The

current research, therefore, benefits from using a large sample, especially as earlier research, which has reported specialisation in violent offenders, has been criticised with regard to the limited number of violent crimes in the sample (e.g. Guttridge, Gabrielli, Mednick & Van Dusen, 1983).

However, it can be noted also that the current research selected SV offenders of AMH and GBH, and is, therefore, restricted in its application to other SV offences (e.g. Ganpat et al., 2014). What is more, the findings may be confounded by the differing types of SV crime; for example, should females who commit filicide be included in the AMH category? Research has reported differences in specific SV offences, such as interpersonal violence, filicide and accidental homicide, in terms of the motivations, offender characteristics and circumstances (e.g. Bourget & Bradford, 1990; Roberts et al., 2007; Straus, 2007). Moreover, as pointed out by Vaughn, DeLisi, Beaver and Howard (2008), there is a lack of standardisation in the definition of homicide used in research, as many group different types of homicides together. Thus, such different offenders are often categorised under one homogenous group. Additionally, within the current research, caution should be taken with those categorised as homicide offenders; while the definition of homicide (see *Chapter 1*) included murder and manslaughter, the police data file only specified 'murder of a person'. It is unknown whether this was used as an umbrella category or if no other types of homicide were recorded in the Devon and Cornwall area; however, given this was over a 10-year period, the former is more likely. This is problematic due to the issue of intention, as the crime of involuntary manslaughter, for example, may not contain the same offender intentions as attempted murder and murder may do.

The findings are also limited as a result of the archival data utilised; there is the risk that offences have not been detected, and thus recorded, by the police force. There are arguments for violent crimes to be overrepresented, as they are proposed to be cleared in greater proportions, in comparison to other offences (FBI, 2001). Furthermore, there have been changes in the way data and offences are recorded, which may have an impact on more recently investigated offenders utilising official data; for example, Chesney-Lind (2006) pointed out that changes in domestic violence policy has increased the rates of violent behaviour by females (see

Heidensohn & Silvestri, 2012 for a review). Moreover, adopting a retrospective approach and exploring a police dataset greatly limits the researcher's ability to select, and collect, the required details. For example, information such as victim characteristics, offence details, offender-victim relationship, the method of offending and circumstances of the offence was missing, unlike details that have been utilised previously (Soothill et al., 2002).

Another limitation of the current data is that the follow-up period within the data were limited from April 2001; consequently, the data were likely to represent only a snapshot of the offender's criminal history. Therefore, any offences recorded before this have not been included and it cannot be guaranteed that the first offence recorded in the dataset was an offender's first crime in their criminal history for perpetrators in both the SV and control samples. This has implications for the age of the offender at the first offence, as it cannot be guaranteed that this is the offender's first offence committed, and thus the onset age. Hence present findings relating to the age of the offender at the first offence in the data, should be reviewed with caution.

Also, it cannot be ascertained whether SV offenders had committed additional, or more serious, SV crimes other than those recorded in the dataset. This has a number of implications; firstly, those SV offenders who have committed the same SV offence previously, and could thus be argued to be serial offenders, may differ from those who have committed an SV crime once (see DeLisi & Scherer, 2006; Wright et al., 2008). Secondly, SV offenders who had previously committed a more serious SV offence may demonstrate de-escalation, which may therefore differ from offenders who are exhibiting an escalation in their offending, and thus requires further investigations. Nevertheless, perpetrators in Ganpat et al.'s (2014) attempted and completed murder samples held previous convictions for attempted and/or complete murders; the researchers noted that the purpose of the research was to explore SV criminal histories, regardless of whether offenders had such prior offences. Ganpat et al. (2014) analysed the data containing those with SV previous offences and also without, concluding that this did not have any great differences in their findings. Similarly, it cannot be determined whether any offenders in the control sample had a SV crime in

their criminal history prior to 2001. For the control sample, this would be problematic based on the criteria for their inclusion; yet, other research that has used matched-case controls cannot certify that the control sample did not contain offenders with SV previous convictions that were unknown to the police (e.g. Clarke et al., 2016; Soothill et al., 2002), and thus it is evident that this is a limitation associated with the type of data used.

In addition, a small percentage of the SV sample had prior convictions for SV crimes, thus having multiple SV offences recorded within their criminal career (see *Chapter 2*). AMH and GBH offenders had previous convictions of their respective crimes or had the other SV crime in their criminal history. This could be deemed problematic, particularly when GBH offenders have a more serious prior offence (AMH), as this could have implications for de-escalation of offending. However, Ganpat et al.'s (2014) sample of attempted and completed murderers also contained previous offences for such crimes; the researchers did not consider this a limitation, but rather deemed it part of exploring the criminal history of offenders. Furthermore, Ganpat and colleagues (2014) compared the findings of the sample with perpetrators who had prior attempted and/or completed murders to the sample which excluded such offenders; no differences in the results or conclusions were reported.

An additional limitation of this thesis is, of course, that the data were provided by a single police force; thus, the offenders may be representative of that area only (Devon and Cornwall) and may not, therefore, reflect offenders in other areas; this is not unusual, however; for example, Cook et al. (2005) faced similar restrictions. Moreover, archival data may differ, depending on the differences in "record-keeping policies and practices" (Arthur et al., 2001, p. 9), which would be applicable both on an individual basis (individual differences in recording details from one case to another) and also as a police force (Alison, Snook, & Stein, 2001). The location of the police force must also be considered; the present data were from a force based in a rural area and so the findings may differ from those using samples drawn from urban locations. Furthermore, the information documented was for police investigations (Alison et al., 2001), where the goal is to achieve a conviction of the guilty offender(s), as opposed to research purposes (Almond, McManus, & Ward, 2013; Canter & Alison, 2003) and as such the

research design and methodology was not a primary consideration (i.e. other details not considered to be relevant to conviction might have been overlooked). Additionally, in the study of offender specialisation, the generalisability of the findings is restricted as they are representative of the offences, and offenders, known to the police (Youngs et al., 2016).

With regards to the methodologies employed, STs have been criticised for being static in nature (Bursik, 1980); due to the lack of temporal details about the offender's histories, researchers are unable to determine whether the specialisation, or lack of, is an indicator for the previous offences as a whole or if this occurs at the beginning/end of their offending (Sullivan et al., 2006). On the other hand, the use of STs is deemed efficient as an exploratory measure and to achieve an overall picture of the sample.

It can also be noted that previous research has employed the forward specialisation coefficient (FSC) to determine the diversity of an offender's criminal history (e.g. Farrington, 1986; Farrington et al., 1988; Paternoster et al., 1998); this approach utilises a transition matrix, based on sequential transitions. However, this would create issues within the current research, as the offending history is not being explored in chronological order; something that the DI does not require. Furthermore, Mazerolle and colleagues (2000) supported the DI, arguing it has a more natural approach to the FSC in terms of how it is interpreted and applied. As a result, the DI appears to be the favoured approach in subsequent investigations into criminal samples (e.g. Mazerolle et al., 2000; Piquero et al., 1999). Moreover, although a strength of the DI is also a critique, in that it does not account for the chronological order of offences (Harris et al., 2009), it does not appear to have a negative impact on the scores; Deslauriers-Varin and Beauregard (2013) compared the use of the DI and Jaccard's coefficient. While Jaccard's coefficient does factor in the chronological order of offences, the coefficient and DI produced similar scores and so it could be argued that the order of offences is not an important aspect in this research (Deslauriers-Varin & Beauregard, 2013). Thus, the strengths of using the DI is its consideration at an individual level and that it is not influenced by crime sequences (Nieuwbeerta et al., 2011). Yet, studying this in terms of SV offenders has gone relatively under-explored and limits the ability to compare findings with research.

As detailed in the previous section, there are challenges faced in research adopting different crime categorisation schemes; multiple categorisation schemes were applied throughout the thesis to account for the inconsistencies in previous literature and to support the comparison of the current findings to existing reports. Furthermore, the findings from this analysis are argued to be strengthened, due to using all offences recorded, in comparison to previous research that has used only the most serious offence, if multiple offences were recorded for one sentencing occasion (Brennan et al., 1989; Farrington et al., 1988; Guerette et al., 2005; Lattimore et al., 1994). This method risks excluding detail that could add to the specialisation/diversity debate (Lattimore et al., 1994). On the other hand, the researcher could have been more stringent in terms of the number of previous convictions, to allow for a more substantial criminal history to be explored. Based on earlier research, offenders were required to have two or more previous convictions to be included in the analysis (e.g. Baker et al., 2013; Harris et al., 2009; McGloin et al., 2007; Sullivan et al., 2006). However, Youngs, Ioannou and Eagles (2016) used offenders with a minimum of five offences, as did Adams and Pizarro (2014). This underlines the need for consistency in the number of prior offences required to identify specialisation, and the use of a central definition.

However, the strengths of this thesis must also be noted. As the review of the existing literature shows, there have been limitations when making comparisons because of inconsistencies in methodological practice. Firstly, findings that are produced without the use of a control sample limit the extent to which they can be claimed to be characteristics of those in the sample (e.g. Craissati & Sindall, 2009). Clearly the use of a matched-case control sample is an advantage to the present research. Further, the present studies overcome some limitations in previous research by making comparisons between males and females (Andrews et al., 2012; Emeka & Sorensen, 2009). Additionally, Ganpat et al. (2014) reported the investigation of lethal and non-lethal violent offenders as the first to compare a sample of specifically SV offenders, focussing on the criminal history. The current exploration, therefore, greatly adds to this sparse area of empirical research.

With regard to methodology, unlike in some previous research, the findings of the current research are strengthened by controlling for type 1 errors, to combat issues with multiple comparisons (Shaffer, 1995). Although the Bonferroni correction is a common correction to apply for type 1 errors, Holm's (1979) Bonferroni correction overcomes a number of its limitations, such as being less conservative and being more powerful (Holland & Copenhaver, 1987). Assumptions of statistical analyses were also adhered to.

In addition, while research exploring predictive factors of SV offending typically uses logistic regression analyses as a standard method, researchers should aim to ensure the accuracy of the models. This thesis utilised ROC curve analyses to further determine the predictive accuracy of the models; this proved useful, as for example, although the AMH and GBH model was reported to accurately classify 91.90% of cases, the predictive accuracy was deemed much lower when reviewing the AUC values. This, therefore, calls for research to adopt similar, and standardised, approaches to support links to be made between researches and the accuracy of findings, particularly as certifying the prediction of reoffending is accurate is a pertinent concern for researchers and practitioners (Loeber & Ahonen, 2014).

10.5 Recommendations for Future Research

Although the current thesis explored various subgroups of perpetrators, with regard to recommendations for future research, further exploration of SV offenders is necessary; in particularly, research would benefit from considering additional offender typologies. This thesis explored offenders convicted of homicide and attempted murder as one category, yet other studies have also factored in subcategories of homicide as a result of claims that motivations and characteristics can vary (Liem et al., 2014; Roberts et al., 2007), or have investigated homicide and attempted murder independently (Ganpat et al., 2014). Further to this, and as noted earlier in this chapter, the interaction between gender and SV offending was initially considered in the present thesis, before being removed from the analysis due to caution over the varying sample sizes, yet there were indications of further significant findings. For example, no differences in the diversity of AMH and

GBH offenders were detected in the analysis, yet significant findings were observed when gender was factored in (e.g. GBH male offenders were more diverse than GBH females, with differences detected between GBH and AMH female offenders) and thus future research should explore this with larger sample sizes.

Previously, research highlighted the issue of incarceration with serious sexual assault offenders and thus explored only offenders who had not spent time in prison for the crime (Almond et al., 2015). In light of this, research into SV offenders may consider only those who have not spent time in prison and/or have not participated in an intervention treatment to avoid this influencing the retrospective analysis.

In addition, research into specialisation and diversity has pointed out the link between specialisation and length of criminal career, with reports that offenders are found to specialise when viewing their short-term offending history (e.g. DeLisi et al, 2011; McGloin et al., 2009; Soothill et al., 2000; Sullivan et al., 2006). The length of the criminal career is also an important aspect to Moffitt's (1993) adolescence-limited and life-course persistent offenders, and should therefore be considered in future similar explorations.

As noted, a fundamental limitation of using official, archival data is the issue of crimes being under-, or over-, represented, thus researchers have proposed combatting this with the use of self-reports (Farrington, 1998). For example, Lynam et al. (2004) identified violent specialisation, but noted that this was obtained from self-report data. However, Reiss and Roth (1993) argued against the use of self-reports in the investigation of violent offending. Thus, future explorations may perhaps consider combining official records and self-report methods to achieve a complete understanding of SV offenders and their offending behavior (Youngs et al., 2016).

Also, ethnicity has been found to be a strong predictor of recidivism (Liem et al., 2014), yet was not an available variable in the thesis. Future research should take this into consideration. Moreover, gender should continue to remain a focus of current research as more work in the area of SV female offenders is also required.

10.6 Conclusion

To summarise and conclude, serious violent offenders are a problem to the criminal justice system and chronic violent offenders have a big impact on society (Zagar et al., 2013). This thesis, therefore, aimed to investigate the characteristics of SV offenders, with a particular focus on the comparisons between subgroups, specialisation and the prediction of SV reoffending. A retrospective design was implemented, utilising official police data to explore offender characteristics, criminal history information and specialisation. In the investigation of factors of SV offenders, three central findings emerged. Firstly, SV offenders are a heterogeneous population of offenders, as shown through the differences between the perpetrator subgroups. Secondly, diverse offending histories were observed throughout all offenders, yet instances of specialisation were also acknowledged. Thirdly, offender characteristics and criminal history details were identified as predictive factors in future SV offending.

Notwithstanding the limitations discussed earlier, it could be argued that the present findings potentially may have implications for researchers and practitioners alike; gender-, and violence-, specific pathways should be examined further, with importance placed on the gathering and consideration of accurate and detailed information to inform decision-making and develop accurate, and effective, investigative strategies, risk assessment tools and preventative measures. Arguably, the findings from this thesis complement existing literature and the gaps in research, whilst contributing to the empirical evidence used to inform practice. It is evident that offender characteristics and criminal history information are important in the prediction of not only future SV offending, but also in determining the likelihood of particular SV subgroups; such factors should, therefore, continue to be considered in the development of investigative practices and risk assessment tools. What is more, the analyses identified differences amongst the offenders, lending support to arguments for tailored measures, such as gender-specific risk assessments or crime-specific interventions. Thus, the overall finding that SV offenders differ in their demographic characteristics, offence types and specialisation requires the theoretical, empirical and practical beliefs of criminal homogeneity to be reviewed and revisited.

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Appendix A: Crime Categories

Table A.1

A Breakdown of the Crime Categorisation Schemes and Police Offences

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
Other	Criminal damage	Property damage	Arson	Criminal damage	Arson	Criminal damage to vehicle	Racially aggravated criminal damage: other
			Criminal damage		Criminal damage: non specific	Racially aggravated criminal damage to non-dwelling	Racially aggravated criminal damage to dwelling
					Criminal damage to building: non dwelling	Arson with intent or recklessly endangering life	Racially aggravated criminal damage to vehicle
					Criminal damage to dwelling	Racially aggravated criminal damage: $5000 or less	Threat to destroy or damage property
					Criminal damage to property valued under $5000		
	Drug offence	Drugs	Drug offence	Drug offences	Acquire possess/use	Possess drug intent to supply class A other	Production concerned in drug class A cocaine

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					proceeds: drug trafficking		
					Obstruct power search or conceal drug	Possession of drug – class A cocaine	Production concerned in drug class A crack
					Permit use premises drug Class B cannabis	Possession of drug – class A heroin	Production concerned in drug class A heroin
					Permit use premises drug Class C other	Possession of drug – class A MDMA	Production concerned in drug class B cannabis
					Possess drug: intention to supply class C and steroid	Possession of drug – class A methadone	Production concerned in drug class C cannabis
					Possess drug intent supply - class B cannabis	Possession of drug – class A other	Supply offer to supply drug class A cocaine
					Possess drug intent supply – class C cannabis	Possession of drug – class B amphetamine	Supply offer to supply drug class A crack
					Possess drug intent supply class B amphetamine	Possession of drug – Class B cannabis	Supply offer to supply drug class A heroin

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Possess drug intent to supply – class C all	Possession of drug – class B mephedrone	Supply offer to supply drug class A MDMA
					Possess drug intent to supply class A cocaine	Possession of drug - class B other	Supply offer to supply drug class C other
					Possess drug intent to supply class A crack	Possession of drug – class C all	Supply cannabis a class C controlled drug
					Possess drug intent to supply class A heroin	Possession of drug – class C anabolic steroid	Supply cannabis resin a class B controlled drug
					Possess drug intent to supply class A MDMA	Possession of drug – class C ketamine	Supply cannabis resin a class C controlled drug
	Non-notifiable	Miscellaneous	Non-notifiable	Non-notifiable	Accident – fail to give name and address	Failing to surrender to bail	
				Non-crime incident	Accident – Fail to stop	Drunk in charge of a carriage (pedal cycle)	Making false statement to obtain insurance
					Alcohol consumption in designated space	Drunk in highway public place or licensed premises	Managing/assist management of a heterosexual brothel

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Allowing self to be carried on conveyance	Drunk whilst in charge of a child	Non crime – racial incident
					Begging in a public place – vagrancy act 1824	Engage conduct not licensed: Private Sector Industry Act 01	Obstruct constable CIV officer search powers
					Begging section 4 Vagrancy Act 1824	Fail disperse having been direct to do so - ASBO	Offence recorded for outside agency not MOD/BT
					Being carried knowing vehicle taken/driven without consent	Fail give name/address-acting in anti-social manner	Person reprs disorder fail comply directions cons
					Breach of community service order	Fail obey police direction to leave exclusion area	Person under 17 possess air weapon public place
					Breach of community punishment order	Failure by released prisoner to comply licence	Possess an imitation firearm in a public place
					Breach of curfew order – Section 14, Criminal Justice Act 1991	Football – fail to comply with intent: banning order	Remain/enter premises contravene closure notice

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Breach of supervision order	Found on enclosed premises – unlawful purpose	Resist or obstruct constable – locals act
					Buy/attempt buy liquor behalf person under 18 in a bar	Game-trespass in daytime in search of game	Resist or obstruct constable – police act 1996
					Carrying a loaded or unloaded in a public place	In charge motor vehicle: failure to provide breath/lab specimen	Sell alcohol to person aged under 18 - licensing
					Communications act 2003	In charge of motor vehicle: excess alcohol in body	Sports events: being drunk in sports ground
					Detainee fail/refuse sample class A drug test	In charge of motor vehicle whilst unfit: drink	Temp released prisoner unlawfully at large
					Dog dangerously o/of control-owner's liability	Indecent exposure	Use violence to enter premises
					Drunk and disorderly	Keeping animal in breach of disqualification	Wasting police time
		Public order	Miscellaneous	Non-notifiable	Cause or proc act result animal	Cruelty to animals	

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					suffering unnecessarily		
		Traffic offences	Miscellaneous	Non-notifiable	Drive or attempt – excess alcohol in body	Drive or attempt whilst unfit – drugs	Drive/attempt fail to provide preliminary breath specimen
					Drive or attempt whilst unfit – drink	Drive/attempt & fail provide breath or lab specimen	Driving whilst disqualified
					Drive or attempt whilst unfit – drink or drugs		
				Other crime	Dangerous driving		
	Other crime	Abduction	Miscellaneous	Other crime	False imprisonment	Kidnapping	
		Fraud	Fraud and forgery	Fraud and forgery	Conspiracy to defraud not cheque or card	Obtain money transfer by cheque or card fraud	Pass counterfeit coin or note as genuine
					False rep – cheque or card fraud	Obtain money transfer deception not cheque/card	Poss/cont fals/improp obt id card or which rela
					False rep – not cheque or card fraud	Obtain property by cheque or card fraud	Possess counterfeit coin or note

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Forgery of prescription for scheduled drug	Obtain property by deception not cheque or card	Possess/control article(s) for use in fraud(s)
					Fraud forgery etc. associated insurance certificate	Obtain services by cheque or card fraud	Use forged instrument
					Fraud forgery etc. associated registered & licensed documents	Obtain services by deception not cheque or card	Use forged prescription to obtain sched drug
					Make off without payment		
		Justice	Miscellaneous	Other crime	Abscond from lawful custody		
		Miscellaneous	Miscellaneous	Other crime	Attempt to pervert the course of public justice	Fail to comply with notification order-sex off	Outraging public decency
					Bomb hoax – communicating false information	Going equipped for stealing	Participate in prison mutiny – p security act
					Breach of anti-social behaviour order	Harming threat to harm witness	Perjury

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Breach of non-molestation order dom.vio.crim&vi	Intimidate intend to intimidate a witness	Prevent lawful.decnt burial body without lawful cause
					Committing an act outraging public decency	Intimidate juror/witness/person assisting enquiry	Prohibited person possess air weapon
					Endangering safety of aircraft	Obstruct officer or furnish false information	Public nuisance – common law
					Escape – assist escape from lawful custody		
		Public order	Miscellaneous	Other crime	Affray		
		Robbery	Miscellaneous	Other crime	Blackmail		
Property	Burglary/ robbery	Burglary	Domestic burglary	Domestic burglary	Burglary dwelling – aggravated	Burglary dwelling steal or w/I steal/damage	Burglary dwelling w/I g-b-h or use/threat violence
			Non-domestic burglary	Other burglary	Burglary aggravated other building	Burglary other steal or with intent to steal/damage/g-b-h	
	Theft/ handling	Theft	Other theft	Handling	Handling stolen good – receiving	Handle stolen good – undertake or assist	

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
				Other theft	Abstract electricity	Take conveyance other than motor vehicle or pedal cycle	Theft from automatic machine or meter
					Acquired criminal property – money launder	Take or ride pedal cycle without consent	Theft of conveyance other than motor vehicle or pedal cycle
					Convert criminal property – proceeds of crime	Theft – by employee	Theft of mail bag or postal packet
					Possess criminal property – money launder	Theft – non specific	Theft steal in dwelling not auto machine/meter
					Proceeds of crime – tipping off – money launder	Theft – of pedal cycle	Use criminal property - money launder
					Remove criminal property – proceeds of crime	Theft – steal from the person	
				Shoplifting	Theft – from shop/stall – shoplifting		
			Theft from vehicle	Theft from vehicle	Theft – from vehicle other than motor vehicle	Theft – from motor vehicle	

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
			Theft of vehicle	Theft of vehicle/TWOC	Aggravated vehicle taking	Theft of motor vehicle	Unauthorised taking of a motor vehicle
					Aggravated vehicle taking damage only		
			Vehicle interference	Vehicle interference	Vehicle interference (criminal attempts act)		
Sexual	Sexual offences	Sexual	Sexual offences	Sexual offences	Commit an offence w/I to commit a sexual offence	Sexual assault on a female	Sexual activity with female child under 16
					Exposure – sexual offences act 2003	Sexual assault on a female by penetration	Sexual assault of a female child under 13
					Indecent assault on female 16 and over	Cause/incite male child under 13 engage sexual act	Sexual assault of female child under 13 by penetration
					Rape of a female aged 16 or over	Indecent assault on female under 16	
Violent	Burglary/ robbery	Robbery	Robbery	Robbery	Assault with intent robbery – business property	Robbery business property	Robbery personal property

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
					Assault with intent robbery – personal property		
	Violence/ against the person	Abduction	Abduction	Other violence	Abduction		
			Harassment	Harassment	Cause fear or provocation of violence section 4	Harassment/stalking without fear violence	Racially aggravated fear provocation violence
					Cause intentional harassment alarm distress section 4a	Harassment alarm or distress Section 5	Racially aggravated harassment alarm distress
					Harassment/stalking breach of injunction	Racial/religious agg harass alarm or distress	Racially aggravated intentional alarm distress
					Harassment/stalking breach restraining order	Racial/religious agg int harass alarm/distress	Section 4a sign etc. to harass alarm distress
					Harassment/stalking put in fear of violence		
			Threats to kill	Other violence	Threats to kill		

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
		Cause injury	ABH	Other assault	Assault occasioning ABH Section 47		
			Assault	Common assault	Assault on a consTable – Police act 1996	Assault on person assisting constable – summary	Racially aggravated common assault
					Assault # on consTable - local acts	Common assault and battery	Resist/obstruct designated/accredited person
					Assault design/accredtd pers-police ref act 2002		
				Other assault	Administer poison	Malicious woundings section 20	Racially aggravated GBH
					Assault w/I resist arrest or person assist PC	Owner per ic allow dog injure in public place	Would or inflict GBH without intent section 20
					Inflicting GBH without intent section 20	Racially aggravated actual bodily harm	
				Serious assault	Causing danger to road users		

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence		
			Other violence	Other violence	Assist apprehension offender in murder case	Cruelty to person under 16	
				Other crime	Violent disorder		
				Non-notifiable	Violent behaviour in a police station		
		Weapons	Possession of weapon	Other violence	Have article with blade or point public place	Possession of firearm imitating firearm w/I fear violence	Possessing offensive weapon in public place
					Have article with blade or point school premise		
				Other crime	Possess a handgun – prohibited weapon	Possess/distribute prohibited weapon discharge noxious liquid	Possess/distributed other prohibited weapons
Violent target offences							
Violent	Violence/against the person	Serious violent	Attempted murder	Other violence	Attempt to murder		
			GBH	Serious assault	Wound or cause GBH with intent to		

4 Crime Types	8 Crime Types	15 Crime Types	24 Crime Types	Police: General offence	Police: Specific offence	
					do GBH section 18	
			Homicide	Homicide	Murder of a person 1 year or over	Murder of a person under the age of 1 year

Appendix B: Offence Definitions

Table B.1
Definitions of Offences

Offence Type	Definition
Abduction	A person connected with, or a stranger to, a child under the age of sixteen commits an offence if he takes or sends the child out of the United Kingdom without the appropriate consent.
Abscond	Any absconding once a person has been subjected to an arrest.
Actual bodily harm (ABH)	Any assault with injury, which is not GBH, and includes internal injury and shock (when accompanied by expert psychological evidence).
Affray	The person has used or threatened unlawful violence towards another, and his conduct is such as would cause a person of reasonable firmness, present at the scene, to fear for his personal safety.
Animal suffering	This includes: causing an animal to suffer unnecessarily; arranging, or attempting to arrange, an animal fight; administering poison to an animal; failing to ensure that the animal's welfare needs are met (as set out in the Animal Welfare Act 2006); and selling an animal to a person under 16 who is unaccompanied.
Arson	The act of deliberately setting fire to property, including buildings and vehicles. Any deliberate damage to property belonging to the respondent or their household caused by fire, regardless of the type of property involved.
Assault police	When a person assaults either a constable acting in the execution of his or her duty, or a person assisting a constable in the execution of his or her duty.
Assault robbery	When a person steals and immediately before or at the time of doing so, and in order to do so, force is used on any person and the victim is assaulted.
Attempted murder	Serious injury is caused, with an intention to kill, such as: calculated planning; selection and use of a deadly weapon; threats; severity or duration of attack.
Blackmail	Making an unwarranted demand with threats, with a view to making a gain or causing a loss.

Offence Type	Definition
Common assault	Common Assault is committed when a person either assaults another person or commits a battery. An assault is committed when a person intentionally or recklessly causes another to apprehend the immediate infliction of unlawful force. A battery is committed when a person intentionally and recklessly applies unlawful force to another. Including racially aggravated common assault.
Criminal damage	Results from any person who, without lawful excuse, destroys or damages any property belonging to another, intending to destroy or damage any such property or being reckless as to whether any such property would be destroyed or damaged.
Domestic burglary	An unauthorised entry into the victim's dwelling but does not necessarily involve forced entry; it may be through an open window, or by entering the property under false pretences (e.g. impersonating an official).
Driving offence	Includes dangerous driving, driving whilst unfit (drink or drugs) and driving whilst disqualified.
Drug offence	Includes possession of drug and possess drug with intent to supply (class a, b or c).
False imprisonment	The unlawful and intentional or reckless detention of the victim.
Fraud & forgery	Fraud is the intentional deception of a person or entity by another made for monetary or personal gain. Forgery includes the making of a fake document, the changing of an existing document, or the making of a signature without authorisation.
GBH	When there is clear evidence of a deliberate attempt to inflict serious bodily harm, regardless of level of injury sustained.
Handling	A person handles stolen goods if (otherwise than in the course of the stealing) knowing or believing them to be stolen goods he dishonestly receives the goods, or dishonestly undertakes or assists in their retention, removal, disposal or realisation by or for the benefit of another person, or if he arranges to do so.
Harassment	Incidents where no other substantive notifiable offence exists, but when looked at as a course of conduct are likely to cause fear, alarm or distress.
Homicide 1+	Includes murder and manslaughter. Manslaughter can be committed in one of three ways: killing with the intent for murder but where a partial defence applies, namely loss of control, diminished responsibility or killing pursuant to a suicide pact; conduct that was grossly negligent given the risk of death, and did kill, is manslaughter ("gross negligence manslaughter"); and conduct taking the form of an unlawful act involving a danger of some harm, that resulted in death, is manslaughter ("unlawful and dangerous act manslaughter"). Murder is where a person, of sound mind and discretion (i.e.

Offence Type	Definition
	sane), unlawfully kills (i.e. not self-defence or other justified killing) any reasonable creature (human being) in being (born alive and breathing through its own lungs), under the Queen's Peace, with intent to kill or cause GBH.
Homicide infanticide	Where a woman, by any willful act or omission, causes death of her child being a child under the age of 12 months, but at the time of the act or omission the balance of her mind was disturbed by reason of her not having fully recovered from the effect of giving birth to the child.
Kidnapping	The crime of unlawfully seizing and carrying away a person by force or fraud, seizing and detaining a person against his or her will with an intent to carry that person away at a later time.
Non-notifiable	Includes many incidents that might generally be considered to be “anti-social behaviour” but that may also be crimes in law (including bye-laws) such as littering, begging and drunkenness. Other non-notifiable offences include drunk and disorderly, parking offences, wasting police time and TV license evasion.
Other assault	Includes administer poison, causing danger to road users, malicious woundings and racially aggravated ABH.
Other burglary	Includes burglary aggravated other building and burglary other steal.
Other crime	Includes attempt to pervert the course of public justice, bomb hoax, breach of anti-social behaviour order, outraging public decency, endangering safety of aircraft, intimidate witness, perjury and public nuisance.
Other theft	Includes abstract electricity, acquired criminal property, possess criminal property, theft by employee, theft of pedal cycle and theft from automatic machine or meter.
Other violence	Includes assist apprehension offender in murder case, cruelty to person under 16 and violent disorder.
Robbery	An incident in which force or threat of force is used in a theft or attempted theft.
Sexual offences	Includes indecent exposure, sexual threats and unwanted touching (‘less serious’), rape or assault by penetration including attempts (‘serious’), by any person including a partner or family member, on a female 16 or over.
Sexual offences under 16	Includes indecent assault on female under 16 and sexual activity with female child u16.
Theft from vehicle	Refers to both theft of parts and accessories of motor vehicles and to theft of contents.
Theft of vehicle	Where the vehicle is driven away illegally, whether or not it is recovered.
Threat to kill	Where an individual fears that the offender’s threat is real and may be carried out.

Offence Type	Definition
Vehicle interference	Includes crimes where, whilst damage has been caused to the vehicle as part of an attempt to steal either the vehicle or its contents or take the vehicle without consent, the specific intent of the offender is not obvious.
Weapon	Includes possession of firearms with intent, possession of other weapons and possession of article with blade or point.

*Definitions obtained from The Crown Prosecution Service (n.d.), Home Office (2011), The National Archives (n.d.)

Appendix C: Descriptive Details of the SV Sample: Offenders By Gender and SV Offence Type

Table C.1

Age of SV Offenders with Previous Convictions Only, According to Gender and Target Offence

			At First Offence			At Target Offence		
Target offence	**Gender**	***N***	**Mean (SD)**	**Median**	**Range**	**Mean (SD)**	**Median**	**Range**
AMH	Male	82	25.71 (10.94)	23.00	10-60	29.57 (10.44)	27.00	16-61
	Female	8	18.63 (6.99)	17.50	11-33	23.13 (7.61)	22.00	16-40
GBH	Male	877	21.31 (9.70)	18.00	8-67	25.51 (9.74)	22.00	12-68
	Female	141	23.16 (10.12)	20.00	9-53	27.29 (10.25)	25.00	13-60

Table C.2

Frequency of Offending, According to Gender and Target Offence

			Pre-cons only		
Target offence	**Gender**	***N***	**Mean (SD)**	**Median**	**Range**
AMH	Male	82	9.59 (15.43)	4.00	1-99
	Female	8	9.00 (6.82)	8.50	1-21
GBH	Male	877	7.92 (12.14)	4.00	1-168
	Female	141	5.62 (6.77)	4.00	1-50

Table C.3

Summary of AMH/GBH Male/Female Offenders According to Level of Chronicity

Offenders	Rare (1-2)	Occasional (3-5)	Repeat (6-10)	Chronic (11-19)	Career (20+)
AMH Male (*n* = 82)					
No. of offenders	37	14	12	6	13
%	45.1%	17.1%	14.6%	7.3%	15.9%
Cumulative %	45.1%	62.2%	76.8%	84.1%	100.0 %
AMH Female (*n* = 8)					
No. of offenders	2	0	3	2	1
%	25.0%	0	37.5%	25.0%	12.5%
Cumulative %	25.0%	0	62.5%	87.5%	100.0 %
GBH Male (*n* = 877)					
No. of offenders	292	235	159	113	78
%	33.3%	26.8%	18.1%	12.9%	8.9%
Cumulative %	33.3%	60.1%	78.2%	91.1%	100.0 %
GBH Female (*n* = 141)					
No. of offenders	53	42	28	10	8
%	37.6%	29.8%	19.9%	7.1%	5.7%
Cumulative %	37.6%	67.4%	87.2%	94.3%	100.0 %

Table C.4

Types of Previous Convictions for AMH Interaction

Offences	**N[6]**	**% Male Offenders (*n* = 124)**	**% Male Offenders with pre-cons (*n* = 82)**	**N**	**% Female Offenders (*n* = 8)**
No pre-cons	42	33.9	-	-	-
4 categories					
Violence	55	44.4	67.1	5	62.5
Property	42	33.9	51.2	6	75.0
Other	61	49.2	74.4	7	87.5
Sexual	1	0.8	1.2	-	-
8 categories					
Burglary/robbery	27	12.8	32.9	-	-
Criminal damage	35	28.2	42.7	5	62.5
Drug	29	23.4	35.4	1	12.5
Non-notifiable	40	32.3	48.8	4	50.0
Other crime	18	14.5	22.0	3	37.5
Sexual offences	1	0.8	1.2	-	-
Theft/handling	38	30.6	46.3	4	50.0
Violence	53	42.7	64.6	5	62.5
15 categories					
Abduction	24	19.4	29.3	2	25.0
Burglary	24	19.4	29.3	-	-
Cause injury	36	29.0	43.9	5	62.5
Drugs	29	23.4	35.4	1	12.5
Fraud	6	4.8	7.3	-	-
Justice	-	-	-	-	-
Miscellaneous	36	29.0	43.9	4	50.0
Property damage	35	28.2	42.7	5	62.5
Public order	10	8.1	12.2	3	37.5
Robbery	3	2.4	3.7	-	-
Serious violent	6	4.8	7.3	3	37.5
Sexual	-	-	-	-	-
Theft	38	30.6	46.3	6	75.0
Traffic	12	9.7	14.6	-	-
Weapon	9	7.3	11.0	1	12.5
24 categories					
Abduction	-	-	-	-	-
ABH	31	25.0	37.8	5	62.5
Arson	1	0.8	1.2	1	12.5
Assault	16	12.9	19.5	3	37.5
Attempted murder (as pre con)	1	0.8	1.2	-	-
Criminal damage	35	28.2	42.7	4	50.0

[6] Offender could appear under more than one offence type (e.g. multiple previous convictions)

Offences	**N[6]**	**% Male Offenders (*n* = 124)**	**% Male Offenders with pre-cons (*n* = 82)**	**N**	**% Female Offenders (*n* = 8)**
Domestic burglary	13	10.5	15.9	-	-
Drug	29	23.4	35.4	1	12.5
Fraud	6	4.8	7.3	-	-
GBH (as pre con)	5	4.0	6.1	2	25.0
Harassment	22	17.7	26.8	1	12.5
Homicide (as pre con)	-	-	-	1	12.5
Miscellaneous	24	19.4	29.3	3	37.5
Non domestic burglary	17	13.7	20.7	-	-
Non-notifiable	34	27.4	41.5	4	50.0
Other theft	35	28.2	42.7	6	75.0
Other violence	2	1.6	2.4	-	-
Possession of weapon	9	7.3	11.0	1	12.5
Robbery	3	2.4	3.7	-	-
Sexual	1	0.8	1.2	-	-
Theft from vehicle	9	7.3	11.0	-	-
Theft of vehicle	11	8.9	13.4	-	-
Threats to kill	3	2.4	3.7	1	12.5
Vehicle interference	6	4.8	7.3	-	-

Table C.5
Types of Previous Convictions for GBH Offenders

	N[7]	% Male (*n* = 1193)	% Male with pre-cons (*n* = 877)	N	% Female (*n* = 198)	% Female with pre-cons (*n* = 141)
No pre-cons	316	26.5	-	57	28.8	-
4 categories						
Violence	680	57.0	77.5	108	54.5	76.6
Property	404	33.9	46.1	59	29.8	41.8
Other	663	55.6	75.6	87	43.9	61.7
Sexual	10	0.8	1.1	-	-	-
8 categories						
Burglary/robbery	198	16.6	22.6	14	7.1	9.9
Criminal damage	387	32.4	44.1	35	17.7	24.8
Drug	268	22.5	30.6	26	13.1	18.4
Non-notifiable	384	32.2	43.8	53	26.8	37.6
Other crime	188	15.8	21.4	24	12.1	17.0
Sexual offences	10	0.8	1.1	-	-	-
Theft/handling	364	30.5	41.5	55	27.8	39.0
Violence	672	56.3	76.6	106	53.5	75.2
15 categories						
Abduction	275	23.1	31.4	33	16.7	23.4
Burglary	172	14.4	19.6	10	5.1	7.1
Cause injury	579	48.5	66.0	93	47.0	66.0
Drugs	269	22.5	30.7	26	13.1	18.4
Fraud	40	3.4	4.6	9	4.5	6.4
Justice	1	0.1	0.1	-	-	-
Miscellaneous	353	29.6	40.3	48	24.2	34.0
Property damage	388	32.5	44.2	35	17.7	24.8
Public order	113	9.5	12.9	14	7.1	9.9
Robbery	58	4.9	6.6	6	3.0	4.3
Serious violent	69	5.8	79	9	4.5	6.4
Sexual	9	0.8	1.0	-	-	-
Theft	364	30.5	41.5	56	28.3	39.7
Traffic	122	10.2	13.9	7	3.5	5.0
Weapon	120	10.1	13.7	4	2.0	2.8
24 categories						
Abduction	3	0.3	0.3	-	-	-
ABH	487	40.8	55.5	74	37.4	52.5
Arson	27	2.3	3.1	2	1.0	1.4
Assault	292	24.5	33.3	51	25.8	36.2
Attempted murder (as pre con)	5	0.4	0.6	1	0.5	0.7

[7] Offender could appear under more than one offence type (e.g. multiple previous convictions)

	N[7]	% Male (*n* = 1193)	% Male with pre-cons (*n* = 877)	N	% Female (*n* = 198)	% Female with pre-cons (*n* = 141)
Criminal damage	381	31.9	43.4	35	17.7	24.8
Domestic burglary	93	7.8	10.6	6	3.0	4.3
Drug	269	22.5	30.7	26	13.1	18.4
Fraud	40	3.4	4.6	9	4.5	6.4
GBH (as pre con)	60	5.0	6.8	8	4.0	5.7
Harassment	251	21.0	28.6	29	14.6	20.6
Homicide (as pre con)	4	0.3	0.5	-	-	-
Miscellaneous	247	20.7	28.2	25	12.6	17.7
Non domestic burglary	125	10.5	14.3	4	2.0	2.8
Non-notifiable	327	27.4	37.3	47	23.7	33.3
Other theft	304	25.5	34.7	53	26.8	37.6
Other violence	21	1.8	2.4	4	2.0	2.8
Possession of weapon	120	10.1	13.7	4	2.0	2.8
Robbery	57	4.8	6.5	6	3.0	4.3
Sexual	10	0.8	1.1	-	-	-
Theft from vehicle	84	7.0	9.6	1	0.5	0.7
Theft of vehicle	108	9.1	12.3	8	4.0	5.7
Threats to kill	29	2.4	3.3	3	1.5	2.1
Vehicle interference	20	1.7	2.3	1	0.5	0.7

Appendix D: Descriptive Details of the Control Sample

Age at first offence (within the dataset) and age at target offence. At the time of committing the first offence, control offenders (*n* = 1406) were, on average, 21.40 years old (*SD* = 9.81, *Mdn* = 18.00), with ages ranging from six to 64 years. When being charged with the target offence, the mean age of perpetrators was 26.22 years (*SD* = 9.89, *Mdn* = 23.00), with the youngest offender being 12 years and the oldest being 68 years.

Frequency of offending. The average number of previous convictions was 6.83 (*SD* = 10.88, *Mdn* = 3.00) for control offenders, with offenders committing a minimum of one prior offences and a maximum of 154 crimes.

Chronicity of offenders. The largest proportion of offenders were categorised as rare offenders (38.5%), with the fewest classified as career criminals (6.9%). The remaining offenders were distributed across the categories of occasional (27.4%), repeat (16.8%) and chronic (10.4%) criminals.

Table D.1

Types of Previous Convictions for Control Offender

	N[8]	**% Offenders with pre-cons (*n* = 1406)**
No pre-cons	**0**	-
4 categories		
Other	1079	76.7
Property	735	52.3
Sexual	26	1.8
Violent	904	64.3
8 categories		
Burglary/Robbery	250	17.8
Criminal damage	547	38.9
Drug offence	408	29.0
Non-notifiable	550	39.1
Other crime	257	18.3
Sexual Offences	27	1.9
Theft/Handling	681	48.4
Violence	896	63.7
15 categories		
Abduction	364	25.9
Burglary	223	15.9
Cause injury	726	51.6
Drugs	408	29.0
Fraud	123	8.7
Justice	1	0.1
Miscellaneous	493	35.1
Property damage	548	39.0
Public order	87	6.2
Robbery	53	3.8
Serious violent	-	-
Sexual	22	1.6
Theft	683	48.6
Traffic	148	10.5
Weapons	108	7.7
24 categories		
Abduction	1	0.1
Arson	38	2.7
Assault occasioning actual bodily harm (ABH)	551	39.2
Assault	380	27.0
Attempted murder	-	-
Criminal damage	533	37.9
Domestic burglary	124	8.8

[8] Offender could appear under more than one offence type (e.g. multiple previous convictions)

	N[8]	% Offenders with pre-cons (*n* = 1406)
Drug offences	408	29.0
Fraud and forgery	123	8.7
GBH	-	-
Harassment	355	25.2
Homicide	-	-
Miscellaneous	273	19.4
Non-domestic burglary	148	10.5
Non-notifiable	463	32.9
Other theft	611	43.5
Other violence	22	1.6
Possession of weapon	108	7.7
Robbery	52	3.7
Sexual offences	26	1.8
Theft from vehicle	90	6.4
Theft of vehicle	131	9.3
Threats to kill	21	1.5
Vehicle interference	23	1.6

Descriptive Details of the Control Sample: Male Offenders

Age at first offence (within the dataset) and age at target offence. A total of 959 male offenders formed the control sample and were matched according to age and year of the offence, to the target offences of those in the SV sample. At the time the target offence was committed, the mean age of the control group was 25.86 years old (*SD* = 9.85), with a median age of 23 years; the youngest offender recorded was 12 years and the oldest was 68 years old. The mean age of male general perpetrators at the time of the first offence that was recorded in the database was 20.86 years (*SD* = 9.92) and the median age was 17 years, with the ages ranging from seven to 64 years.

Frequency of offending. The number of prior convictions ranged from one (*n* = 188), two (*n* = 169), three (*n* = 122) to 139 (*n* = 1), with a mean of 6.65 (*SD* = 10.13) and a median of 4.00.

Chronicity of offenders. Most male offenders, in the control sample, were categorised as rare (37.2%) or occasional (29.5%) offenders. Smaller proportions of males were identified as repeat (16.9%) and chronic (9.7%) offenders, with the fewest classified as career offenders (6.7%).

Table D.2

Types of Previous Convictions for Male Control Offenders

	N	% Male Control Offenders (*n* = 959)
4 categories		
Other	765	79.8
Property	476	49.6
Sexual	24	2.5
Violent	636	66.3
8 categories		
Burglary/Robbery	193	20.1
Criminal damage	428	44.6
Drug offence	298	31.1
Non-notifiable	369	38.5
Other crime	176	18.4
Sexual Offences	25	2.6
Theft/Handling	438	45.7
Violent	632	65.9
15 categories		
Abduction	259	27.0
Burglary	174	18.1
Cause injury	502	52.3
Drugs	298	31.1
Fraud	74	7.7
Justice	-	-
Miscellaneous	325	33.9
Property damage	428	44.6
Public order	70	7.3
Robbery	39	4.1
Serious violent	-	-
Sexual	20	2.1
Theft	438	45.7
Traffic	121	12.6
Weapons	95	9.9
24 categories		
Abduction	1	0.1
Arson	31	3.2
Assault occasioning actual bodily harm (ABH)	380	39.6
Assault	261	27.2
Attempted murder	-	-
Criminal damage	416	43.4
Domestic burglary	94	9.8
Drug offences	298	31.1
Fraud and forgery	74	7.7
GBH	-	-
Harassment	251	26.2

	N	% Male Control Offenders (*n* = 959)
Homicide	-	-
Miscellaneous	217	22.6
Non-domestic burglary	122	12.7
Non-notifiable	298	31.1
Other theft	373	38.9
Other violence	15	1.6
Possession of weapon	95	9.9
Robbery	39	4.1
Sexual offences	24	2.5
Theft from vehicle	78	8.1
Theft of vehicle	117	12.2
Threats to kill	16	1.7
Vehicle interference	21	2.2

Descriptive Details of the Control Sample: Female Offenders

Age at first offence (within the dataset) and age at target offence. A total of 447 general female offenders formed the control sample and were matched according to age and year of the offence, to the target offences of those in the SV sample. When the SV target offence was committed, the average age of the control group was 26.99 years old (*SD* = 9.94) and the median age was 24 years, with the youngest offender recorded as 13 years and the oldest being 60 years old. The mean age of female general perpetrators, at the time of the first offence that was recorded in the database, was 22.56 years (*SD* = 9.47) and the median age was 20 years.

Frequency of offending. Within this sample of female control perpetrators, the number of previous convictions stretched from one to 154, with a median score of three and an average of 7.22 (*SD* = 12.35).

Chronicity of offenders. The majority of control female perpetrators were classified as rare offenders (41.1%), subsequently followed by occasional offenders (22.8%). A smaller proportion of control females were assigned as repeat (16.6%), chronic (11.9%) and career (7.4%) offenders.

Table D.3

Types of Previous Convictions for Female Control Offenders

	N	% Female Control Offenders (*n* = 447)
4 categories		
Other	314	70.2
Property	259	57.9
Sexual	2	0.4
Violent	268	60.0
8 categories		
Burglary/Robbery	57	12.8
Criminal damage	119	26.6
Drug offence	110	24.6
Non-notifiable	181	40.5
Other crime	81	18.1
Sexual Offences	2	0.4
Theft/Handling	243	54.4
Violent	264	59.1
15 categories		
Abduction	105	23.5
Burglary	49	11.0
Cause injury	224	50.1
Drugs	110	24.6
Fraud	49	11.0
Justice	1	0.2
Miscellaneous	168	37.6
Property damage	120	26.8
Public order	17	3.8
Robbery	14	3.1
Serious violent	-	-
Sexual	2	0.4
Theft	245	54.8
Traffic	27	6.0
Weapons	13	2.9
24 categories		
Abduction	-	-
Arson	7	1.6
Assault occasioning actual bodily harm (ABH)	171	38.3
Assault	119	26.6
Attempted murder	-	-
Criminal damage	117	26.2
Domestic burglary	30	6.7
Drug offences	110	24.6
Fraud and forgery	49	11.0
GBH	-	-
Harassment	104	23.3

Homicide	-	-
Miscellaneous	56	12.5
Non-domestic burglary	26	5.8
Non-notifiable	165	36.9
Other theft	238	53.2
Other violence	7	1.6
Possession of weapon	13	2.9
Robbery	13	2.9
Sexual offences	2	0.4
Theft from vehicle	12	2.7
Theft of vehicle	14	3.1
Threats to kill	5	1.1
Vehicle interference	2	0.4

Appendix E: Comparisons Between Gender and SV offences

Table E.1

Age of SV Offenders with Previous Convictions Only, According to Gender and Target Offence

			At First Offence			At Target Offence		
		N	**Mean (SD)**	**Median**	**Range**	**Mean (SD)**	**Median**	**Range**
AMH	Male	82	25.71 (10.94)	23.00	10-60	29.57 (10.44)	27.00	16-61
	Female	8	18.63 (6.99)	17.50	11-33	23.13 (7.61)	22.00	16-40
GBH	Male	877	21.31 (9.70)	18.00	8-67	25.51 (9.74)	22.00	12-68
	Female	141	23.16 (10.12)	20.00	9-53	27.29 (10.25)	25.00	13-60

A comparison of offender age, according to gender and offence type.

When all offenders were included in the analysis (n = 1523), significant differences were detected between offenders at the age of the TO, H (3) = 36.84, p <.001. The Holm's Bonferroni adjustment was applied and MWU tests identified which groups of offenders significantly differed; specifically, GBH male offenders (M = 25.99, SD = 10.13) were significantly younger than AMH male offenders (M = 33.38, SD = 14.67), U = 49794.50, Z = -6.003, p < .001, r = .12). When only offenders with previous convictions were included in the analysis (n = 1108), offenders significantly differed in age when convicted for the TO, H (3) = 17.57, p < .01; further analyses identified that AMH male perpetrators were significantly older (M = 29.57, SD = 10.44) than GBH male (M = 25.51, SD = 9.74) offenders, U = 26621.00, Z = -3.897, p < .001, r = .12. Furthermore, a significant difference was found in terms of the age of the offender at the time of committing the first offence, H (3) = 18.82, p < .001 (pre cons only). MWU tests identified significant differences; when Holm's Bonferroni correction was applied, the difference was identified between GBH male and AMH male perpetrators, U = 26445.50, Z = -3.972, p < .001, r = .12; GBH male offenders were significantly younger at the time of committing their first offence.

Table E.2

Number of Previous Convictions

		All SV Offenders				Pre-cons only		
		N	**Mean (SD)**	**Median**	**Range**	***N***	**Mean (SD)**	**Median**	**Range**
AMH	Male	124	6.34 (13.33)	1.50	0-99	82	9.59 (15.43)	4.00	1-99
	Female	8	9.00 (6.82)	8.50	1-21	8	9.00 (6.82)	8.50	1-21
GBH	Male	1193	5.82 (11.00)	2.00	0-168	877	7.92 (12.14)	4.00	1-168
	Female	198	4.01 (6.25)	2.00	0-50	141	5.62 (6.77)	4.00	1-50

A comparison of number of previous convictions, according to the SV offence and gender. When all offenders were included in the analysis, significant differences were reported in terms of the number of previous convictions, H (3) = 10.96, $p < .05$; in particular, AMH females had statistically more previous convictions (M = 4.01, SD = 6.25) than GBH female offenders (M = 9.00, SD = 6.82), U = 9375.50, Z = -2.558, $p < .05$, r = -.18. However, when only those offenders who had been convicted of a previous crime were compared, no significant differences were detected.

Chronicity. Rare offenders were the most likely categorisation for AMH male (45.1%), GBH male (33.3%) and GBH female (37.6%) offenders, with AMH female perpetrators being classified as repeat offenders (37.5%; see Table E.3). No offenders, within the AMH female sample, were recorded as occasional offenders, yet this was also a common category for AMH male (17.1%), GBH male (26.8%) and GBH female (29.8%) perpetrators.

Table E.3

Summary of AMH/GBH Male/Female Offenders According to Level of Chronicity

	Rare (1-2)	**Occasional (3-5)**	**Repeat (6-10)**	**Chronic (11-19)**	**Career (20+)**
AMH Male (*n* = 82)					
No. of offenders	37	14	12	6	13
%	45.1%	17.1%	14.6%	7.3%	15.9%
Cumulative %	45.1%	62.2%	76.8%	84.1%	100.0 %
AMH Female (*n* = 8)					
No. of offenders	2	0	3	2	1
%	25.0%	0	37.5%	25.0%	12.5%
Cumulative %	25.0%	0	62.5%	87.5%	100.0 %
GBH Male (*n* = 877)					
No. of offenders	292	235	159	113	78
%	33.3%	26.8%	18.1%	12.9%	8.9%
Cumulative %	33.3%	60.1%	78.2%	91.1%	100.0 %
GBH Female (*n* = 141)					
No. of offenders	53	42	28	10	8
%	37.6%	29.8%	19.9%	7.1%	5.7%
Cumulative %	37.6%	67.4%	87.2%	94.3%	100.0 %

Table E.4

Significant Comparisons of Male and Female, AMH and GBH Offenders for Four Offence Categories, Using Chi-square Analysis

Previous offences	**AMH Male (*n* = 82)**	**AMH Female (*n* = 8)**	**GBH Male (*n* = 877)**	**GBH Female (*n* = 141)**	**X2**	**Sig.**
Other	74.4%	87.5%	75.6%	61.7%	12.940	.005**

** p < .01

Table E.5

Significant Comparisons of Male and Female AMH/GBH Offenders for Eight Offence Categories, Using Chi-square Analysis

Previous offences	**AMH Male (*n* = 82)**	**AMH Female (*n* = 8)**	**GBH Male (*n* = 877)**	**GBH Female (*n* = 141)**	**X2**	**Sig.**
Burglary/robbery	32.9%	0.0%	22.6%	9.9%	20.272	.000***
Criminal damage	42.7%	62.5%	44.1%	24.8%	20.103	.000***
Drugs	35.4%	12.5%	30.6%	18.4%	11.257	.010**

** p < .01, *** p < .000

Table E.6

Significant Comparisons of Male and Female AMH Offenders for 15 Offence Categories, Using Chi-square Analysis

Previous offences	**AMH Male (*n* = 82)**	**AMH Female (*n* = 8)**	**GBH Male (*n* = 877)**	**GBH Female (*n* = 141)**	**X2**	**Sig.**
Burglary	29.3%	0.0%	19.6%	7.1%	20.925	.000***
Property damage	42.7%	62.5%	44.2%	24.8%	20.292	.000***
Cause injury	43.9%	62.5%	66.0%	66.0%	16.182	.001**
Weapon	11.0%	12.5%	13.7%	2.8%	13.546	.004**
Drugs	35.4%	12.5%	30.7%	18.4%	11.365	.010**
Serious violent	7.3%	37.5%	7.9%	6.4%	10.172	.017*
Traffic	14.6%	0.0%	13.9%	5.0%	10.192	.017*

* p < .05, ** p < .01, ***p < .001

Table E.7

Significant Comparisons of Male and Female AMH Offenders for 24 Offence Categories, Using Chi-square Analysis

Previous offences	**AMH Male (*n* = 82)**	**AMH Female (*n* = 8)**	**GBH Male (*n* = 877)**	**GBH Female (*n* = 141)**	**X2**	**Sig.**
Criminal damage	42.7%	50.0%	43.4%	24.8%	17.773	.000***
Homicide (as pre con)	0.0%	12.5%	0.5%	0.0%	26.864	.000***
Non-domestic burglary	20.7%	0.0%	14.3%	2.8%	19.370	.000***
Theft from vehicle	11.0%	0.0%	9.6%	0.7%	13.727	.003**
Possession of weapon	11.0%	12.5%	13.7%	2.8%	13.546	.004**
Drugs	35.4%	12.5%	30.7%	18.4%	11.365	.010*
Vehicle interference	7.3%	0.0%	2.3%	0.7%	10.275	.016*
ABH	37.8%	62.5%	55.5%	52.5%	9.838	.020*
Domestic burglary	15.9%	0.0%	83.0%	5.4%	9.432	.024*

* $p < .05$, ** $p < .01$, *** $p < .001$

Appendix F: Specialisation. Interaction: Gender versus SV Offence Type

Table F.1

The Specialisation Threshold According to The Interaction of SV Offence Type and Gender

	100%	≤ 75%	≤ 50%	50/50	Generalist
4 categories					
AMH Male	17.7 (11)	16.1 (10)	38.7 (24)	16.1 (10)	11.3 (7)
AMH Female	0	16.7 (1)	50.0 (3)	16.7 (1)	16.7 (1)
GBH Male	16.7 (120)	12.8 (92)	42.1 (302)	14.2 (102)	14.2 (102)
GBH Female	18.4 (19)	17.5 (18)	42.7 (44)	10.7 (11)	10.7 (11)
8 categories					
AMH Male	9.7 (6)	4.8 (3)	25.8 (16)	21.0 (13)	38.7 (24)
AMH Female	0	16.7 (1)	50.0 (3)	0	33.3 (2)
GBH Male	12.3 (88)	7.5 (54)	32.9 (236)	12.8 (92)	34.5 (248)
GBH Female	14.6 (15)	15.5 (16)	37.9 (39)	10.7 (11)	21.4 (22)
15 categories					
AMH Male	9.7 (6)	1.6 (1)	22.6 (14)	21.0 (13)	45.2 (28)
AMH Female	0	0	50.0 (3)	0	50.0 (3)
GBH Male	8.9 (64)	5.4 (39)	23.8 (171)	13.6 (98)	48.2 (346)
GBH Female	12.6 (13)	14.6 (15)	33.0 (34)	7.8 (8)	32.0 (33)
24 categories					
AMH Male	8.1 (5)	1.6 (1)	21.0 (13)	19.4 (12)	50.0 (31)
AMH Female	0	0	33.3 (2)	0	66.7 (4)
GBH Male	6.5 (47)	3.6 (26)	18.8 (135)	14.9 (107)	56.1 (403)
GBH Female	5.8 (6)	10.7 (11)	29.1 (30)	11.7 (12)	42.7 (44)

A comparison of DI scores in the interaction between gender and SV offence type. DI scores for each of the offender subgroups are shown in Table F.2. When comparing the SV offenders in the sample, according to gender and the type of SV offence committed, no significant differences were detected when calculating the DI score for the four offences categorisation schemes ($p = .190$). The investigation of the DI, in terms of eight crime categories, demonstrated a significant difference between the offenders, $H(3) = 11.503$, $p < .01$; this difference was found between GBH male and GBH female offenders, $U = 30334.00$, $z = -3.017$, $p < .01$, $r = -0.11$, with GBH males being more diverse in their offending.

Table F.2

The Diversity Score According to The Interaction of SV Offence Type and Gender

		Diversity Index							
		4 categories		8 categories		15 categories		24 categories	
	N	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**	**Mean (SD)**	**Median**
AMH Male	62	.480 (.240)	.500	.613 (.238)	.667	.639 (.250)	.750	.665 (.245)	.750
AMH Female	6	.611 (.086)	.667	.681 (.097)	.708	.765 (.079)	.800	.788 (.072)	.800
GBH Male	718	.481 (.229)	.500	.586 (.249)	.667	.637 (.238)	.667	.669 (.225)	.750
GBH Female	103	.458 (.231)	.500	.537 (.239)	.500	.574 (.245)	.667	.633 (.201)	.667

Furthermore, when applied to 15 offence types, the DI score was found to differ between the SV perpetrators, H (3) = 14.599, $p < .01$; upon further analyses, the statistically significant findings were located between GBH male and GBH female perpetrators, U = 29280.00, z = -3.470, $p < .01$, r = - .12, and AMH female and GBH female offenders, U = 129.00, z = -2.458, $p < .05$, r = 0.24. In both instances, GBH females showed a lesser degree of versatility, than GBH male and AMH female perpetrators.

Moreover, in the comparison of the DI between the offender groups, applying 24 categories to the criminal history presented a significant finding, H (3) = 10.203, $p < .05$; specifically, GBH male offenders were more likely to demonstrate diversity in their offending history, compared to GBH females, U = 30631.00, z = -2.855, $p < .01$, r = - .10.

Table F.3

Correlations between frequency of offending and the diversity index, according to the interaction between SV offence type and gender

		4 categories	**8 categories**	**15 categories**	**24 categories**
	N	r_s	r_s	r_s	r_s
AMH Male	62	.774***	.898***	.920***	.934***
AMH Female	6	.828*	Non sig	Non sig	Non-sig
GBH Male	718	.697***	.823***	.862***	.889***
GBH Female	103	.574***	.681***	.705***	.739***

***p < .001, ** p < .005, * p < .001

Table F.4

Correlations between the age of the offender at the first offence and the diversity index, according to the interaction between SV offence type and gender

		4 categories	**8 categories**	**15 categories**	**24 categories**
	N	r_s	r_s	r_s	r_s
AMH Male	62	-.443***	-.474***	-.429**	-.486***
AMH Female	6	Non-sig	Non-sig	Non-sig	Non-sig
GBH Male	718	-.236***	-.152***	-.154***	-.203***
GBH Female	103	Non-sig	Non-sig	Non-sig	Non-sig

***p < .001, ** p < .005, * p < .001

Table F.5

Correlations between the age of the offender at the TO and the diversity index, according to the interaction between SV offence type and gender

		4 categories	**8 categories**	**15 categories**	**24 categories**
	N	r_s	r_s	r_s	r_s
AMH Male	62	-.278*	-.297*	-.256*	-.304*
AMH Female	6	Non-sig	Non-sig	Non-sig	Non-sig
GBH Male	718	-.094*	Non-sig	Non-sig	Non-sig
GBH Female	103	Non-sig	Non-sig	Non-sig	Non-sig

***$p < .001$, ** $p < .005$, * $p < .001$