Opportunities for physical assault in the night-time economy in England and Wales, 1981 - 2011/12

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OPPORTUNITIES FOR PHYSICAL ASSAULT IN THE NIGHT-TIME ECONOMY IN ENGLAND AND WALES, 1981 - 2011/12

By
Laura Louise Garius

A Doctoral Thesis

Submitted in partial fulfilment of the requirements for the award of

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September, 2015

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NVIVO Word Cloud: 100 most frequently used words within the thesis
Abstract

Building on a growing body of research linking an opportunity framework to drops in acquisitive crime and most recently, acquisitive violence, the present thesis extends this framework to the downward trajectory of night-time economy violence in England and Wales, during the phenomenon of the crime drop.

Using secondary data analysis of the Crime Survey for England and Wales, the rate of stranger and acquaintance violence within the night-time economy is found to have halved between 1995 and 2011/12; mirroring the dramatic declines experienced by other crime types within England and Wales, and more widely across other westernised countries. Disaggregating this overarching trend by offence and victim characteristics reveals a reduction in alcohol-fuelled, common assaults between young males, occurring in and around the drinking venues of the night-time economy, and during weekends, to be the main driver of the drop.

Boden, Fergusson and Horwood (2013) argue that to date there is limited knowledge surrounding the nature of alcohol-related violence. The present research explores the nexus between alcohol and violence through a situational lens. The opportunistic nature of night-time economy violence is identified through offenders’ choice of tools (weapons) and selection of targets, as well as the clustering of violence along certain spatial, temporal, and individual, dimensions. The opportunity structure of night-time economy violence is established using multivariate modelling techniques designed to isolate the role of opportunity in assault-victimisation, and resultant severity, from the personal characteristics of the actors involved.

Measures of a ‘risky lifestyle’, characterised by an increase in routine activities that take respondents away from the safety of the home, are found to be the strongest predictors of assault victimisation-risk across every available sweep of the survey. A significant shift in population lifestyle - namely a significant net decline in routine engagement with the drinking venues of the night-time economy, as well as a shift in the gender and age composition of drinking venue patronage - co-varies with the decline in night-time economy violence. However, residual effects of respondents’ socio-demographic characteristics on victimisation-risk, after mediating for differences in lifestyle, presents violent victimisation in the night-time economy as a result of a process by which personal traits interact with criminogenic environments.

Personal characteristics, however, are weaker in their prediction of offence severity in the night-time economy. Rather, the present research supports a collection of research identifying the context of violence to be the strongest predictor of violent dispute escalation (Brennan, Moore & Shepherd, 2010; Marcus and Reio, 2002).

Key words: crime prevention; physical assault; violence; night-time economy; alcohol-fuelled violence; crime drop; opportunity theory; routine activity theory; rational choice perspective; risky lifestyle
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1. Chapter One Introduction

This chapter seeks to establish the existence of two remarkable phenomena. First, that crime rates in England and Wales, as well the rest of the western world, have been in decline since the mid-1990s (Flatley, Kershaw, Smith, Chaplin & Moon, 2010). Second, that no one ‘except a handful of academic specialists’ has noticed (Tonry, 2014, p. 1). Whilst crime had been steadily increasing since the Second World War, victimisation data show that a dramatic decline across a wide range of property, personal and violent crimes began around 1995; with many crime types having now fallen by 50% or more (ONS, 2013). Crime continued to fall throughout the 2008 recession (Tonry, 2014); challenging every traditional criminological theory that links a poor economy to an increase in crime. Despite data on both sides of the Atlantic showing crime to have been in decline for over twenty years, the public perception is that paradoxically, crime is increasing. This chapter presents evidence of a public ‘perception gap’ (Duffy, Wake, Burrows & Bremner, 2008) and explores why the ‘crime drop’ phenomenon has escaped the attention of politicians, policy makers, criminologists, mass-media, and the public (Mooney & Young, 2006). Several possible explanatory factors are discussed, including the role of confidence in government figures, as well as the ‘distorting lenses’ of media coverage and political climate. However, Rosenfeld (2002) argues that before we can seek explanations for the dramatic decline in crime, the first step in unravelling the crime drop conundrum is to establish whether it happened at all.

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1.1. Background: The Crime Drop Conundrum
A steep and pervasive decline in crime began in the mid-1990s in England and Wales. There has been a 45% drop in the overall crime rate, a 49% reduction in violent crimes (Walker, Flatley, Kershaw & Moon, 2009) and a 7% drop during the recessional period alone (Travis, 2010). It has been described as a “striking development” by some (Tonry, 2005: 1) and a “miracle” by others (Mooney & Young, 2006, p. 398). This phenomenon is not unique to England and Wales – with the majority of industrialised countries also experiencing substantial crime decline since the 1990's1 (Tonry, 2005; Van Dijk & Tseloni, 2012). Emerging research suggests that the international crime drop may have spread even beyond westernised countries (Knepper, 2012; Tseloni et al., 2012). Del Frate and Mugellini (2012) propose that between 1990 and 2007 there was also a pervasive crime drop amongst many non-western nations; though evidence of the decline’s global nature remains less clear (LaFree, Curtis & McDowall, 2015).

The phenomenon of the 1990s is even more remarkable against a backdrop of rising crime, with crime rates steadily increasing after the Second World War and continuing to do so for the proceeding three decades (Farrell et al., 2010; Gurr, 1981; Thome & Birkel 2007). Moreover, the crime drop was directly preceded by a

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1 There remains mixed evidence regarding the experience of Switzerland within the context of an international crime drop phenomenon (Killias and Lanfranconi, 2012; Eisner, 2008).
decade of the steepest rise in violence (Machin & Meghir, 2004). The 1980s and early 1990s were characterised by steep increases in violent offences - with crimes recorded by police in England and Wales surpassing the 5 million mark in 1991: the “largest numerical increase since records had begun” (Mooney, 2003, p. 104). With this fresh in the minds of criminologists, and with similar increases witnessed across the US and Western Europe, academics on both sides of the Atlantic warned that the 1990s and 2000s would be characterised by ballooning crime rates and “30,000 more young muggers, killers and thieves” (Wilson, 1995 cited in The Economist, 2011, p. 1). If the earlier upward trend had indeed continued, it would have cost many more lives and millions more pounds, but as dramatically as crime had increased, it began its decline at an equally dramatic rate (Blumstein, Rivara & Rosenfeld, 2000). As the 1990s progressed a question that had been ‘unimaginable’ ten years earlier emerged: “why is the crime rate dropping?” (Travis & Waul, 2002, p. iii).

Tonry (2014, p. 2) argues that to date the question of why crime fell has yet to be definitively answered; adding that since few people have actually acknowledged the phenomenon, “this is not entirely surprising”. Evidence exists to suggest that the UK crime drop is not well documented, nor in the public’s consciousness (Mooney & Young, 2006). Tonry (2014, p. 1) observes that almost no one ‘except a handful of academic specialists’ have observed that crime rates are falling throughout the western world. Before this trend has been fully understood, there are fears that the factors causing the trend, and thus the trend itself, are about to go into reverse. Rosenfeld (2002) concedes that the crime drop is time-limited and Travis and Waul (2002, p. 20) reiterate that “crime cannot continue to fall indefinitely”. Public fear regarding an imminent crime wave accelerated as we prepared to re-enter economic recession (Fox, 2010). A ‘double-dip’ into economic downturn was predicted to have occurred by the first quarter of 2012 by the OECD (Organisation for Economic Co-Operation and Development). Whilst recent Office for National Statistics (ONS) figures indicate that the double-dip recession did not in fact materialise (Fleming, 2013), there remains concern for the stability of the economic climate. A fear of trend-reversal heightens the incentive to decipher the sub-trends and correlates of crime decline in order to both sustain decline, and forestall increase. Whilst little consensus has been reached concerning the causes of the crime drop (discussed in chapter 2), Rosenfeld (2002, p. 25) argues that “the first step in unravelling the mystery of the crime decline is to determine whether it happened at all”.

1.1.1. A “Surprising State Of Denial”

The reaction of Britain’s mass media, general public, politicians and policy makers to the dramatic decline in crime has been “a somewhat surprising state of denial” (Mooney & Young, 2006, p. 398). Tonry (2014, p. 1) describes a lack of awareness surrounding the crime drop as ‘curious’ and continues:

It should be seen everywhere as good news. Fewer people are victimised. Fewer are arrested, prosecuted, convicted, and punished. Hospital emergency rooms handle fewer intentional injuries. Insurance companies compensate fewer losses. Politicians have less incentive to propose and policy makers to adopt severe policies aimed at pleasing, placating, or pacifying an anxious public.
In contrast, the upward spiral of crime through the 1960 to the early 1990s, described by Pinker (2011, p. 107) as ‘the flood of violence’, is well-documented. The pattern of rapidly rising crime rates occurring after the Second World War is especially well studied within Western Europe as well as in the United States (LaFree et al., 2015; Eisner, 2008). As such, crime’s downward trajectory was both unexpected and unpredicted (Hall, 2013; Aebi & Linde, 2014). Even as crime had begun its statistical nose dive, British tabloids were dominated by doom-laden headlines warning of ‘credit crunch crime waves’ (Slack, 2009) and a surge of juvenile ‘super predators’ (Butts & Travis, 2002). Such predictions had foundations in a legitimate fear that the explosion of crime observed in the 1980s - with the acceleration of crime rates in England and Wales between the late 1970s and mid 1990s exceeding that of any other European country (Machin & Meghir, 2004) - would continue. According to the Crime Survey for England and Wales\(^2\) (CSEW), burglary and serious assault alone had more than doubled between 1981 and 1993 (Farrington & Jolliffe, 2004) – with vehicle theft increasing by almost two-thirds. Such increases were also being experienced in the US, but by 1995 England and Wales had surpassed US crime rates across all serious crimes categories (Langan & Farrington, 1998): with such rates showing no signs of slowing. The fact that the drop occurred against this backdrop of increasing crime, and arrived ‘hot on the heels’ of a decade of rapidly increasing crime, may explain why such dramatic declines remain difficult to digest (LaFree, 1999).

Zimring, now a leading expert on the legitimacy of the crime drop, had initial doubts about the validity of the trend whilst in its embryonic stages (Conklin, 2003). Some academics continue to consider the drop to be a fluctuation in the natural crime cycle (Conklin, 2003, p. 27), or to be an artificial reflection of either changes to reporting or recording practices, or government-led pressure to manipulate crime figures (Dixon, Rogers, Reed & Stone, 2006; Attewill, 2011). Some consider the drop in crime to be a simple regression to the mean, with Pinker (2011) and Eisner (2003; 2008) positing the ‘flood of violence’ (the thirty year period of rising crime between 1960 –1990) to be an anomaly or ‘blip’ in a long-term historical crime decline occurring over the past eight centuries.

1.1.2. Mind the Perception Gap

Whilst some remain sceptical of the significance of the drop, evidence capturing the public perception of crime suggests that the vast majority remain unaware that it occurred (Babb, Butcher, Church & Zealey, 2006). A decade into crime’s downward trajectory, the 2004/5 sweep of the Crime Survey for England and Wales (CSEW) revealed that only 6% of the population believed crime to be decreasing. There is a shrinking public awareness of the crime drop, and moreover, the public fear of crime is seen to be increasing in tandem with the level of crime decreasing (Babb et al., 2006; ONS, 2015). Roberts and Hough (2005) describe that the public’s perception of crime, and the reality on the ground, have been at odds with one another for many years. So dubbed the perception gap, this phenomenon sees individuals consistently over estimate their risk of victimisation (Roberts & Hough, 2005). A number of studies have found that indeed the fear of crime is weakly

\(^2\) Formerly the British Crime Survey (BCS)
correlated with objective measures of crime, and that public perceptions of crime do not embody an accurate response to current crime rates (Hale, 1996; Farrall, Gray & Jackson, 2007; Lorenc et al., 2013). However, the perception of crime to be soaring, whilst it perpetually falls, differs drastically in direction and not simply degree (Duffy et al., 2008; Jansson et al., 2007).

As well as being an essential tool for estimating the level of crime in England and Wales, the now annual ‘Crime Survey for England and Wales’ (CSEW) also asks a number of questions examining people’s perception of crime in their local area and in the country nationally (ONS, 2015). Findings from the CSEW consistently demonstrate that whilst crime has been falling since a peak in 1995, the majority perceive that crime across the country as a whole has been rising (Figure 1.1).

![Figure 1.1. Gap between actual crime and the belief that crime is increasing (Nicholas, Kershaw & Walker, 2007)](image)

This perception gap has continued into the most recent 2013/14 survey, with 61% of adults believing that crime has increased over the last few years (ONS, 2015). We can also look to other sources to establish the existence of a perception gap: namely the Ipsos-Mori political poll⁴, which shows ‘crime’ as the highest priority by a considerable distance when members of the public are asked to list their most important issues (Duffy et al., 2008). Crime placed 20 percentage points higher than any other issue, which represented one of the largest jumps in any issue (Duffy et al., 2008, p. 19).

The perception gap phenomenon can also be broken down into perceptions of crime locally and crime nationally: illustrated by breaking down the findings from the 2012/13 CSEW sweep. Where the large majority (61%) of respondents perceived crime in the country as a whole to have risen over the past few years, only 32% of respondents perceived that crime had risen in their local area (ONS, 2015). Previous sweeps of the CSEW survey have highlighted similar gap (ONS, 2015), revealing that a second perception gap exists between the local and national perceptions of crime. Duffy et al. (2008) identifies that a double perception gap is not unique to perceptions about crime - nor is the phenomenon unique to England and Wales (Roberts & Stalans, 1998). Possible explanations for the local versus national perception bias include issues of scale: as

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Pattie and Johnston (1995) argue that local and national perceptions of crime differ as they are formed by two competing categories of influence: (1) egotropic influence refers to direct experiences and observations of crime victimisation, and (2) sociotropic influence refers to external or ‘outside’ influences that condition or manipulate an individual’s perception of crime in society. The CSEW demonstrates that respondents are “more positive in relation to their local area than for their country as a whole” (Mohan, Twigg and Taylor 2011, p. 1036). This second perception gap, which consistently places the national situation as radically worse than the area in which people reside (Duffy et al., 2008, p. 24), suggests that increasing fear of crime is less to do with increasing egotropic (real world) experiences of crime, but instead more to do with sociotropic influences – including news readership, media intake and political policy (Mohan et al., 2011). People’s perceptions, in an absence of official statistics and knowledge of crime rate behaviour, are inevitably ‘refracted’ through these “distorting lenses” (Mohan et al., 2011, p. 1036).

(1) Political Populism

Hope (2003) deliberates why one of the most significant trends in crime has had no impact on the levels of fear. Hope (2003, p.14) continues that “it is even more remarkable that no one has taken this fact particularly seriously and instead has allowed the public to continue in the belief that crime rates are spiralling out of control”. One possible explanation may be found in political-media cycle; propelled by party motivation to exploit public fear of crime as part of a well-rehearsed ‘tough on crime’ rhetoric (Brake & Hale, 1992; Duffy et al., 2008). Labour came into power in 1997 (two years after the start of the decline), yet the drop was neither recognised nor celebrated (Mooney & Young, 2006, p. 398). Hope (2003, p. 14) argues such “uncharacteristic bashfulness” on the part of politicians as an effort to avoid a Conservative drop in crime interrupting Labour’s ‘tough on crime’ mantra (Hope, 2003, p. 14). Irwin, Austin and Baird, (1998, p. 32) argue “long since have politicians benefited greatly from campaigns that promise to get tough on crime by locking up as many people as possible”. Such policies have proven to be overwhelmingly popular - beginning with Margaret Thatcher’s Conservative government and its promise to instil ‘law and order’ via increasingly punitive policies (Brake & Hale, 1992). Such punitive propaganda was an “integral part of their success”, despite presiding over a decade of ballooning crime rates (Brake & Hale, 1992, p. 1). Thatcher’s government assigned blame for the 1980s crime boom to a breakdown of the family; “single unmarried mothers… breeding a generation of fatherless and rootless children” (Brown, 2005, p. 58). Moral panic was stimulated by persistent negative media coverage of youth (Margo & Stevens, 2008). The ‘Conservative breed’ of criminology built a picture of ‘youth as a problem’, which Brake and Hale (1992) argue, was a legacy passed on to the government under John Major.
The ‘tough on crime, tough on the causes of crime’ message was first used in a major speech by Tony Blair as Shadow Home Secretary in 1992 (Duffy et al., 2008). However, the landmark event of February, 1993 - whereby two year old James Bulger was kidnapped and murdered by two 10-year-old boys (Macintyre, 1993) - is said to have sealed the public perception of ‘problem youth’, and to have sparked an even greater punitive response (Brown, 2005). Tonry (2010, p. 387) claims that Labour’s introduction of Anti-Social Behaviour Orders [ASBOs] under the Crime and Disorder Act, 1998, and the mass media coverage it was afforded, served to drive fears of anti-social behaviour to levels higher than those before ASBOs were introduced.

Youths find themselves as a naturally crime prone demographic, with criminality peaking at 18-19 for males (Margo & Stevens, 2008). Whilst youths contributed an estimated 32% to the 1980s increase in crime, they also account for 58% of more recent crime decline (Butts & Travis, 2002). Tonry (2010) argues that despite the crime drop, we continue to increase our punitive response and to propel the fear of youth in a media-political populism cycle: stigmatising a generation based on the actions of individual cases. Indeed an explanation offered for the ‘perception gap’ is the disproportionate political and media focus on certain high profile, or ‘signal’ crimes (Innes, 2004): including the case of James Bulger and more recently, the case of Rhys Jones (Duffy et al., 2008). The number of similarly extreme offences have also been in decline, and are exceptionally rare: thus, whilst direct (egotropic) experiences of these serious signal crimes are very infrequent, their lasting impact on the public perception of crime is a result of extensive media coverage (Duffy et al., 2008). The findings from the August, 2007 political poll - which saw ‘crime’ jump the record 20 points to become the highest priority of the British public (Ipsos-Mori, 2007) - were directly linked to media coverage of the shooting of 11 year old Rhys Jones in Liverpool (Duffy et al., 2008, p. 19) which had occurred on the 22nd August, 2007. Overarching crime trends may be being lost to the “torrent of individual, high profile crimes”: with individual homicide cases, particularly those involving women and children, featured so frequently and prominently in the media that “they become long running stories with a familiar cast of characters” (Reiner, 2006, p. 310). Such cases are also seen to spark ‘memorial’ laws such as Sarah’s Law4, in response to perceived failings in the criminal justice system (Griffin & Stitt, 2010). Griffin and Stitt (2010, p. 57) argue that instead, high-profile cases should be interpreted through a ‘random activities’ criminological perspective, “in which tragic cases are framed as rare, but statistically inevitable ‘Black Swans’ instead of justice system failures”.

(2) Media Influence

Extensive research has been conducted into the relationship between criminal behaviour and the media: more specifically, whether violence on-screen influences violence off-screen (Reiner, 2006). Brown (2003) claims that the current focus of research distracts from the true nature of the relationship, which lies in the mass media’s cultivation of fear and public anxiety via an increasingly violent portrayal of society. The British media

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4 The Child Sex Offender Disclosure Scheme, more widely known as ‘Sarah’s Law’, was introduced by the Home Office in 2008 in response to the murder of eight year old Sarah Payne in 2000, and a subsequent News of the World Campaign.
have been accused of deliberately “fanning the flames of fear” (Krisberg, Guzman & Vuong, 2009, p. 7); exploiting public anxieties about the economy, employment and anti-social behaviour (Young, 2003). LaFree (1998, p. 1325) argues that the remarkable downward trajectory remained “scarcely visible” behind a barrage of media attention devoted to crime. Rosenfeld (2002, p. 25) agrees that news of crime decline continues to be drowned out by “the media drumbeat of murder and mayhem”.

The public are inundated with ‘horror stories’ about crime (Butts, 2008, p. 8), with a large body of research demonstrating that media coverage of crime in particular is biased towards the negative (Duffy et al., 2008). Studies examining media content find a disproportionate focus on stories of serious crime against the person, with particular attention awarded to homicide and sexual offences (Duffy et al., 2008; Marsh, 1991). An over-representation of violence is seen to occur across both tabloids and broadsheets (Marsh, 1991). William and Dickinson (1993) observed that over a single time period, 64.5% of crime stories featured extreme violence, where the CSEW showed serious crime to constitute less than 6% of crime.

Butts (2008) stresses the ‘shock value’ attributed to homicide – and with stories concerning death and homicide amassing 38% of BBC crime news (Cumberbatch, Woods & Maguire, 1995, p. 25). Fictional and factual television programming, as well as cinema, also feature a disproportionate level of violent crime unreflective of real world trends (Lichter, Lichter & Rothman, 1994; Reiner, 2006). Moreover, the relative share of fiction and non-fiction programming featuring crime, investigation, and prosecution in Western European media, is experiencing a marked increase (Pfeiffer, Windzio & Kleimann, 2005). Media access is simultaneously increasing, as technological advancements breed 24 hour news and provide up to the minute headlines (Cohen, 2002; Reiner, 2006). Increasing media-convergence, whereby the internet provides a single medium for the delivery of information, communication, and entertainment (Frieden, 2014) - coupled with the widespread proliferation of internet-connected consumer devices (mobile phones, tablets, Smart TVs) – facilitates access to ‘any content, anywhere, at any time’ (Schnapp, 2013, p. 1). Mass-media continues to grow as a major sociotropic (external) influence on public perceptions: with 95% of people identifying the media as their primary source of information (Weitzer & Kubrin, 2004). In regards to perceptions of crime nationally, news programming on TV and the radio were the most cited source of information (67% of respondents) in the 2012/13 CSEW sweep (ONS, 2015). Indeed there is mounting evidence that the public’s perception of rising crime, and the gap between views of the local and national situation, are due in large part to the fictional and factual representation of crime in the media (Brown, 2003; Duffy et al., 2008; Pfieffer et al., 2005).

The media’s dice are “loaded in favour of dominant interests” (Reiner, 2006, p. 329). News and other information about human society is marketed according to its ‘news value’ (Reuband, 2000, p. 51). Crime is “not just a staple of general news reporting, but also a conscious choice of subject for the purpose of competing with other media” (Reuband, 2000, p. 43). Twenty-four hour news fosters a sense of public ownership, which instils a profit-driven supply and demand dynamic between public and press – known as ‘market-driven journalism’ (McManus, 1994): Author Bill Chambliss talks of the “systematic attempt to make the problem of
crime as bad as the data will allow” (cited in Young, 2003, p. 37). Butts (2008) evidences statistical ‘cherry picking’ (a method of choosing information that supports an argument) and gives the example that as robbery figures decrease, the media’s focus subsequently shifts onto an alternative crime type. Journalists often reference government data, but utilise narrow time frames or analyse specific crime types in order to mask the wider context (Young, 2003). This process lends to a misrepresentation of national crime trends and exacerbates an existing distrust of government figures (Dixon et al., 2006).

(3) Lies, Damn Lies, and Crime Statistics

“It is vital to measure crime accurately if we are to tackle it effectively” (Rt Hon David Blunkett, 2001)

The perception gap may also be due in part, to a lack of trust in government data and the use of statistics in particular (Duffy et al., 2008). Whilst New Labour repeatedly rehearsed a legacy of increasing crime, inherited from the Conservative term (1990 -1997), the then-Conservative Home Secretary Michael Howard publically refuted this accusation and claimed that under his tenure crime actually fell (Reiner, 2007). Reiner (2007, p. 4) argues that neither party made claims based on untruths, “just different damned statistics”. Whilst Labour used the Crime Survey for England and Wales (CSEW) as the foundations for their success story, the Conservatives used police recorded crime statistics for theirs. The two crime measures follow one another until 1991, where under the CSEW, crime continues to rise until 1995 and then fall dramatically to the lowest rate since the survey began. Under police recorded statistics, the crime drop begins in 1992 and had a significantly shorter duration of just over five years, with crime resuming its climb in 1997/8 and continuing to increase thereafter (Figure 1.2).

This pattern is not exclusive to crime figures from England and Wales: a universal disparity between police records and victimisation survey data exists: with official police recorded crime consistently showing a ‘less rosy picture’ (Travis, 2005, p. 1). Police statistics are subject to “administrative practices and the public’s propensity to report offences” (Brake & Hale, 1992, p. 96). Tonry (2014) argues that net changes in both victim
reporting and police recording practices - including a shift from paper to electronic record keeping within the police (Mastrofsky & Willis 2010) - served to artificially increase crime rates. Smith and Allen (2004) ascribe one-third of the disparity to victim reporting practices, and two-thirds to police recording practices.

*Reporting* practices can influence police figures - for example a seven-fold increase in rape observed between 1981 and 1999 (Farrington & Jolliffe, 2004) has not been linked to an epidemic of sexual offenders, but is attributed to an increase in reporting; tracking closely improvements in the treatment of rape victims and heightened police awareness (Brake & Hale, 1992). In a cycle termed the ‘deviancy amplification spiral’ an individual is more likely to report crime if crime rates appear to be increasing (Brake & Hale, 1992, p. 97) – thus high crime figures breed higher crime figures. Another instance of reporting practices’ propensity to skew results can be described as the ‘incivility’ paradox. Areas (or individuals) that experience ‘incivilities’ and incidents of crime more regularly, have a decreased sensitivity to crime and do not register minor incidents as crimes (Young, 2003, p. 37). This demonstrates that whilst the definitions of crime and recording practices can be standardised, the perception of victimisation is subject to societal and cultural norms. The fluidity of cultural tolerance-thresholds over time is seen to influence reporting activities and composite crime figures: with some behaviours now regarded as appropriately reported to police, regarded in earlier times as unpleasant or socially unacceptable, but not as reportable (Tonry, 2014).

Two pieces of legislation had direct effects on police recording practice, which may serve to explain the surge in police recorded crime whilst CSEW rates plummeted (Reiner, 2007). First, the 1998 Home Office Counting Rules introduced additional ‘notifiable crimes’ such as common assault. Second, the National Crime Recording Standards (2002) then served to boost official crime rates again with instruction for police to include all notifiable crime reports regardless of evidentiary basis (Reiner, 2007; Simmons & Dodd 2003). The Home Office estimates that this change alone inflated net crime rates by 10 % in 2002 (Simmons & Dodd, 2003), with this figure increasing to 23% by 2003 (Smith & Allen, 2004).

A second manifestation of the change in cultural thresholds is that the police record more of the incidents that come to their attention most frequently. Police themselves are also no less likely to be affected by changing tolerance thresholds (Tonry, 2014, p. 45): “they watch the same films and television programs, read the same electronic and print media, and are affected by the same changes in prevailing political and cultural attitudes”. Van Dijk, Tseloni and Farrell (2012, p. 305) conclude that:

> In times of declining rates of crime, police forces are inclined to lower their thresholds for recording cases of less serious crime. Crime recording in our view tends to be counter-cyclical. This institutional mechanism seems to account for the remarkable divergences over the past ten or fifteen years between survey results on assault and police figures on less serious violent crime in the US, Canada, several Western European countries, and Australia/New Zealand. Almost everywhere a degree of statistical net widening seems to have taken place, which has inflated the police count of violent crime. In our view, police figures of violent crime have, in recent years, been increasingly inflated
Changes in the reporting of crime to police, recording of crime by police, and cultural thresholds of tolerance, have collectively served to artificially increase official crime rates across all developed countries (Tonry, 2014): promoting distrust of official crime figures (Dixon et al., 2006). Victim surveys were originally conceived to combat scepticism regarding police statistics, and to dampen fears of rocketing crime rates (Brake & Hale, 1992). Free from reporting or recording biases associated with official crime figures, victim survey data shows a pervasive crime decline occurring in England and Wales (ONS, 2013), the US and Canada (Truman & Planty, 2012), and other westernised countries (Van Dijk, Van Kesteren & Smit, 2007; Van Dijk, 2008; Van Dijk et al., 2012): with recent research proposing the near global nature of the crime drop phenomenon (Knepper, 2012; Tseloni et al., 2012).

1.1.3. Evidencing the Crime Drop

A wealth of data exists to suggest that the crime drop phenomenon occurred across different crime types, demographic groups, and industrialised nations. McCall, Parker and MacDonald (2008) observe that the United States was the first to experience the decline in the early 1990s, with the phenomenon reaching British shores by the mid-1990s. Violent crime has experienced a 49% fall beginning in the mid-1990s (Travis, 2011) and property crime also followed suit, with perpetual falls year on year beginning even earlier than 1995 (Farrell, 2013). This continuous decline led crime rates to fall to their lowest levels since the victim survey began (Margo & Stevens, 2008).

Rosenfeld (2002) outlines a set of qualities that must characterise the crime drop for it to be considered an important trend and not simply a statistical anomaly or regression to the mean: a drop must be long-lasting, significant, and pervasive, in order to qualify. Zimring (2006) documents the “breadth, magnitude and longevity” of the drop (cited in Rosenfeld & Messner, 2009, p. 447). National victimisation surveys highlight that the crime drop permeated all demographic groups and regions (Zimring, 2006). Victimisation rates have fallen across different gender, age and ethnicity dimensions, and across both urban and rural areas (Rosenfeld, 2002) - demonstrating the pervasiveness of the crime decline. Furthermore, the substantial drops in violent and property crime were experienced across all developed countries (Tseloni, Mailley, Farrell & Tilley, 2010): including the majority of the EU, the United Kingdom, America, Canada and Australia. Tonry (2005, p. 8) describes the decline in crime as a phenomenon “that pays little attention to national boundaries”. The CSEW reveals that in the mid-1990s, the UK began to experience dramatic declines across a wide range of both property and violent crimes (ONS, 2013). England and Wales are the only countries outside of Scandinavia and the United States to have conducted long-standing, annual, victimisation surveys using large representative national samples (Tonry, 2008). Victim survey data from England and Wales, as well as research using the International Crime Victimisation Survey (Van Dijk et al., 2012), provide evidence that the crime drop is “long and deep enough to qualify as a trend” (Rosenfeld, 2002, p. 25).

Whilst victimisation data are increasingly recognised as more reliable than recorded crime (O’Brien, 2003), homicide figures are universally held as the most reliable measurement of crime: both because the indicator
is unambiguous and because trends can be validated by health statistics data (Tonry, 2014). Homicide data also demonstrates an increase from the mid-1960s until the early 1990s and a subsequent decline from that point (Aebi & Linde, 2014; Van Dijk et al., 2012). The drop in lethal violence is witnessed both sides of the Atlantic (Blumstein, 2000; Eisner, 2008), and research by Aebi and Linde (2012) found that homicide rates across ten European countries to be in decline between 1990 and 2007. Homicide rates, owing to the absence of reporting or recording bias (O’Brien, 2003), definitively illustrate the crime drop phenomenon. Tonry (2014) agrees that no informed person disagrees that lethal violence rose from various starting points in the 1950s and 1960s, peaked in the 1990s, and have since fallen. There is also little disagreement that property crime – including rates of burglary, theft, motor vehicle theft - has been falling since at least the 1990s in all Western countries (Baumer & Wolff, 2014; Farrell, Tilley & Tseloni, 2015; Lappi-Seppala & Lehti 2014; Van Dijk & Tseloni, 2012). However, disagreement does exist concerning trends in non-lethal violence and sexual offences (Tonry, 2014). The evidence appears to be more mixed: with English-speaking (and some other western European countries) experiencing sharp declines in robbery, rape, and aggravated assault since the early to mid-1990s, whereas rates of non-lethal violence in other western European countries appear to have remained stable since the early 1990s (Kivivuori 2014). Despite international evidence of a time delay in the drop of violent crime, non-lethal violence was experiencing substantial decline across all English-speaking countries by the 2000s (Tonry, 2014). Furthermore, within the UK the drops in violent and property are seen to be more parallel (Farrell, 2013). Tonry (2014, p. 35) concludes that “there is only one story: crime rates are falling throughout the developed Western world”. This presents criminologists with ‘uncomfortable questions’ around why crime is in decline (Knepper, 2015, p. 59).

1.2. Scope of Research
The present research examines trends in physical assault between 1981 and 2011/12 in the Crime Survey for England and Wales (CSEW), and specifically captures the phenomenon of the ‘crime drop’. The research focuses on physical assault - excluding its sexually and financially motivated counterparts (sexual assault/rape and robbery) – occurring in the night-time economy. The night-time economy is defined as the collection of businesses, commercial premises and public services operating after 6pm; a space routinely equated with an increase in incidents of interpersonal violence (Clarke et al., 1985; Felson, 1997; Graham & Homel, 2008; Hindelang et al., 1978; Homel, Carvolth, Hauritz, Mcllwain & Teague, 2004; Miethe, Stafford & Long, 1987). The present research observes overarching trajectories, and sub-trends of stranger and acquaintance violence in the context of the night-time economy. It examines how opportunities for this specific crime type are distributed in space and time, and amongst certain individuals. The research then explores whether opportunity-level characteristics can independently predict the occurrence, and escalation, of violent assaults, after being controlled for the personal characteristics of the actors involved: and whether this has changed over the course of the crime drop.
1.3. Research Aims
Examining interpersonal violence as opportunity-driven is challenged by traditional criminological interpretations of violence as ‘irrational’ and impervious to environmental cues (Felson & Clarke, 1998). The present study draws on a growing body of research which proposes that cues in the immediate environment dictate opportunities for both the occurrence, and escalation, of violent disputes (Marcus & Reio, 2002). Situational principles, and interventions, are argued to have a direct influence on the opportunity structure of crimes (Cornish & Clarke, 1986a), the stock of criminogenic opportunities, and the aggregate crime rates that result (Farrell, Clarke, Ellingworth & Pease, 2005). Therefore, the present research examines the opportunity structure of assaults in the night-time economy, and explores whether the opportunity structure of such incidents can explain aggregate rates of night-time economy violence over time.

1.3.1. Research Aim One
The first aim of the present research is to explore fluctuation in the stock of opportunities for assault in the night-time economy over the course of the crime survey: identifying both the overarching trajectory of physical assault in the night-time economy, and disaggregating this general trend by (1) offence characteristics and (2) victim characteristics. Several specific research questions were used to address this research aim:

**Research Question 1** Do incidence and prevalence rates of physical assault in the high-risk context of the night-time economy experience similarly dramatic declines to those experienced by other crime types in England and Wales?

**Research Question 2** How do the major offence-characteristics of night-time economy violence fluctuate between 1981 and 2012?

**Research Question 3** How do the major victim-characteristics of night-time economy violence fluctuate between 1981 and 2012?

1.3.2. Research Aim Two
A second overarching aim of the present research was to more rigorously test the opportunity structure of assault in the night-time economy; by observing whether opportunity-level characteristics can significantly explain (1) the risk of assault victimisation and (2) the risk of sustaining serious injury (wounding) when assault does occur. Several specific research questions were used to address this research aim:

**Research Question 4** What are the present day risk-factors of assault victimisation in the night-time economy?

**Research Question 5** Do opportunity-level variables (respondent lifestyles/routine activities) significantly and independently explain the likelihood of assault victimisation after controlling for personal-level variables (respondent socio-demographic characteristics), and does this vary during the crime drop?
Research Question 6 What are the present day risk-factors of assault severity in the night-time economy?

Research Question 7 Do opportunity-level variables (assault’s spatial-temporal dimensions and situational characteristics) significantly and independently explain the likelihood sustaining serious injury once assault occurs, after controlling for personal-level variables (victim/offender socio-demographic characteristics and the victim-offender relationship), and does this vary during the crime drop?

1.4. Chapter Outline
The structure of the thesis is as follows:

Chapter Two examines and evaluates the wide spectrum of theories offered as an explanation for the remarkable phenomenon of the 1990s. Several theories appear repeatedly rehearsed in the crime drop rhetoric: prison expansion; tightened gun control; and receding drug markets. However, evidence suggests that such theories may be specific to the US alone - with limited application to the experience of England and Wales, or other westernised nations which also experienced the decline. Farrell (2013) proposes five tests that potential crime drop hypotheses must pass in order to be considered viable. The existing crime drop hypotheses are examined against the five criteria in an effort to gage their merit. The theory seen to pass Farrell’s (2013) five criteria most successfully is that of the ‘security hypothesis’ - rooted in a situational/opportunity framework - positing that increases in the quantity and quality of security measures were instrumental in driving down opportunities for property crime (Farrell et al., 2008). It is this hypothesis, and the situational/opportunity framework in which it sits, that guide the remainder of the thesis. The application of a situational perspective to interpersonal, non-acquisitively motivated incidents of violence, remains largely absent from existing crime drop research to date: with violence perceived as less amenable to situational control (Clarke, 1997).

Chapter Three frames violence as opportunistic and subject to situational cues. Situational theories of crime, including routine activity theory, rational choice theory, and crime pattern theory, “explain criminal opportunity across different ecological units” (Ozer & Akbas, 2011, p. 180), but all contribute to the greater concept of situational criminology. The most distinctive feature of this discipline is that motivated offenders are observed as only one element in the explanation, and prevention, of opportunities for crime. The approach focuses on the vulnerability of certain targets to victimisation, and the capacity of certain environments to either facilitate, or provoke, opportunities for crime. The role of victims and their interaction with the environment or situation, are now understood to play a major role in determining the opportunity structure in which offences occur (Cornish & Clarke, 1986a), as well as the aggregate crime rates that result (Farrell et al., 2005). This chapter conceptualises the phenomenon of physical assault from the situational standpoint. First, by explaining the

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5 Also known as environmental criminology
decision-making processes of violent offenders - including the selection of suitable targets (victims) and modus operandi - in terms of a rational choice perspective. Second, by examining the situational characteristics of violent offences. This chapter provides the theoretical backbone of the thesis.

Chapter Four details the methodological and analytical approach adopted by the present research. Secondary data analysis of the Crime Survey for England and Wales (CSEW) was harnessed in order to isolate trends and predictors of physical assault between 1981 and 2011/12, using SPSS as the analytical tool. This chapter provides a rationale for the choice of data source, and outlines the methodology used to address the research aims and questions detailed herein. The decisions made at each stage of the secondary data analysis process are then presented: first, by outlining the selection, filtration, and preparation of the data available from the individual cycles of the CSEW; and second, by describing the rationale for, and techniques used, in the four major sub-sections of analysis.

Chapter Five provides an overview of the nature and extent of night-time economy violence in England and Wales between 1981 and 2011/12. Incidents of ‘night-time violence’ included stranger and acquaintance assaults occurring in and around drinking establishments, public entertainment venues, and public transportation, between 6pm and 6am; largely associated with the increased consumption of alcohol. The chapter first presents findings on the overarching incidence, and prevalence, of night-time economy assault in the CSEW, to establish the trajectory of this specific crime type in the context of an international crime drop. Second, the chapter examines the trends in night-time violence by its offence characteristics. The analysis of assault by its spatial, temporal and situational dimensions draws upon concepts of situational criminology (Nelson & Bromley, 2001). It explores patterns of assault and the nature of the environment in which assault occurs. In direct contrast to the wealth of existing literature around why violence occurs, the present analysis focuses on where, when, and how, assaultive violence occurs. This chapter examines how the stock of opportunities for night-time violence vary over time, and how these opportunities are distributed in space and time, thus contributing to our understanding of the crime drop in relation to violent crime.

Chapter Six builds on the offence characteristics presented in Chapter Five, by presenting the characteristics of the victims. This chapter presents trends in target-selection in the night-time economy over time, and examines factors influencing violent victimisation; whilst the tendency of existing literature has been to focus on the factors influencing violent offending (Loeber, 1988). Trends in the prevalence of night-time assault victimisation, disaggregated by respondents’ socio-demographic characteristics and lifestyle/routine activities, are presented. This chapter illustrates how opportunities for assault victimisation in the night-time economy are concentrated amongst respondents with certain personal-level (socio-demographic) and opportunity-level (lifestyle/routine activity) characteristics, and examines fluctuation in victim characteristics over the course of the crime survey.

Chapter Seven elevates the descriptive level analysis conducted in Chapters 5 and 6, by adopting multivariate inferential-level analysis to test the interaction between personal characteristics and opportunity-level
characteristics. Regression modelling techniques are used to evidence the opportunity structure of night-time economy violence. The independent explanatory power of opportunity-level characteristics when predicting night-time assault victimisation and escalation, after controlling for the personal characteristics of the actors involved in assault, are tested. The significant opportunity-level predictors of assault victimisation and severity were then tracked over the course of the crime drop: which then informed further analysis of significant fluctuations in population lifestyle during the course of the crime drop.

Chapter Eight summarises the conclusions of the current research, outlines implications for policy and prevention, and identifies appropriate areas for future research. Violence in the night-time economy is presented as a result of a process by which personal traits interact with criminogenic environments; illuminating areas for the targeted allocation of situational prevention measures in future, in order to drive down opportunities for the occurrence, and escalation, of violence in this high-risk context, further. The available information regarding trends in night-time economy violence over the period of the crime drop, isolated from the umbrella category of violence, is summarised, and a link to a net change in the volume, and composition, of night-time economy patronage, is explored.
2. Chapter Two Existing Theories

Despite the sustained decline in crime over the previous two decades, and despite much ‘imaginative scholarship’ (Farrell, Tseloni, Mailley & Tilley, 2011), a definitive explanation for the crime drop still eludes criminologists (Eisner, 2008; Morgan, 2014). With each successive drop, explanations multiplied and diversified (Spelman, 2005; Tonry, 2014) and today there remains little consensus surrounding the main driver of the 1990s phenomenon (Blumstein & Rosenfeld, 2008; Farrell, 2013; Farrell et al., 2015; Levitt, 2004; Tseloni et al., 2010). Existing crime drop theories range from centuries old ‘strain theory’ (Merton, 1938), which involves the equation of economic conditions and crime levels, to the recently developed ‘Security Hypothesis’, which suggests that modern innovations in security diminished the stock of opportunities for crime (Farrell et al., 2011a).

This chapter examines and evaluates the wide spectrum of theories offered as an explanation for the remarkable event of the 1990s; many of which are unique to the American experience of crime decline. However, Van Dijk et al. (2007) observe that the most striking feature of the drop is the international nature of the trend - and existing hypotheses are required to explain, or at least not contradict, the cross-national aspect of the decline in crime. Farrell (2013) suggests a total of five criteria that a suitable crime theory must accommodate; including specific variations in the timing and trajectory of declines observed both between countries, and within-countries.

Existing hypotheses can be broken down into five broad categories: (1) classic theories, which draw on variables repeatedly and historically linked to crime; (2) punitive responses, which look to the criminal justice system and policies and agencies of law enforcement; (3) motivated offender theories, which propose a net reduction in the stock of crime-prone individuals; (4) civilising processes, which hypothesise self-control to be the mechanism of crime decline; and (5) opportunity theories, which at the micro, macro and meso level, suggest that behavioural and environmental changes reduced the number of opportunities for crime to occur. This chapter will examine each of these categories in turn in an effort to gauge their merit as an explanation for the drop.

2.1. Five Tests for a Crime Drop Theory

The driver of the crime drop remains a mystery. Eisner (2008, p. 289) argues that this is not due to a lack of possible explanations, but rather that “there are too many, and those that we have often contradict each other”. Several seminal works appraise emerging theories of the crime drop, including: Levitt (2004), Blumfield and Rosenfeld (2008) and more recently, Farrell (2013). To isolate viable explanations that can successfully explain both the ‘striking uniformity’ of the international trend (Van Dijk et al., 2007), as well as specific variations in the way that certain crime types fell, Farrell (2013) puts forward five tests that potential crime drop hypotheses must pass in order to be considered viable.
The five tests are as follows (Farrell, 2013, p. 2):

1. The preliminary evidence test: Are there reasonable empirical grounds to consider the hypothesis, even if it is disputed?

2. The cross-national test: Can the hypothesis be applied to different countries (e.g. to Canada for hypotheses developed for the US)?

3. The prior crime increase test: Is the hypothesis compatible, or at least not in contradiction, with the fact that crime was previously generally increasing for several decades?

4. The phone theft and e-crimes test: Is the hypothesis compatible, or at least not in contradiction, with the fact that some crimes such as phone theft and e-crimes were increasing while many crime types were decreasing?

5. The varying trajectories test: Is the hypothesis compatible, or at least not in contradiction, with variation in the timing and trajectory of crime falls both between countries and between crime types?

Whilst the first obstacle for a candidate hypothesis is the ability to be quantitatively measured and 'empirically tested', the second obstacle is the 'cross-national test': whereby the hypothesis must be applicable to all westernised countries experiencing the drop, whilst simultaneously explaining those that did not (Farrell, 2013, p. 2): for example the anomalous cases of Switzerland and Sweden (Killias & Lanfranconi, 2012). A successful hypothesis must also explain the variations in timing and depth between countries that temper the uniformity of the international crime decline. Many of the existing theories are seen to fail the cross-national test as they are specifically US-focused. Tonry (2014) describes the parochial tendency to explain crime trends using distinctly American developments: including capital punishment, policing innovation, abortion legalisation, and a reduction in children’s exposure to lead. Such theories continue to dominate the global crime drop rhetoric (Young, 2003). An American exclusivism has been attributed to the earlier onset of the US crime drop (with rates falling as early as 1991) and the pioneering nature of US research (Farrell, 2013), as well as the reputation America had built as the violent crime capital; with crime having long been a “definitive characteristic of America” (Travis & Waul (2002, p. iii). For this reason, a sharp 40% drop in US homicide figures (Tseloni et al., 2010) monopolised the early direction of crime drop research.

Another stumbling block is that many theories focus on explaining the phenomenon of the 1990s and not the steady increase of crime since the 1960s, as well as the more dramatic ‘flood of violence’ experienced in the 1980s and early 1990s. The third ‘prior increase test’ dictates that whilst a crime drop hypothesis need not necessarily explain the increase in crime (as it could be due to different factors) it must not contradict the fact (Farrell, 2013, p. 2). The two remaining hurdles facing existing theories are the ‘variable trajectories test’ and the ‘phone-theft / e-crime test’ - which both illustrate the differences between crime types within-countries that viable explanations must account for, or at least not contradict (Farrell, 2013, p. 2). Many existing theories that propose either a net reduction in the overall offending population, or a change in the propensity of offenders to commit crime, fail to explain why crime decline is tempered by variation in the exact timing or depth of the decline between crime types (for example a time lag between the drop in property crime and violent crime).
Furthermore, many of these explanations fail to explain why certain offences, namely phone/electronic goods theft (Mayhew & Harrington, 2001) and e-crime (Farrell, 2013), actually buck the downward trend and are instead seen to be increasing. The next step is to hold existing theories of the crime drop against Farrell’s (2013) five conditions; starting with those theories most frequently correlated with trends in crime.

2.2. Classic Theories: The ‘Usual Suspects’

The first theories to be examined draw on variables historically linked to crime. Socioeconomic variables have been implicated in the crime drop, with researchers proposing a stronger economy and a receding crack-cocaine epidemic to have triggered the remarkable events of the 1990s (Gould, Weinberg, & Mustard, 2002).

2.2.1. Economic Conditions

A stronger economy and greater labour opportunity is hypothesised to deter property crime by making it less appealing (Gould et al., 2002). The correlation between economic conditions and crime is long-standing (Cantor & Land, 1985). Grounded in the notion that poverty is the root of crime, Merton’s (1938) classic sociological strain theory has been drawn upon by criminologists to connect a depressed economy with soaring crime rates (Macdonald, 2010). Indeed, Gould et al. (2002) argue that an economic boom occurring in the early 1990s was a major contributory factor to the drop in crime. Evidence is however mixed, with Spelman (2005, p. 134) concluding that the link between an improved economy and the crime decline is ‘tenuous’ at best, and with Krisberg et al. (2009, p. 2) going further to conclude that the relationship between a stronger economy and a reduction in crime is “inconsistent and insignificant”.

Examining historical trends does little to support the ‘conventional wisdom’ (The Economist, 2011). During the 1960s, both sides of the Atlantic were characterised by great prosperity, and simultaneous increases in crime (Macdonald, 2010). Britain’s economic recession began in 2008, and was accompanied by an influx of media-fuelled warnings of a ‘credit crunch crime wave’ (Macdonald, 2010). Recent sweeps of the Crime Survey for England and Wales however, show crime to have continued its dramatic decline throughout the recessional period, and to have reached its lowest level since survey records began (ONS, 2013). Krisberg et al. (2009) argue that this transgression of the conventional economy-crime link has resuscitated the need to examine the merit of socio-economic theories as a valid explanation for the 1990s phenomenon.

Morgan (2014, p. 21) illustrates that there are essentially two theories of how economic conditions might drive crime trends, and that they operate in opposite directions:

Under the first hypothesis, as a society gets richer crime will go up because there are more goods to steal and more people go out and socialise (and consume alcohol), leading to more violence. Under the second hypothesis, crime goes up instead during times of economic hardship because people have less money so the temptation to steal is greater, and poverty causes antagonism between groups driving up violence.
The two opposing perspectives can be described as motivational versus opportunistic (Cantor & Land, 1985). The motivational perspective assumes a negative correlation between a strengthening economy and the number of crimes: associating either an increase in the frustration, or financial strain, associated with an inability to obtain employment with an increase in crime (Greenberg, 1985). The opportunity perspective assumes a positive correlation between a strengthening economy and aggregate rates of crime: associating higher national employment and Gross Domestic Product (GDP) figures with an increase in the stock of opportunities for crime. Rooted in routine activity theory (Cohen & Felson, 1979), the ecological-opportunity perspective equates an increase in disposable income (dependent on an increase in employment and GDP levels) to an increase in leisure activity that take individuals away from the safety of the home. This increase in activity is then linked to a net increase in the number of motivated offenders and suitable targets available for victimisation (Cohen & Felson, 1979). The opportunity perspective argues that a strengthening economy, and increasing rates of crime, move in tandem - and as such proposes that a decline in crime may actually accompany a decline in the strength of the economy (Morgan, 2014).

Those supporting a socio-economic link to the crime drop draw on the motivational perspective to explain the dramatic decline in acquisitive crime (Field, 1999; Rosenfeld & Fornango, 2007). In particular, “the clear rise and then fall in unemployment that occurred in the early 1990s correlated markedly with the sudden spikes in crime, as did the long period of falling crime and benign economic conditions from 1995” (Morgan, 2014, p. 21). A small selection of American studies credit the crime decline to a strong economy in the early 1990s: Spelman (2005) argues that an increase in real wages and wealth can be directly attributed to a drop in property crime and Rosenfeld (2004) similarly theorised that a rise in real wages for younger workers had had a sizeable stake in the crime drop. Arvanites and Defina, (2006) also correlate the growth in American GDP with the subsequent falls in crime. However, seminal papers by Levitt (2004) and Blumstein and Rosenfeld (2008), both discount a strong economy as a satisfactory explanation of the US decline; with the US economy and consumer confidence strengthening prior to the 1990s. Indeed, the majority of British studies conclude a weak, or inconclusive, relationship between economic conditions and crime (Carmichael & Ward, 2000). Moreover, the trend’s persistence beyond 2008, when GDP fell and unemployment rose in Britain (Morgan, 2014), breaks down the correlation between a strong economy and the crime drop phenomenon further.

Supporters of the motivational-perspective posit that the true significance of the effect may have been muted by the buffering qualities of welfare, and suggest that the anticipated recession-fuelled crime wave did not materialise because of Britain’s status as a welfare state (Gaylord & Lang, 1997). Even in periods of economic crisis, citizens are protected by the state (Savolainen, 2000) and as such certain researchers suggest that the irregularity observed during the recent recessional period can be explained by the confounding properties of the welfare state (Aebi & Linde, 2014). However, Farrell (2013) observes that a stronger economy also fails to explain a number of important caveats within the international crime drop phenomenon: namely the cross-national test, prior-crime increase, the phone-theft test, and the variable trajectories test. Those who remain in
support of the stronger economy theory suggest that the relationship between a strong economy and a reduction in crime may actually manifest through a tertiary variable: a reduction in illicit drug use (Gorman, 2010; Morgan, 2014).

2.2.2. Illicit Drug-Use

Substance misuse is another variable historically linked to crime: one theory repeatedly rehearsed in the crime drop rhetoric is that a waning crack-cocaine epidemic triggered the 1990s decline (Ousey & Lee, 2002). The crack-cocaine market reached endemic levels in America during the late 1980s and early 1990s (Blumstein et al., 2000). Crack-cocaine emerged in 1984 in a newer, more affordable and appealing form - which sparked a dramatic increase in new users (Johnson, Golub & Dunlap, 2006). By 1986, readily accessible and affordable crack-cocaine had garnered highly addicted, regular users, which increased throughout the 1980s (Johnson et al., 2006). A crime pattern specific to crack-cocaine emerged: a cycle of committing acquisitive offenses and instantaneously spending those funds on a ‘fix’ (Johnson, Natarajan, Dunlap & Elmhazy, 1994). Johnson et al. (1994) observed that at crack-cocaine’s peak, two-thirds of users committed a minimum of four criminal missions a day in the pursuit of the drug. Blumstein et al. (2000) therefore argue that the crack-cocaine market played a major role in the flood of violent and property crime experienced throughout America.

Goldstein’s (1985) drug/violence nexus provides a ‘tripartite’ model of how illicit drug use and crime are related. The link between the two can be either: (1) psychopharmacological (committing crimes as a result of a psychoactive effect on the user); (2) economic (compulsive – committing instrumental crimes to attain funding for drugs); or (3) systemic (committing crimes in association with drug markets and turf violence). The crack-cocaine epidemic was associated with an increase in violence due to the psychopharmacological effects of the drug (Conklin, 2003) and due to the market itself being saturated with systematic territorial and firearm violence (Marowitz, 2000). An element within this theory is therefore that the decrease in the crack-cocaine market simultaneously suppressed the use of hand-guns: either by choice or via the controlling efforts of law enforcement (Marowitz, 2000). However, Levitt (2004) does not regard the control of weapons as an important sub-theory– as the Brady Handgun Act (1993), introduced to restrict US gun sales and increase background checks, is deemed ineffective as only one in five offenders obtain their guns through legal channels (Wright & Rossi, 1994)

This crack-cocaine trend began to recede in the early 1990s and thus successfully fits the timing of the crime decline (Grogger, 2006). However, for this theory to explain the crime drop in England and Wales, and to successfully pass the cross-national test (Farrell, 2013), there must be evidence to suggest that a surge and decline in illicit drug markets is not unique to America. Britain was warned that a crack-epidemic would unfold and grip our cities much like the experience of the US (Kleber, 1988). Evidence suggests that levels of drug misuse have been increasing in England and Wales since the Second World War (Morgan, 2014), but that Britain’s drug of choice throughout the 1980s was instead heroin (Parker, Bury & Egginton, 1998). Before the 1980s, heroin use was confined to London and crack-cocaine was unheard of (Parker, Bakx & Newcombe,
In the late 1970s, a new supply route made heroin more available and affordable (Pearson, 1987; Yates, 2002). By the 1990s, heroin use had increased to levels 10 or 20 times greater than the levels seen during the 1970s (Sutton & Maynard, 1992). Morgan (2014) demonstrates that the opiate/crack epidemic fits the narrative of the crime drop in England and Wales, as the new heroin supply is hypothesised to have sparked the UK drug and crime epidemic, followed by a steep decline in the drug market which is hypothesised to have triggered the simultaneous decline in crime (Morgan, 2014, p. 58):

Once the epidemic had spread across England and Wales and all susceptible individuals had been ‘exposed’, the number of new users probably decreased just as quickly as it had risen. Crime therefore began to fall; quickly at first as the less-recalcitrant users quit in significant numbers. But then more steadily as the population whittled down to more established users.

Indeed, results from the Crime Survey for England and Wales suggest that levels of drug misuse did begin to fall in England and Wales in 1996, and continue to experience a steady decline (ONS, 2013). However, the main indicator of heroin use over time is the Addicts Index, which is a dataset of new and existing illicit drug users reported to the Home Office by GPs and medical institutions (Morgan, 2014). The question of whether opiate/crack markets are causally related to the trends in crime may never be fully answered due to issues with data reliability (Morgan, 2014): owing to the hidden nature of illicit drug use, the bias associated with data derived from treatment or criminal justice systems (Stevens, 2007). Furthermore, whilst the illicit drug use hypothesis successfully passes the ‘prior increase’ test, the theory falls short when explaining the international nature of the drop. For example, Canada, as well as many suburban and rural areas within the United States and the United Kingdom, did not experience an opiate/crack epidemic on the same scale, yet experienced an equally robust decline in crime (Mishra & Lalumiere, 2009).

Another stance is that a shift in choice of drug was responsible for the decline. Johnson et al. (2006) propose that crime fell as a result of a preference for marijuana – a comparatively inexpensive drug which is theorised to heighten sociability and reduce levels of aggression. Another alternative take on the drug-crime nexus is that the legal pharmaceuticals market played a role in the crime decline (Marcotte & Markowitz, 2011). Marcotte and Markowitz (2011) argue that the detection and treatment of mental illness is a largely ignored area in the crime drop. Untreated mental illness can impede decision making processes and alter risk perceptions (Marcotte & Markowitz, 2011). The use of anti-depressants and anti-psychotics has increased dramatically over the last two decades, which fits the time frame of the drop. The authors conclude that the pharmaceutical market expansion is responsible for a minimum of 5% of the decline, but acknowledge that further research needs to be employed to assess the merit of the theory. The leading cause of the crime drop has therefore yet to be successfully identified amongst the traditional theories of crime. Rosenfeld (2002, p. 29) argues that “no shortage of alternative explanations” have emerged to fill this gap in knowledge.
2.3. Punitive Response
Punitive policy shifts, including growing incarceration rates (Spelman, 2005), greater numbers of police officers (Eck & Maguire, 2005), and changes to police crime-fighting tactics (Levitt, 2004) - have been linked to the falls in crime. US-specific developments such as the increased use of capital punishment, or relaxed laws regarding concealed weapon-carrying, have been dismissed by the works of Levitt (2004) and Blumstein and Rosenfeld (2008) as suitable explanations. Instead, increases in the prisoner population and changes to police practices, have played a greater role in the crime decline rhetoric (Zimring, 2006, p. 2012).

2.3.1. Prison Expansion
Studies exploring the link between incarceration rates and crime have traditionally yielded small but statistically significant effects (Durlauf & Nagin, 2011). A five-fold increase in incarceration rates occurring in the US between 1970 and 2005 (US Department of Justice, Bureau of Statistics, 2005) is repeatedly credited with the American decline. Though prison expansion initially emerged as a US specific explanation, the UK adopted a similar expansion policy; doubling its incarceration rate between 1993 and 2005 (Tonry, 2005) and reaching the second highest rate of imprisonment (Young, 2003). Tonry (2014) understands the widespread association of prison-expansion with the crime drop phenomenon, due to the corresponding time frames in both the UK and the US. However, he cautions that a relationship between prison expansion and reduced crime is not supported by deterrence research (Tonry, 2005) nor rates of offender recidivism (Travis, Solomon & Waul, 2001).

Spelman (2005) exposes a theoretical discrepancy in that prisons had actually been expanding for a decade before the crime drop; subsequently failing Farrell’s (2013) ‘prior increase’ test. In the US alone, the incarceration rate more than tripled between 1973 and 1991, which predates (and therefore challenges) the sudden and dramatic nature of the 1990s downward trend (Levitt, 2004). If incarceration rates were the catalyst of the crime drop, then countries with higher incarceration rates, such as the US and UK, would have enjoyed steeper declines (Spelman, 2005). Countries that did not “change their emphasis on crime control during the same period” experienced a similar trend (Tseloni et al., 2010, p. 389). Neighbouring Canada did not increase incarceration levels, yet experienced parallel crime declines (Webster & Doob, 2007). Furthermore, Finland deliberately adjusted its imprisonment policy to decrease incarceration rates, whilst simultaneously experiencing substantial declines in crime (Lappi-Seppälä, 2004).

2.3.2. Policing
An increase in the number of police on the street has been offered as a possible explanation for the crime drop phenomenon (Eck & Maguire, 2005). This has been challenged by previous increases in police numbers failing to spark the crime decline (Levitt, 2004; Eisner 2008). When examining variation in police-density between US cities, with for example Dallas decreasing its number of police officers per capita over the crime drop period (Levitt, 2004), the viability of net police figures in explaining the uniformity of the drop is questioned. The crime drop has also been credited to changes in policing strategy. This is in part due to the interest in New York’s Quality-Of-Life Initiative, whereby police adopted a zero-tolerance policing style (Conklin, 2003). The result
was a dramatic increase in arrests for minor crimes, such as public urination, drunkenness and ‘incivility’ – which has since been correlated with the dramatic decrease in serious crime (Spelman, 2005).

In relation to New York’s experience of the crime drop, changes to policing style continues to garner support from research by Zimring (2012). Tonry (2005) argues that methods of policing, or indeed overall numbers of police, had little effect on the trend. He highlights the parochial nature of the policing hypothesis by observing that within other countries, and even within other American States, such stringent changes to policing styles did not occur (Levitt, 2004; Tonry, 2005). More recently, Webster and Doob (2007) have drawn upon the experience of neighbouring Canada to challenge the suitability of policing strategy as a crime drop hypothesis, with Canada having closely paralleled America in terms of crime trends, whilst practising starkly different policing policies. Canadian police did not emphasised zero-tolerance policing, nor did they enact the three-strikes or life-without-possibility-of-parole laws sanctioned by the US: “yet [their] crime rates moved in tandem” (Tonry, 2014, p. 3). Moreover, the trends in punitive policies across England and Wales as well as the rest of Western Europe have been moving towards less imprisonment (Downes, 1989) and more re-integrative reformation (Emsley, 2007). Eisner (2008) concludes that there is little to suggest that punitive measures were the main drivers of the downturn in crime - and indeed most agree that “whatever the explanations may be, they do not include direct effects of changes in policing or sanctioning policies” (Tonry, 2014, p. 1).

2.4. Motivated Offenders: “Where Have All The Criminals Gone?”

Another set of theories argue that changes to crime rates have been caused by changes to the stock of offenders. These theories summarise that a net reduction in crime-prone individuals, or a reduction in such individuals' propensity to commit crime, has triggered the crime decline: either through (1) general demographic changes – including shifts towards an older population (2) demographic changes through other mechanisms such as abortion legislation (Donohue & Levitt, 2001; Fox, 2006), or (3) a reduction in the predisposition to commit crime, through for example a decreased exposure to lead during childhood (Nevin, 2007; Reyes 2007).

2.4.1. Demographic Changes

The demographic-change hypothesis proposes that reductions in either the offending, or target, population have resulted in less crime overall (Farrell et al., 2010). Primary demographic factors include race, gender and marital status, but when questioning demographic shifts and their impact on crime rates, age is the variable which yields the most consideration. The relationship between age and crime is well-documented and a pillar in our understanding of offending. Crime prone age groups within a society consist of adolescents and young adults; with criminal propensity decreasing with age and all but disappearing amongst elderly cohorts (Levitt, 2004). The UK’s aging population (Cracknell, 2010) is theorised to reap crime-related benefits, and as such finds itself in the crime drop rhetoric. An ageing population - in a society with longer life expectancy - could influence a crime reduction on a purely statistical basis (Levitt, 2004). However, greater attention is awarded to the remarkable absence of crime committed by younger individuals who fit the crime prone age
demographic. Societal age structure is influenced by fertility, mortality and migration. The low birth rates of the 1970s rendered fewer people in such crime prone age groups. The theory of society’s ‘missing criminals’ provides criminology with its most controversial explanation of the crime drop to date (Hall, 2013): that the greater availability of abortion unintentionally triggered a crime drop phenomenon twenty years later, as it reduced the cohort of at-risk young males available to commit offences.

2.4.2. Legalisation of Abortion
In their popular work *Freakonomics*, Levitt and Dubner (2005) ask “where have all the criminals gone”? The authors argue that the answer to the puzzle of America’s modern day crime decline lay in the appointment of Romania’s communist dictator Nicolae Ceausescu, in 1966. The link is the practice of abortion - which Nicolae Ceausescu banned after a year in office in an effort to strengthen Romania with a boost to its population. An unexpected consequence was that the cohort of children born after the ban did worse in every quantifiable way - including increased unemployment, lower educational achievement, and crucially, increased criminality (Donohue and Levitt, 2001). Levitt and Dubner (2005) suggest that the situation in America is a reversed image of 1960s Romania, and that it is in fact the legalisation of abortion that can reduce crime, on the premise that unwanted children are more prone to crime and that abortion reduces the number of unwanted children (Levitt, 2004).

Donohue and Levitt (2001) were the first to investigate the unanticipated crime-related benefits of abortion’s legalisation in 1973 under the landmark Supreme Court case Roe V. Wade. It served to make abortion legal across all American states. Seven years after Roe V. Wade, 1.6 million abortions were performed annually in the US, with 1 abortion per every 2 live births (Donohue & Levitt, 2001). Donohue and Levitt (2001) propose that this has triggered the remarkable drops in crime: either by reducing the cohort size or reducing the rate offending per capita for crime-prone cohorts.

Females were seen to utilise abortion to optimise the timing of parenthood; thus bringing children into better environments (Donohue & Levitt, 2001). Delayed parenthood can minimise unfavourable parental behaviours (Sampson & Laub, 1993) and avoid negative family environments – which proved to be a leading indicator of male juvenile criminality in Räsänen et al.’s (1999) study of Finnish males. Räsänen et al. (1999) also found teenage motherhood alone doubles a child’s propensity to offend. A series of findings also exist to support the abortion-legalisation theory in relation to the American crime decline. First, that between 1991 and 1997 there was a significant reduction of children in the 18-24 year (crime-prone) age bracket (Donohue & Levitt, 2001). Second, that the five states who legalised abortion prior to the ruling of Roe v Wade experienced crime drops earlier than the rest of the US (Joyce, 2004a). Third, that areas with the highest rates of abortion experienced greater reductions in crime (Donohue & Levitt, 2001). Fourth, that abortion was most sought after by women who possess characteristics known to correlate with heightened risks of child criminality: teenagers of single marital status, with poorer education and lower socio-economic status, from ethnic minority backgrounds (Conklin, 2003).
This theory attracts criticism on both a moral level, with interpretations of the message being promoted, and at a methodological and theoretical level. Professor Richard Banks comments that there are reasons to be cautious about any theory which could serve to portray a certain race as genetically predisposed to crime—in reference to the inclusion of ethnic-minority mothers as a precursor to potential criminality in children (cited in Fletcher, 2000). Furthermore, Joyce (2004b) provides compelling counter-evidence when looking at the effect of abortion on crime rates tempered by race. The effect of the availability of abortion on crime rates should have been disproportionately larger in black populations than white populations, because the reduction in fertility amongst black cohorts was much greater when compared to white cohorts (Joyce, 2004b). However, crime decline occurred simultaneously across both cohorts during the 1990s, which casts doubt on the viability of the abortion hypothesis (Joyce, 2004b).

The implication of abortion as a crime-fighting tool is also heavily critiqued, however it is promptly dismissed by Donohue and Levitt (2001) who clarify that their findings should not influence abortion policies. The theory also garners methodological criticism by Foote and Goetz (2008) who argue that several fundamental variables were not controlled for—including the crack-cocaine epidemic. US data on abortion is not as reliable as it is within England and Wales, with the UK 1967 Abortion Act instructing that every abortion be recorded (Kahane, Paton & Simmons, 2008). Another criticism is the absence of reliable abortion data prior to Roe v Wade (Kahane, et al., 2008) and without knowledge of the rates of illegal abortions being performed—which Cavadino (1976) claims to be far higher than expected—the legalisation’s true effect on rates of abortion remains unknown. A further theoretical criticism is the failure to address other mechanisms of fertility control as a serious contender for the reduction in unwanted births. Sen (2002) conducted a study into birth timing and crime with Canadian data, and discovered that developments in birth control—primarily the contraceptive pill and its distribution in the late 1960s and 1970s—were instrumental in the delay of births until a more favourable time. The role of adoption and its impact on the number of ‘wanted’ children, is one that also requires further investigation (Kahane, et al., 2008).

Blumstein concludes that proponents of the abortion theory have gone too far in claiming that abortion’s legalisation can account for half of the American decline (cited in Conklin, 2003). Indeed the abortion hypothesis has failed to gain consensus as the leading cause of the American crime drop. The theory’s inability to explain the crime drop on both sides of the Atlantic casts further doubt on the abortion hypothesis as a suitable explanation, and serves to fail Farrell’s (2013) ‘cross-national’ test. For example, the progressive abortion policy in the UK had legalised abortion by 1967 under the Abortion Act. As the legal availability of abortion occurred several years prior to the US, England and Wales should have witnessed a comparatively earlier onset of crime decline. However, crime rates in England and Wales fell later than in the US (Kahane, et al., 2008). Furthermore, comparing US crime rates to other cohorts not exposed to legalised abortion suggest that Donahue and Levitt’s (2001) conclusions were premature, as all cohorts experienced the crime drop (Mishra & Lalumiere, 2009).
Another crime drop theory hypothesises that, as opposed to a net reduction in the offending population, a reduction in the offending population’s *propensity* to commit crime sparked the sudden decline. This theory suggests that an increased exposure to lead caused the increases in crime - and the subsequent removal of lead from petrol and paint, as well as other sources, prompted the 1990s decline (Reyes, 2007).

### 2.4.3. Lead-Exposure

The lead-exposure theory is based on the notion that criminal offending has been linked to brain damage (Raine, Phil, Stoddard, Bhrle & Buchsbaum, 1998) and that high maternal and pre-school blood-lead levels actually impair brain growth (Cecil, Brubaker & Adler, 2008). Lead exposure and the resultant neurotoxin exposure, accumulates in teeth and bones. Needleman et al. (2003) found that, whilst controlling for other socio-demographic factors, youths with high bone-lead were twice as likely to be delinquent. Lead poisoning occurred in the 1960s, with a fatality rate of 5-28% for those children affected (Jackson, 1998). The lead in paint is particularly hazardous and has been shown to reduce IQ, increase the risk of behavioural problems such as ADHD, and trigger neurological disorders; characteristics linked to an increase in aggression and violence (Nevin, 2007). Research conducted by Stretesky and Lynch (2001) found that American states with high industrial lead-emissions experienced homicide rates four times higher than those of countries with lower air lead levels between 1989 and 1991. The reduction of lead use in paint and petrol has been credited by Nevin (2007) as the main driver of the US crime decline.

The lead-exposure hypothesis passes Farrell’s (2013) ‘prior increase’ test as it claims to explain both the steep decline in crime of the early 1990s, but also the steep increase in crime between 1960 and 1990 (Hall, 2013). According to this hypothesis, the rise in crime post Second World War was driven by the increased exposure of children to environmental lead (primarily from the lead in petrol and secondarily from leaded paint used in inner-city housing) between 1940 and the 1980 (Nevin, 2007). Proponents of the theory then argue that an expected crime-related benefit of removing lead from petrol and paint was the crime drop phenomenon of the 1990s (Hall, 2013).

As Nevin (2007) and Reyes (2007) both present cross-national data for several countries, the lead-exposure hypothesis presents compelling evidence to pass Farrell’s (2013) ‘cross-national test’. However, if research links childhood exposure to lead to violent behaviour and aggression exclusively, the theory is seen to fail Farrell’s (2013) ‘variable trajectories’ test, as it is unable to explain within-country variation in terms of the simultaneous downward trajectory of both violent and property crime types. Subsequent research has found mixed results, with Nevin (2007) finding a relationship between lead-exposure and both property and violent crime, and with Reyes (2007) and Mielke and Zahran (2012) finding a strong relationship between lead-exposure and violence exclusively, and finally, with McCall and Land (2004) finding no significant relationship at all between the patterns of lead exposure and homicide trends. Hall (2013) concludes that the contribution of lead-exposure merits further research.
All ‘motivated offender’ theories proposing a net reduction in crime-prone individuals or in their propensity to commit crime can be challenged by several observations. First, criminal offending and victimisation have decreased across all age groups; pointing to a non-demographic cause (Mishra & Lalumiere, 2009). Second, Blumstein and Rosenfeld (2008) observe that during the 1990s, the number of 18-year-olds in the US population was actually increasing during crime’s decline. Third, because these theories operate on a generational basis, any rise or fall in crime predicted is likely to be gradual: changes that affect the stock or propensity of offenders “are likely to feed through to crime trends gradually”, and as such these theories do not provide a convincing explanation for the sudden spikes in crime experienced in the early 1990s, nor the subsequent and equally dramatic crime decline (Morgan, 2014, p. 21). Farrell (2013) adds that as these theories propose that the relative number of offenders decreased, it follows that equal declines across all crime types should have occurred simultaneously; failing to explain the varying trajectories of violence and property crime, as well as the proliferation of electronic goods theft and e-crime.

Both the traditional and more controversial theories have not succeeded in fully explaining the crime drop phenomenon. Tonry (2014) asks whether the question of ‘why crime is falling’ may be the wrong one, with instead the more salient question being ‘why did crime increase?’ ‘Better Angels of Our Nature’ by Steve Pinker (2011) popularised this issue by arguing that recent declines in violent crime in Western Europe and the United States are part of a much broader trend toward diminishing global violence. Pinker (2011, p. 116) examines the upward spiral of violent crime from the 1960s through to the early 1990s as a “short aberration in a long-term historical decline”. Eisner (2003; 2008) agrees with the notion that the 30 year period of rising crime is a statistical ‘blip’ in the overall trajectory of crime, and that the current crime drop phenomenon is a reversion to crime’s original path.

Violence has been in decline over the last eight centuries (Mares, 2009), with incontestable evidence that homicide rates have continued to fall throughout the late Middle Ages up until the middle of the twentieth century (Spierenburg, 2012). Elias (1996; 2000) observes this to be a result of a general ‘civilising process’ – whereby the decreasing acceptance of violence and public suffering over centuries has generated an overall downward trend in crime. The growth of self-control and disciplined environments have been credited with adjusting our impulsive behaviours. Elias (1996) observes that against the greater backdrop of decline, de-civilising processes can occur and temporarily drive violence up – altering the natural path of violence and crime. The theory explains that the anomalous increase in crime resulted from the ‘de-civilising process’ of the Second World War; whereby the violence experienced in war promoted society’s acceptance, and dampened its abhorrence, of violence, which then subsequently facilitated a rise in crime (Mares, 2009).

More recently, Eisner (2008) deviates from the ideas of Elias, and proposes a conduct of life model to explain both the decrease in homicide observed across Europe between the 1850s and the 1950s, and its increase between the 1960s to the 1990s. Eisner (2008) argues that changes in interpersonal violence are correlated
with changes in what is considered to be appropriate conduct by members of the society. In particular, Eisner’s (2008, p.312) explanation links “the major fluctuations in homicide rates to change in norms and expectations about how young men interact in public space”.

Self-control is the most pervasive element in the civilising process and conduct of life theory, with both arguing that an increase in self-restraint (instilled through a variety of socialising institutions and the globalisation of economic markets, communication, structures and culture) to be the main driver of the drop (LaFree et al., 2015). Gurr (1989) argues that the 19th century crime decline coincides with the development of legitimate institutions - which socialised individuals into conformist norms - and that after the mid-20th century, such institutions had lost their effectiveness.

2.5.1. Legitimate Institutions
Rosenfeld (2002, p. 31) describes that “when institutions function properly, they enjoy high levels of legitimacy” and continues that “people believe in the institutions, play by the rules and crime rates decline”. LaFree’s (1998) theory of ‘institutional legitimacy’ proposes that a renewed legitimacy of traditional (family, politics, economy) and modern (education, welfare, criminal justice system) institutions have exerted a downward pressure on the crime trend. LaFree (1998) credits this theory with successfully explaining both historic increases, and current decreases, in crime rates.

The family institution plays a key role in socialisation, nurturing values and attitudes (Kemme, Hanslmaier & Pfeiffer, 2014). Families curb criminal behaviour through a variety of channels: namely socialisation, supervision, and protection from victimisation (Kemme et al., 2014). LaFree (1998) proposes that the weakening of the nuclear family was the main driver of the anomalous increase in crime experienced on both sides of the Atlantic - and that the nuclear family’s subsequent revival is responsible for the 1990s crime decline. LaFree (1998) observes that whilst 84% of children were living with both biological parents in the 1950s, by the 1980s this had reduced to one third of children. Whilst this theory may be credited with passing Farrell’s (2013) ‘prior increase’ test, it struggles to explain the 1990s crime drop phenomenon with equal success - as rates of single parent families and rates of divorce increased over the period of the crime decline (Mooney, 2003). Indeed, the nuclear family “shows few signs of returning to its natural form” (Conklin, 2003, p. 160). LaFree (1998) proposes that crime began to decline in the 1990s as a reaction to the wider acceptance of alternative familial structures, which enhanced such families’ ability to prevent crime. Conklin (2003) comments that the theory both fails to elaborate on the exact social processes families engage in to prevent criminality, and offers no measurable indicator of the increasing acceptance of alternatives families.

Research by Kemme et al. (2014) supports that the decline in crime is rooted in the family, but that the mechanism of decline is a corresponding decrease in intra-familial violence. Through analysis of the German experience of crime decline, Kemme et al. (2014) extend their findings to the wider decline of crime in Europe;
theorising that a reduction in parental spanking (and other physical punishments of children) drove a reduction of offending behaviour in adulthood, and as such became a driving force behind the downward trend in crime.

Lane (1992) in contrast, pays less attention to familial changes and instead argues that the shift from an industrial to a post-industrial society, and the resulting educational and technical demands which left millions of working males behind, is to blame for the anomalous years of crime increase. Wilson and Herrnstein (1985) similarly move away from familial influences, but look to the behavioural norms instilled by the 19th century Protestant and Catholic religious revivals. Wilson and Herrnstein (1985) argue that increased religiosity experienced throughout the 19th Century correlates with the historic crime decline – and that the movement’s loss of steam during the mid-20th century correlates with the anomalous 30-year increase in crime (Tonry, 2014). The mechanisms through which religious institutions are theorised to depress crime are: (1) religious belief ties people to moral proscriptions (Conklin, 2003) and (2) organised institutions engage in the “close monitoring and sanctioning of waywardness” (Evans, Cullen, Dunaway & Burton, 1995, p. 210).

Civilising theories all hold societal values and self-control as the main drivers of the overarching downward trajectory of crime, as well as the anomalous thirty years of crime increase, and succeed in explaining the ubiquity of decline. However, Eisner (2008, p. 312) himself highlights the major issues with such theories to be “whether such theoretical perspective[s] could be moved beyond the level of speculation and be subjected to more rigorous empirical tests”. The preceding theories are therefore argued to fail Farrell’s (2013) ‘empirical evidence’ test due to the difficulties in the tangible measurement of their effect.

2.5.2. Risk-Taking Behaviour
Some theories have attempted to empirically capture increases in self-control in non-criminal behaviours over the period of the 1990s crime decline. As such they can be seen to offer support to the civilising process theory’s application to the newest downward turn. Tonry (1995) correlates the consumption of unhealthy substances with the fluctuation in crime rates and observes decreases in the consumption of alcohol, nicotine, lard and butter fat, which mirror the concurrent decline in crime. It is this general increase in self-discipline, Tonry (1995) argues, that permeates all aspects of society, including behaviour towards others.

Other studies have looked at the correlation between criminal activity and other types of risk-taking behaviour – namely unsafe sex, dangerous driving, school evasion and substance use (Dryfoos, 1990; Daly & Wilson, 2001; Gottfredson & Hirschi, 1990). Based on the link between criminal and non-criminal risk-taking, rates of various risky behaviours should be experiencing a parallel decline beginning in the 1990s. Mishra and Lalumiere (2009) found that risk taking behaviours have been falling across all age groups in a US and Canadian study. The authors argue that individuals’ decision making processes have been disrupted by an increase in self-discipline, allowing the potential benefits of risky behaviour to be more rationally considered against the potential costs, and explaining a decrease in both criminal and non-criminal risk behaviours (Mishra & Lalumiere, 2009). However, levels of internal discipline and control remain abstract concepts and render a causal relationship largely immeasurable. Such theories also fail to pass Farrell’s (2013) ‘variable trajectories’
and ‘phone theft and e-crime’ test as they predict a net reduction in criminal risk-taking, and do not explain variation between property and violent crime trajectories, nor increases in other specific crime types. Another corner of criminological research agrees that the disruption of individuals’ decision-making was instrumental in the crime drop phenomenon, but argues that elements in immediate environment, and the stock of opportunities for crime, were responsible for rebalancing the decision to offend.

2.6. The Opportunity Framework

The opportunity framework houses a number of symbiotic theories (including routine activity theory, rational choice theory, and crime pattern theory) which harness the notion of ‘crime as opportunity’. Opportunity theories of crime depart radically from existing criminological theories as their focus is directed away from those committing the crime, towards the setting of the criminal act itself. Under the routine activity theory, a motivated offender is perceived to be only one element in the chemistry for crime - with the other necessary elements being the availability of a ‘suitable target’, in an environment lacking ‘capable guardianship’ (Cohen & Felson, 1979). In stark contrast to offender-based theories of crime, the net total of motivated offenders could even be held constant, as crime levels are predominantly influenced by the stock of opportunities a society offers (Felson, 1987). These theories suggest that crime will flourish in conditions where it is easy to commit, and diminish when this ease is removed (Morgan, 2014). As such, Van Dijk (2010: 12) argues that opportunity theory is ‘well placed’ to explain fluctuations in crime.

Cohen and Felson’s (1979) routine activity theory was conceived to explain the post-Second World War rise in crime in the United States and across Western Europe. This rise was associated with an increase in the number of suitable targets and a decrease in capable guardianship, which subsequently led potential offenders to find more opportunities to commit crime (Cohen & Felson, 1979). Under this hypothesis, the long-term rise in burglary was explained by increases in female employment, which left more houses empty during the daytime; the rise in vehicle theft was explained by the rising numbers of cars on the road (Ross, 2013); and the rise in shop theft was explained by the shift of products to the shop floor, which increased their accessibility to thieves (Bamfield, 2012). However, in the search to explain the equally dramatic decline in crime, the notion of ‘crime as opportunity’ has been comparatively absent. Opportunity theory’s comparative absence in the crime drop rhetoric can be linked to: (1) the tendency of criminologists to look to offenders’ psychological or inherited biological traits to explain, in dispositional terms, why crime is committed and (2) the societal focus on punitive, as opposed to preventative measures (Clarke, 1997). However, the inability of existing hypotheses to meet Farrell’s (2013) five criteria leaves room for a situational (opportunity) perspective.

Garland (2000) describes situational criminology as the ‘criminologies of everyday life’. Cohen and Felson (1979) categorise a criminal opportunity as a convergence of a motivated offender and a suitable target – coupled with an absence of capable guardianship. Subsequently, in their work ‘The Reasoning Criminal’, Cornish and Clarke (1986b) drew on the construction of the cost-benefit analysis, traditionally reserved for economists, and extrapolated its structure to the choices made by offenders in their appraisal of criminal
opportunities. Rational choice theory then teamed with routine activity theory – with respective authors recognising that both had their roots embedded in ‘crime as opportunity’.

The first attempt to tangibly capture the opportunistic nature of crime occurred alongside the unanticipated effect of carbon monoxide levels in domestic gas on national suicide rates (Lester, 1991). Hassall and Trethown (1972) observed that following a reduction in the toxicity of the domestic gas supply, the level of suicide in England and Wales experienced a dramatic decline. Suicide by gas accounted for 50% of suicides in England and Wales during the 1950s, however this method of suicide had been extinguished by 1975, after the conversion to non-lethal gas (Clarke & Mayhew, 1989). What was more striking was that the displacement to alternative methods was extremely low, and instead the removal of the gas-suicide opportunity provoked an overall reduction in net rates of suicide. The unanticipated consequences of domestic gas composition on suicide confirmed the role of opportunity in decision-making processes, and shifted the focus away from a traditional dispositional understanding of crime, towards a situational understanding of crime (Clarke, 1997).

Further support for the opportunity theory emerges when observing levels of repeat victimisation, with evidence that crime pools and concentrates where criminal opportunities are abundant. Repeat victimisation indicates that where opportunities for crime will cluster are predictable, and therefore preventable (Grove, Farrell, Farrington & Johnson, 2012). Repeat victims can be people, places or businesses – and is a phenomenon witnessed across many different types of crime (Bowers & Johnson 2004; Chenery et al., 1996; Tseloni & Pease 2003). Victimisation of individuals is seen to be extremely unevenly distributed, with Pease (1998) identifying that 1% of people experience 59% of personal crimes (including violent crimes), while 2% of people experienced 41% of property crimes (Pease, 1998). Work around familial violence has clearly identified that crimes of domestic violence are synonymous with repeat victimisation (Farrell & Pease, 1993; Wallby & Allen, 2004). However, increasingly it is seen to hold true for victims of alternative crime types (Grove et al., 2012).

Crime pattern theory (Brantingham & Brantingham, 1991; 2008) emphasises the importance of place in the chemistry for crime. Sherman (1995) describes that environments saturated with criminal opportunities are known as ‘hot spots’ - where elements in the immediate environment serve to attract, or generate crime; “small places in which the occurrence of crime is so frequent that it is highly predictable, at least over a one year period” (Sherman, 1995, p. 61). Areas where the frequency of suitable target and motivated offender convergence is high will, according to crime pattern theory, result in the increased stock of criminal opportunities – and the subsequent proliferation of criminal activity.

2.6.1. The Security Hypothesis
The most recent effort to explain the crime drop emerges from Britain in the early 21st century, and the draws on the opportunity framework of crime. The ‘security hypothesis’ argues that crime is a product of opportunity, and that an increase in security served to shrink the stock of such opportunities; finding itself as the driving force behind the crime decline (Farrell et al., 2008; Farrell et al., 2011a). The hypothesis argues that an increase in both the quantity and quality of security measures has directly driven down the number of
criminogenic opportunities, and thus provoked the drop in crime by making offences harder to commit and tipping the scales of the cost-benefit-analysis; rendering crime unattractive or uneconomically viable (Farrell et al., 2011a).

The International Crime Victims Survey (ICVS) confirms that industrialised nations have embarked on a security ‘binge’, with rocketing investment in security measures in a time frame that fits that of the crime drop (Van Dijk, 2006; Van Dijk, 2010). The demand for security products and measures has steadily grown since the late 1980s - producing a kaleidoscope of security devices ranging from simple alarm systems to advanced biometric identification (Stevens, 2004) and accumulating a turnover of 100 billion USD for the global security industry and placing the security sector as a major player in the economy (Stevens, 2004, p. 18). There has been a five-fold increase in the turnover of British security equipment manufacturers alone between 1983 and 2003 (Hope, 2007).

Adopting private security measures, such as target hardening property, avoiding certain areas at particular times (Vollaard & Van Ours, 2011) and participating in active community surveillance (Hope, 2007), are seen to remove citizens from risk. Security consumption is therefore itself seen to be a product of rational choice. Investment in security and preventative behaviour is governed by weighing the risks of victimisation against the benefits of investing in self-protection (Van Dijk, 1994). Public perception of risk is governed by “direct and indirect knowledge of offending – however imperfect that knowledge might be” (Hope, 2007, p. 9). The perception that crime rates are increasing, acquired through either sociotropic or egotropic experience, increases the perceived benefits of investing in protection, and thus provides a catalyst to increase securitisation: which is then ultimately seen to drive crime rates down (Van Dijk, 1994; Van Dijk, 2010). This ‘reflexive securitisation’ cycle (Van Dijk, 2010, p. 12), suggests that the earlier ‘flood of violence’, and ongoing media coverage, has stoked public fear - which has in turn been instrumental in mass security consumption - which has subsequently served to drive crime to its lowest point in decades.

Support for the security hypothesis is found when holding the theory against Farrell’s (2013) criteria. The security boom is seen to be an international phenomenon (Van Dijk et al., 2007) and the security hypothesis itself has been empirically tested in relation to vehicle crime in Australia, England and Wales, the Netherlands, and the United States (Farrell et al., 2011a; Farrell, Tseloni & Tilley, 2011; Fujita & Maxfield 2012; Van Ours & Vollaard, 2013). The security hypothesis is also flexible in allowing opportunities for some crimes to increase at the same time as others were decreasing (Farrell, 2013). The dramatic increase in mobile phone and electronic device theft can be explained by the tendency of opportunities for crime to pool amongst certain suitable targets (or products). Clarke (1999) theorises that frequently stolen goods have certain characteristics which form the acronym CRAVED. They are Concealable, Removable, Available, Valuable, Enjoyable and Disposable, where disposable means they can be easily fenced. A dramatic increase in the ownership of both portable, and valuable, mobile phones and electronic goods has occurred across the previous two decades.
(Roman & Chalfin, 2007). This is hypothesised to have sparked a corresponding increase in the stock criminogenic opportunities, and to have driven a significant rise in the theft and robbery of such devices (Harrington & Mayhew, 2001; Thompson, 2014).

There have been several studies examining security’s propensity to reduce, and in some cases eliminate, specific crime types. Car immobilizers and their impact on vehicle crime are the most studied example (Farrell et al., 2011b; Vollaard & Van Ours, 2011), though improvements to home security measures – specifically improvements to the successful combinations of home security measures - and the impact on domestic burglary has also been successfully examined (Tseloni, Thompson, Grove, Tilley & Farrell, 2014; Pease & Gill, 2011). The drop-lock boxes on buses and exact fare signage has dramatically reduced the opportunities for transport robbery (Clarke, 1997). Coin theft from public telephones in Britain was all but eradicated by the installation of steel, as opposed to the previously aluminium, coin boxes (Mayhew et al., 1976). Cheque fraud was greatly reduced in 1975 following the introduction of cheque guarantee cards (Knutsson & Kulhorn, 1981). The introduction of compulsory steering-column locks to all newly built cars in Germany in 1963 incurred a 60% reduction in theft of cars (Mayhew et al., 1976). Smith, Clarke and Pease (2002) offer a collection of further studies which demonstrate how security measures adopted within England and Wales have stimulated crime reduction, including an increase in formal surveillance methods such as the introduction of Closed Circuit Television [CCTV] (Armitage, Smyth & Pease, 1999; Brown, 1995). Such situational crime prevention measures, of which there are now twenty-five (Cornish & Clarke, 2003), have been evidenced as having a direct impact in specific environments, or specific crime types.

Proponents of the security hypothesis (Farrell et al., 2011a; Van Dijk, 2006; Clarke & Newman, 2006; Tseloni et al., 2010) suggest that improvements to the quantity of quality of security measures directly drove the 1990s crime drop phenomenon. Furthermore, the security hypothesis proposes that reductions in one crime type can evoke subsequent reductions in other crime types through a ‘diffusion of benefits’ (Farrell et al., 2008). Theft and burglary serve as a precursor to committing further, more severe, crimes; they are ‘debut’ crimes (Svensson, 2002) and are committed by novices (Farrell et al., 2011a, p. 164). The security hypothesis suggests that securitisation reduces opportunities to commit debut crimes and as such a potential offender does not progress to other crime types and the onset of criminal careers are stifled (Farrell et al., 2011a). A further extension of the security hypothesis is that the decline in car theft disrupted the routine activities of offenders, and therefore reduced opportunities to commit other crime types (Farrell et al., 2011a). Vehicle theft is an instrumental keystone for committing further crime types; with stolen cars used to transport stolen goods, orchestrate drug-runs, and facilitate drive-by shootings or to evade the constrictions of public transport (Farrell et al., 2011a). Morgan (2014) agrees that the keystone and debut hypotheses are certainly possibilities, but argues that empirical evidence is still lacking.
With greater attention is now being paid to the role of security during the 1990s phenomenon, the implied advocacy of heightened securitisation attracts some criticism. Fear exists of growing surveillance and excessive vigilance serving to violate individuals’ privacy, and impede citizens’ quality-of-life (Clarke, 1997). A different anxiety surrounds the fear that an increase in securitisation may be matched by an equivalent increase in violence (on the part of offenders during the commission of an offence) in order to achieve the same benefits (Spelman, 2005).

The ‘crime as opportunity’ paradigm on which the security hypothesis is based, also generates criticism for ignoring the ‘root causes’ of crime (Clarke, 2005). However, Felson (2002, p. 35) maintains that “opportunity is the root cause of crime”. Opportunity theory does also allow room for sociological factors to play a role in offenders’ assessment of criminal opportunities: for example, the influence of a peer or familial environment where the rationality of committing crime is supported (Van Dijk, 1994). An additional criticism of the situational/opportunity perspective is that its focus on the circumstances in which a criminal act occurs presents the victim as a supplier of criminal opportunities (Van Dijk, 1994). The notion of victim-blaming has been attributed to opportunity theories of crime (Clarke, 2005) due to the evidence that criminal opportunities pool in certain victim-types, and that repeat victimisation disproportionately contributes to the overall crime rate (Farrell and Pease, 1993; Hope, 2007).

A final criticism is that improvements to security measures or environmental design cannot be successfully applied to a decline in violent crime: “it cannot reasonably be argued to have caused sharp parallel declines in homicide and other violent and sexual offending - something more fundamental is happening.” (Tonry, 2014, p. 5). Recently however, robbery - which straddles the conceptual divide between property and violent crime (Matthews, 1996) - has been effectively examined through the opportunity/security perspective in relation to the crime drop phenomenon (Thompson, 2014). Tonry (2014, p. 19) concedes that violence with an acquisitive element may be more vulnerable to changes in criminal opportunities. However, the extension of the security hypothesis to crimes of non-acquisitively motivated violence, perceived as less amenable to situational control (Clarke, 1997), is largely absent from existing research. This informs the focus of the present research: which explores whether an understanding of crime as opportunity - embedded in the security hypothesis - can successfully explain the crime of physical assault in the context of the crime drop. The following chapter will examine the merits of applying an opportunity framework, and a situational perspective, to violent offences without clear acquisitive or sexual motivation.
3. Chapter Three Situational Violence

Although violent crime is often considered to reflect the psychological disturbance of the offender, the view that much violence is opportunistic may more accurately reflect the nature of the criminal (Indermaur & Ferrante, 1993, p. 9)

Where the majority of criminological literature looks to the history and psychology of the offender, a situational approach observes crime as opportunity, and examines the tendency of such opportunities to pool amongst suitable victims, and in certain times and places (Cohen & Felson, 1979). Studying the behaviour and characteristics of victims, as well as the contexts in which crime occurs, have been historically overlooked in favour of studying the behaviour and characteristics predicting offending (Loeber, 1988). Ascencio and Guerra (2008, p. 733) suggest that the explanation for this imbalance is a fear of “attributing blame to the victim”, which may be particularly salient when studying victims of interpersonal violence. However, the role of victims and their interaction with the environment, is now understood to play a major role in determining the opportunity structure of crimes (Cornish & Clarke, 1986a) as well as the aggregate crime rates that result (Farrell et al., 2005).

A key concept underpinning situational criminology and the adoption of situational crime prevention is that offenders make rational decisions - based on cues in the environment - to exploit a presented opportunity. Whilst traditionally reserved for property crime, this chapter will conceptualise violent crime from this situational standpoint. First, by framing the decision-making processes of violent offenders as ‘rational’. Second, by examining the situational characteristics of violent offences and how opportunities for violence are distributed in space and time. Third, by exploring how opportunities for violence concentrate amongst individuals with certain socio-demographic characteristics and lifestyles that increase their exposure to risk. Fourth, by presenting the environmental cues which serve to facilitate, provoke, or inhibit, violent behaviour (Wortley, 1998).

Ongoing resistance to a situational interpretation of violence – based on the perception of violence as ‘irrational’ and unsuscceptible to situational cues – is explored. The current chapter then presents the heightened challenge of applying this approach to violence in the context of the night-time economy: where the decision-making processes of offenders are routinely impaired by alcohol and drug consumption. Evidencing the opportunity structure of night-time violence supports the use of opportunity-reduction techniques in future preventative efforts, and offers potential insight into the stock of violent opportunities over time.
3.1. A Situational Approach
Historically considered a problem exclusive to the criminal justice system, violent crime has fast emerged as an integral concern of the public health domain (World Health Organisation (WHO), 1997); both in the resultant injuries burdening the healthcare system (Mair & Mair 2003) and in the mental health issues experienced by victims – with up to 20% of physical assault victims in Britain experiencing Post-Traumatic Stress Disorder (Brewin, Andrews, Rose & Kirk, 1999). The total cost\(^6\) of violence in the UK in 2012 alone was £124 billion: equivalent to 7.7% of GDP (Peace IfEa, 2013). Whilst harder to quantify, the intangible costs of assault such as distress and community disharmony are also undoubtedly high (Trasler, 1986). Where public health has “long recognised the environment as determinant of disease and injury”, considerably less attention is paid to the environment when considering violence prevention (Mair & Mair, 2003, p. 209). Felson and Clarke (1998) state that an individual’s behaviour is indeed a direct product of that person’s interaction with their physical settings, and that environments provide varying levels of opportunity for crime. People’s interaction with their immediate environment can therefore inform the occurrence of crime (Brennan et al., 2010).

The situational approach argues that violent crime is a product of a rational decision – weighted by the perceived costs and benefits of exploiting a presented opportunity. Contrary to traditional criminological thinking, it stipulates that the motivation to offend is neither constant, nor beyond all control – but is instead reliant on a calculation of perceived costs and rewards, as opposed to an inherent, or acquired, disposition to offend regardless of the circumstances (Bennett, 1986). The rational choice perspective views the inclination to commit violence as wilful, and therefore subject to utility calculations (Bachman, Paternoster & Ward, 1992, p. 345) which are made in response to cues from the immediate environment (Geason & Wilson, 1998). The implication is that the management, design or manipulation of said environment, can disrupt the balance of this rational decision process and systematically reduce the number of criminogenic opportunities (Hough, Clarke & Mayhew, 1980).

The approach regards crime as a ‘situated event’ (Hebenton, 2011, p. 143) patterned by the routine activities of daily life and the convergence in space and time of three key elements: a motivated offender and a suitable target, in the absence of capable guardianship (Cohen & Felson, 1979). Whilst traditional research has emphasised determinants of offending, including processes operating in the early history of offenders (Sommers and Baskin, 1993), the role of peer influence, and personal characteristics (Rossmo, 1995), situational criminology awards “little immediate relevance to how he came to be the way he is” (Rebocho & Silva, 2014, p. 43). Instead, the perspective focuses on the current dynamic of crime, of which the offender is only one element (Wortley and Mazerolle, 2008). It encompasses the “rediscovery of the offence, and its situational and spatial characteristics” (Crawford, 1998, p. 35). The shift from why crime occurs to how crime occurs, and from the criminal to the criminal act, has attracted vocal opposition. Critics condemn the approach as “bereft of depth” (Lee, 2009, p. 6) whilst “normalising the criminogenic situation” (Hayward, 2004, p. 104).

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\(^{6}\) direct and indirect costs
Explaining a crime in terms of the environment in which it occurred is regarded by some as a sterile or ‘cold’ approach to the understanding and prevention of crime (Hebenton, 2011); “reducing the mind to a statistical formula” (Hayward, 2007, p. 234). Farrell (2010) responds that the situational approach actually holds opportunity reduction as its primary goal and bypasses blame for harmful behaviour; seeking to design such behaviour out. The approach recognises that criminal acts do not occur in a vacuum void of societal, educational, and socio-economic influence: Farrell and Pease (2006, p. 187) argue that indeed there is indeed “no doubt that a range of factors influence decision making, but that is what they are – influences”.

The situational perspective harnesses opportunity theories of crime; including routine activity theory, rational choice theory, and crime pattern theory. All have different emphases – society, the individual, and the local area, respectively (Rossmon, 2000), but all hinge on crime as opportunity. Rebocho and Silva (2014, p. 43) argue that whilst society and locality can structure criminogenic opportunities, it remains “the individual who chooses to offend”. Gabor (1986) suggests that successful research on situational violence should incorporate both of these notions: accounting for both how criminal opportunities are distributed, as well as how offenders’ decisions are affected by the circumstances and situations in which they find themselves. A tendency of existing situational research to focus on the distribution of opportunities for violence (Sommers & Baskin, 1993) may be symptomatic of theorists’ hesitation to frame violence within a rational perspective (Cornish & Clarke, 1986).

3.2. Violence and Rational Choice Theory
The rational choice theory interprets the decision to offend using the same principles as cost-benefit analysis, and argues that individuals behave in ways that maximise benefits and minimise costs (Cornish & Clarke, 1986b). The rational offending model assumes that individuals make choices they perceive to be in their best interests (Henry, Lanier & Lanier, 2006). Individuals therefore choose whether to offend by weighing perceived rewards against the perceived costs – for example the chance of apprehension and severity of penalty if caught (Foreman-Peck & Moore, 2010). Whilst the rational choice model appears to more neatly align with the acquisitive gains of property crime (Boudon, 1998; Foreman-Peck & Moore, 2010), a growing body of research argues violence to be “chosen by the offender, and hence occurring within a rational framework” (Felson, 2012, p. 206).

Sommers and Baskin (1993) argue that in order to comprehend the relationship between violence and situation, we must first recognise that situations are not straightforward determinants of behaviour: “choice is available to individuals, both in terms of which situations they enter and what behaviour they adopt in each situation” (LaFree & Birbeck, 1991, p. 75). An essential bedrock of the rational choice theory is that offenders actively and freely choose to commit violence based on their assessment of a presented opportunity (Cromwell, Olson & Avary, 1991). Clarke and Cornish (1985) developed the rational choice framework of crime and began by making a clear distinction between the decision to be involved in criminality, and the decision to actually engage in a specific criminal event. Research indicates that initiation into criminal activity can be influenced by
a number of factors, including "weak school attachments and parental supervision, association with delinquent peers, economic deprivation, or an absence of positive role models" (Sommers & Baskin, 1993, p. 156). However, the situational perspective concerns itself with the decision-making processes that occur during the commission of criminal events themselves, rather than the processes governing criminal involvement.

The application of a rational choice framework to violent crime specifically is supported by Wikström’s (2004) situational action theory; which proposes that moral actions are also based on perceptions and choice processes linking an individual to the environment in which they act, and that all actions, including acts of violence, can be attributed to what the actor perceives as a rational choice (Wikström, 2004; Wikström & Treiber, 2009). Wikström and Treiber (2009, p. 77) conclude that “people engage in acts of violence because they (i) come to see such acts as viable action alternatives and (ii) choose (habitually or deliberately) to carry them out”.

During a violent crime, the offender will have made a multitude of decisions regarding their use of violence as the means to achieve their particular ends (Athens, 2005). The outcome of an aggressive interaction is not predetermined. It is, at least partially, a function of events that occur between the parties during the incident (Felson & Steadman, 1983). Felson (2002, p. 17) argues that “all acts of aggression, no matter how impulsive or spontaneous they appear, involve a string of decisions” - with each decision along the way making sense from the offender’s standpoint (Felson & Boba, 2010). Athens (2005) argues that the first critical decision is whether or not to use physical force to achieve desired goals. If the decision to use force is taken, the subsequent decisions will focus on the degree of force to use and precisely when, and to whom, it should be exerted. The implication that offenders’ make weighted decisions - which can be successfully interrupted or rebalanced - is important for the potential prevention of violence, and violence escalation.

3.2.1. Instrumental Violence
A barrier to interpreting violence as ‘rational’ is the historic polarisation of ‘instrumental’ and ‘expressive’ crimes. DeHaan and Vos (2003) articulate a difference between committing crimes for personal gain, and the serious violation of a victim’s personal integrity: drawing a distinction between instrumental versus expressive crimes. Whilst instrumental crime is defined as an offence in which the criminal act is a ‘means to an end’, expressive crime is defined as an offence in which the criminal act is the goal in itself (McClintock, 1974). At least outwardly, property crimes and violent crimes appear to divide naturally into these separate categories. Violence has repeatedly been described as expressive and irrational by theorists - and as such ungoverned by decisions or opportunities, and impervious to situational cues (Felson & Clarke, 1998). Thus the main barrier in applying situational and opportunity principles to acts of assaultive violence is the rational choice component; “constructing a homo-economicus model of human behaviour” (Hayward, 2007, p. 234).

Rational choice theory is deemed inapplicable to expressive crime: where the actor is not economically self-interested and is instead seen to be driven by ‘visceral emotions’ (Hayward, 2007). Similarly, preventative strategies based on rebalancing the decision to offend are deemed ineffective (Hayward, 2007). Stone (2007)
argues that “emotional or irrational factors are sometimes so powerful they seem to make traditional models of rational decision making inconceivable” (cited in Hayward, 2007, p. 237). As such crimes of hostility, violence, excitement and emotion - so-called ‘expressive’ crimes - are presumed to be ‘irrational’. The irrationality of expressive crime rests on a series of misconceptions regarding the limitations of the rational choice framework: the first being that instrumental and expressive crimes are mutually exclusive categories (Wilkinson, 2001).

Whilst acquisitive crimes, including acquisitive violence (robbery), are more readily accepted within the rational framework (Tonry, 2014), the greater challenge lies in explaining “why people get into foolish fights with no apparent gain” (Felson & Clarke, 1998, p. 9). Reis (1974) however, tells of ‘pro-active assaults’ (such as the infliction of harm to prevent witness testimonies) and ‘re-active assaults’ (including violence in self-defence): both illustrations of instrumental violence. Felson (2012, p. 206) goes further to suggest that “there is no expressive violence”: instead all violence is instrumental and a product of rational decisions to benefit the self.

Farrell and Pease (2006, p. 186) agree that however perverse an offender’s rationality, there rests a “vital platform on which to situationally reduce the opportunities to offend by reducing perceived rewards and increasing costs”. To approach an understanding of violent crime, Felson (2002, p. 154) insists that we “cannot be distracted by our own moral outrage or by the legal code”, and that we must “abandon middle class materialist assumptions about the centrality of getting money or other material goods” (Katz, 1988 cited in Indermaur & Ferrante, 1993, p. 2). Indeed, the second misconception surrounding the rational choice framework is that it requires monetary goals. Instrumentalists reject the distinction between instrumental and expressive aggression on the grounds that both are “instrumental” in meeting the offender’s goals (Bandura, 1973; Felson, 2002; Tedeschi & Felson, 1994); the only distinction being the nature of the goals held by the aggressor (Indermaur & Ferrante, 1993).

3.2.2. Rational Goals
Farrell (2010) observes that the choice to violently offend certainly may include, but is not limited to, acquisitive gain. Benefits can encompass a plethora of intangible psychological rewards, including gaining power over others and kudos amongst peers, as well as the pursuit of excitement (Athens, 2005; Cartwright, 2002; De Haan, 2011; Farrell, 2010; Morleo, Lushey & Hughes, 2007; Tedeschi & Felson, 1994).

The broad range of possible tangible and intangible benefits are outlined by Farrell (2010) in table 3.1. Furthermore, the choice to offend is often not governed by one solitary goal, but instead an offender may enter a criminogenic situation with a combination of goals in mind (Indermaur & Ferrante, 1993).
Table 3.1. Table of Perceived Costs and Benefits of Committing Crime (Farrell, 2010, p. 51)

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary</td>
<td></td>
</tr>
<tr>
<td>• Expenditure on tools</td>
<td>• Cash</td>
</tr>
<tr>
<td>• Cost of travel to offence site</td>
<td>• Goods that can be used, exchanged or sold</td>
</tr>
<tr>
<td>• Possible opportunity cost of time (learning skills, search time, committing the crime, escaping)</td>
<td></td>
</tr>
<tr>
<td>Non-Monetary (Intangible)</td>
<td></td>
</tr>
<tr>
<td>• Physical effort/ energy</td>
<td>• Time and energy saved from cutting corners</td>
</tr>
<tr>
<td>• Psychological and emotional effort/ energy</td>
<td>• Excitement/ thrill</td>
</tr>
<tr>
<td>• Shame, remorse, guilt</td>
<td>• Feelings of control and power over others</td>
</tr>
<tr>
<td>• Negative aspects of being labelled – peer and other condemnation</td>
<td>• Feeling of freedom and control over one's own acts</td>
</tr>
<tr>
<td>• Worry/concern about punishment (including concern about significant others)</td>
<td>• Potential to boost self-esteem</td>
</tr>
<tr>
<td>• Other negative emotions or feelings</td>
<td>• Perceived extra sexual opportunities</td>
</tr>
<tr>
<td></td>
<td>• Positive aspects of being labelled (kudos, peer and other esteem)</td>
</tr>
<tr>
<td></td>
<td>• Other positive emotions, sensations or feelings</td>
</tr>
</tbody>
</table>

Whilst many regard assaultive violence as an irrational, impulsive outburst that represents the loss of all self-control (Indermaur, 1999, p. 76), there remains “an underlying fabric of rewards and punishments which largely explain the spatial temporal and demographic distribution of violence”. Shoham (1997) proposes psychological rewards of assaultive violence to include a cathartic release of tension, followed by a sense of fulfillment. A narrowing range of non-violent reactions available to an offender is seen to tip the balance of rational choice, and renders violence probable (Shoham, 1997).

Supported by offender interviews (Indermaur, 1996; Morrison & O'Donnell, 1994), aggression in the eye of the aggressor is rational (Assaad & Exum, 2002). It is possible that an offender's primary goal is the actual physical injury itself, but is more likely that other consequences of the violence are more rewarding (Bandura, 1973). Self-reported benefits include feeling 'heroic', experiencing a rush, or increasing group cohesion (Indermaur, 1999). Violent acts are purposive because aggressors invariably seek to achieve certain readily identifiable goals (Athens, 2005). Tedechi and Felson (1994) outline three overarching goals of assaultive violence: (1) to get others to comply with your wishes, (2) to restore justice as the offender perceives it, and (3) to assert and protect self-image or identity. Research by Athens (2005), conducted more than a decade later, mirrored these goal classifications with categories of control, retribution and protecting identity - but expanded into a fourth category of 'deterrence'.

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The majority of research to date has focused on the preservation of the self; observed as a primary goal in the most prevalent dynamic of public violence – assaults between males (Morleo et al., 2007). Whilst reactive violence can be described as retaliation to a perceived threat of physical harm, De Haan (2011, p. 41) argues violence between men as more commonly “a reaction to narcissistic injury”. She continues that masculinity and machismo are “particularly salient for understanding and explaining public violence” (De Haan, 2011, p. 49). The preservation of ‘maschio concerns’, including honour, sexual prowess, and physical strength (Neff, Prihoda & Hoppe, 1991) are hypothesised to be central to this category of assault. Messerschmidt (1993) and Jefferson (1994) pioneered the argument that violence can be regarded as an extreme form of ‘doing’ masculinity. They argue violence to be a likely outcome when these generally accepted notions of masculinity are disturbed: with violence and physical dominance rationally employed when additional effort is required to verify masculinity. Scheff (1992) argues shame to be the most relevant of emotions involved in the genesis of violent crime. Violence is conceptualised as an offender’s reaction to the disappointed expectations regarding the respect for their identity - including their masculinity (Scheff, 1992). Cartwright (2002) agrees that the perpetrator then chooses to use violence as a means to relieve his shame, restore his identity, and have his identity confirmed by others. Campbell’s (1984) study of girl gang members extends this concept to intra-gender fighting between females: which Campbell argues to similarly embody the restoration of identity after ‘personal integrity has been assailed’. Sommers and Baskin (1993), whilst also examining decision-making in female offenders, concluded that such nonpecuniary goals played a significant role in the decision-making processes of individuals.

A third misconception is that rational decisions are ‘perfect’ decisions (Farrell, 2010). Rational choice begins with an offender seeking to advantage themselves through criminal activity – followed by a decision-making process amongst alternatives (Pease, 2006). These decisions are “rational within the constraints of time, ability and the availability of relevant information” (Pease, 2001, p. 235). Rational decisions therefore, do not equate to perfect decisions. Decisions are often informed by imperfect information, skewed perceptions, emotional impulsivity, and are sometimes impaired by alcohol or drugs (Clarke & Cornish, 1985; Farrell, 2010). In his theory of bounded rationality, Simon (1957; 1978) argues that however flawed, actions are nevertheless the product of a decision-making process. Felson (2012, p. 206) describes how it may be the word ‘rational’ itself that restricts the understanding of violence from a rational perspective. The rational choice framework requires the abandonment of an ‘over-idealized’ version of rationality and the avoidance of a false dichotomy: “that people either make good careful and wise decisions or they are not making decisions at all”. Felson (2012) argues that a foolish decision is still a decision, and advises the comprehension of violence as ‘decisional’, as opposed to classically ‘rational’ in order to alleviate this conflict (Felson, 2012, p. 206).

3.2.3. Bounded Rationality
Simon (1957) conceived the term ‘bounded rationality’; the idea that in decision-making, the rationality of an individual is limited by the information they have, the cognitive limitations of their minds, and the finite amount of time they have to make a decision (Simon, 1978): with decisions “founded upon a platform of weighing,
however roughly, the various perceived costs and benefits involved” (Farrell & Pease, 2006, p. 186). Van Gelder (2013, p. 746) explains that in the decision-making process, “extensive computing is not required”: instead rudimentary cognitive processing of risks and rewards is exhibited. The way in which factors are weighed “almost certainly involves taking shortcuts in order to simplify the complex process of balancing advantages and disadvantages” (Sommers & Baskin 1993, p. 138). Hence, individuals tend to opt for a solution that is ‘satisfactory’ instead of optimal (Van Gelder, 2013, p. 746). Clarke and Cornish (1985) argue that for crime to be considered rational, it does not require preconception or forward planning. A cornerstone of rational choice theory is the focus on the decision-making processes during the criminal event itself, which remain largely independent of offenders’ dispositions and feelings (Van Gelder, 2013). Dispute-related violence may be even less likely to be planned than other offences because the motivation to commit violence is more likely to arise during the situation (Felson & Steadman, 1983). This demonstrates that dispute-related violence is “more likely to be spontaneous and context driven” (Felson & Massoglia, 2012, p. 756). Sommers and Baskin (1993) confirm that a minority (20%) of assaults are pre-planned: with the majority of these pre-planned assaults concerning economic interests such as retrieval of money, or involvement in drug-dealing. Clarke and Cornish (1985) go on to acknowledge that decision-making is further constrained by the availability and accuracy of relevant information. Felson (2012, p. 207) reiterates that “an uninformed decision is still a decision”.

There is research to suggest that decision making is also bound by the potential offender’s own characteristics: described by Simon (1957) as the cognitive limitations of their mind. Foreman-Peck and Moore (2010) argue that seldom acknowledged is the influence an individual’s attitudes to risk will have on the decision to offend. They equate the decision to engage in a criminal event with the decision to engage in a fair gamble. A more risk averse person would decline to engage, all other things being equal, and as such different “risk appetites” should in part explain the distribution of offending in the population (Foreman-Peck & Moore, 2010, p. 160). Consistent with the rational model, research suggests less risk averse, and more impatient individuals, are more liable to engage in violence (Foreman-Peck & Moore, 2010, p. 160).

Under this framework, even the most serious or bizarre crimes may signify a modicum of rationality: with even “gun wielding mass murderers [making] ‘excellent’ choices of weaponry, vulnerable targets and suitable environments” (Farrell & Pease, 2006, p. 186) and even the ‘flailing drunk’ using tools at his immediate disposal, such as bottles and glasses (Farrell, 2010, p. 52). The rational nature of violence is evidenced by offenders’ choice of location, weapon and victim (Brantingham & Brantingham, 1978; Felson, 1996; Felson & Steadman, 1983, LaFree & Birbeck, 1991, Luckenbill, 1977). It is even suggested that “sound judgments of victim suitability and guardian proximity defines a reasoned choice” (Farrell, Phillips & Pease, 1995, p. 386).

3.2.4. Target Selection
Target selection is dependent on “both the target’s intrinsic characteristics and the characteristics of its surroundings” (Rebocho & Silva, 2014, p. 44). Burke (2005) devised the acronym VIVA to outline the salient factors associated with target suitability: (V) the value or desirability of the target, calculated from the subjective
rational perspective of the offender, (I) the inertia of the subject which includes all of the physical aspects that can facilitate or inhibit the movement of the target, such as mobility, resistance (V) the visibility of the target which identifies the person or property for attack, and (A) the accessibility of the target. Whilst VIVA can be definitively applied to the selection of suitable targets for property crime (products or buildings), the application of VIVA to the selection of suitable human targets for violence is accompanied by certain complicating factors: one being that people move around, and the other being that people can retaliate (Rossmo, 2000).

Felson (2002, p. 32) adapts Clarke’s (1999) model CRAVED\(^7\)– which explains the theory of hot products (suitable product selection) - to violent offences:

A violent offender generally needs to conceal the violent act, as well as the steps before and after it. He must remove himself safely from the scene; avail himself of a convenient human target for violent attack; find a target of value in his own mind; enjoy the criminal act, or at least avoid pain to himself, and dispose of incriminating evidence, even the victim.

Offenders’ choice of target reveals a degree of rationality exercised during the commission of violence (Rebocho & Silva, 2014). Indermaur and Ferrante (1993) frame violence as rational by describing that an assessment of physical superiority is almost universally made. Research confirms that “big people hit little people” (Felson, 1996, p. 433) and that “larger numbers of offenders are more likely to attack smaller numbers” (Felson & Clarke, 1998, p. 10). Felson (1996) argues that the tendency of offenders to aggress against an inferior force is a deliberate abuse of physical advantage – and is one such exploitation of target vulnerability. Sampson and Lauritsen (1990, p. 112) observe that intoxicated individuals are “especially ripe for exploitation”. Alcohol consumption is seen to be a particularly salient predictor of violent victimisation as it lowers the targets’ guardianship, impairs their physical co-ordination, and diminishes their communicative skills (beneficial for deescalating potentially violent encounters) (Brennan et al., 2010; Sampson & Lauritsen, 1990).

Indermaur and Ferrante (1993, p. 7) report that a ‘quintessential’ feature of violence is that the perpetrator has a positive chance of beating the opponent into submission; implying that some assessment of the likelihood of success has been conducted. When selecting human targets, offenders evidently make choices according to their own potency in generating a convincing threat and overcoming victim’s resistance, as well as the perceived vulnerability of the target (Cook, 1976). Feeney (1986) proposes that the subsequent use of weapons in assaultive violence may be a rational calculation made in response to an assessment of the selected target’s vulnerability and in order to gain control over a situation.

Cohen, Kluegel and Land (1981) argue that at any time there are a set of individuals who are ‘motivated’ towards violence; seeking a suitable target on whom to displace aggression acquired previously due to the original source of frustration not presenting a convenient, or suitable, target. ‘Predatory offenders’, defined as

\(^7\)The CRAVED acronym refers to hot products which are: (1) Concealable, (2) Removable, (3) Accessible, (4) Valuable, (5) Enjoyable, and (6) Disposable (Clarke, 1999)
those actively pursuing violence, are often equated with repeat offending (Brantingham & Brantingham, 1993). An example within the context of the night-time economy is that of ‘weekend warriors’ - a small percentage of highly motivated offenders described as active seekers of barroom violence (Marsh & Kibby, 1992). Such predatory offending is thought to challenge the boundaries of ‘rational’ and ‘opportunistic’ crime. However, Brantingham and Brantingham (1993; 1995; 2008) frame predatory offending in the opportunity model of crime using the notion of crime ‘templates’.

3.2.5. Crime Templates
Brantingham and Brantingham (2008, p. 87) argue that potential targets and victims become actual targets or victims when “the potential offender’s willingness to commit a crime has been triggered and when the potential target or victim fits the offender’s crime template”. Individuals are hypothesised to create images of their surroundings depending on the characteristics of what surrounds them: “such images represent a process-based perception of objects within a complex environment and are often called templates” (Rebocho & Silva, 2014, p. 44). Brantingham and Brantingham (1993) explain that cognitive templates for crime emerge as a result of an offender’s filtration and storage of information relevant to the risks and rewards of offending. Once established, they argue, these templates alert offenders to potential criminogenic opportunities (Brantingham & Brantingham, 1993). An offender may feel a compulsion to offend in order to avoid missing an opportunity “in the same way that a shopper may buy a ‘bargain’ at a store that they don’t really need rather than pass up a ‘steal’” (Indermaur, 1999, p. 74). It is in this way that predatory offending is understood through the rational perspective. Felson (2002) uses the ‘rational’ goals of domestic violence - which include gaining compliance, asserting self-image, and restoring perceived justice - as an illustration of the ‘rational elements’ of one such predatory offence.

3.3. Situated Transactions
A criticism of the rational choice model is that it reduces violence to a single-sided decision making process and fails to account for the perspective, and behaviour, of the victim (Athens, 2005). This criticism may be especially pertinent to interpersonal crimes. Steadman (1982, p. 73) highlights that in order to have interpersonal violence we must first have two or more actors. These actors interact in certain contexts:

There is a location and time. There are other persons; their number; their relationship to the antagonist; the relative age, physical size and strength of the antagonist and ultimate victim; the amount of alcohol and drugs consumed; and the content (reason) of the dispute. The actors then interact in this context in ways that may produce violence

In his paper ‘Criminal homicide as a situated transaction’, Luckenbill (1977, p. 176) detailed fatal assault as a product of an interaction “between an offender, victim, and possibly an audience, whom engage in an interchange which leaves the victim dead”. Luckenbill (1977, p. 177) argues that transactions involve the “joint contribution of the offender and victim”. The actors in these situated transactions develop particular roles; each shaped by the others, and instrumental in some way to the fatal outcome (Blumer, 1969). The interactional
process resulting in criminal violence has been modelled in three stages: first, verbal conflict, during which identities are assailed and attempts to influence an antagonist fail; second, threats and evasive action; third, physical attack (Campbell, 1984; Felson & Steadman, 1983; Luckenbill, 1977). Felson (2015) argues that ‘opportunity’ plays a direct role in moving an interaction from a verbal dispute to one involving serious physical contact. Marcus and Reio (2002) go on to suggest that the context of aggression directly influences the escalation of disputes - and the subsequent severity of interactions.

Observing violent crime as a situated transaction therefore requires the interaction of two or more actors in a context conducive to violence (Marcus & Reio, 2002; Steadman, 1982); mirroring the three necessary components in the ‘chemistry of crime’ as outlined by Cohen and Felson’s (1979) routine activity theory, which similarly views the offender as only part of the transaction.

3.4. Violence and Routine Activity Theory
Routine activity theory can be viewed as the ‘macro’ approach to rational choice’s ‘micro’ approach. It observes crime from a reasoning offender’s point of view (Cohen & Felson 1979; Felson & Clarke, 1998) and proposes that a crime will only occur if a likely offender believes a victim or target is suitable, and a capable guardian is absent. A potential offender’s (rational) assessment will then determine whether or not a crime will be committed (Foreman-Peck & Moore, 2010). The theory was devised by Cohen and Felson (1979) in response to their examination of longitudinal US crime trends and the surprising spikes in crime whilst unemployment levels were particularly low. They speculated that changes to the structure of daily activities influenced the stock of criminogenic opportunities, and therefore prompted fluctuation in crime rates. At its core is the hypothesis that the probability of a criminal offence occurring at any specific time and place, is a function of the convergence of the three minimal elements: a motivated offender, a suitable target, in a place without capable guardianship (Cohen & Felson, 1979) (Figure 3.1).

Figure 3.1. The Crime Triangle. Source: Centre for Problem-Orientated Policing
(Source: http://www.popcenter.org/learning/pam/help/theory.cfm)
For a direct-contact crime such as assultive violence to occur, both the path of offender and victim must physically interact in time and space, within “an environment appropriate for criminal activity” (Rossmo, 2000, p. 112). Felson (2012, p. 209) argues that each of the conditions generating aggression depend on routine activities: “likely insulaters are not randomly distributed in time and space”. Similarly “group sizes and compositions shift across the day and evening…the presence of alcohol, levels of intoxication, noise, presence of peacemakers” are all subject to the routine activity patterns of daily life (Felson, 2012, p. 209). The three minimal elements, Felson (2002) argues, make up the “chemistry of crime”. These are the minimal elements because the elimination of any one of these elements is enough to prevent crime from occurring (Cohen & Felson, 1979).

The ‘motivated offender’ element in the chemistry of crime has the power to be mitigated by a secondary element: ‘offender handler’ (Figure 3.1). By integrating routine activity theory with control theory (Hirschi, 1969), Felson (1986) was able to demonstrate that there are people in offenders' lives, including parents, relatives, spouses, teachers and coaches, who, when present, prevent the offender from deviating and have the power to control crime. Evidence suggests that often females employ a traditionally feminine role of ‘peacekeeper’ (Lindsay, 2012, p. 240) to dissuade their male friends or partners from engaging in public violence. This is an example of how offender handlers can be instrumental in reducing opportunities for violence. Delinquent handlers, conversely, “are like intoxicants, their presence serving as a disinhibition against misbehaviour” (Felson & Boba, 2010, p. 63).

Individuals who are motivated, or have inclinations, to perpetrate violent crime are considered a constant (Cohen & Felson, 1979): “those with the taste for violence are both more likely to react violently to provocation, and to find provocation where there is none” (Foreman-Peck & Moore, 2010, p. 162). Brantingham and Brantingham (1991) argue that motivated offenders will always be available to take advantage of opportunities that arise. Broadhurst and Maller (1991) confirm that the majority of violent offenders are generalists who rarely conform to a narrow pattern of criminality. As such, situational analysis instead begins with the location and targets of violent crime (Brantingham & Brantingham, 1991).

‘Capable guardianship’ incorporates both the formal and informal signals of guardianship against crime (Cohen & Felson, 1979). Formal guardianship includes measures of visible policing and the instillation of security devices, such as CCTV cameras (Zimring, 2006). Informal guardianship includes the design and appearance of locations, as well as the movement of ordinary citizens as they carry out daily activities (Cohen & Felson, 1979). The notion that the physical appearance and condition of a location can trigger opportunities for crime, due to a perceived lack of capable guardianship, is operationalised in Wilson and Kelling’s (1982) ‘broken windows theory’. This theory explains the relationship between disorder and crime using a single broken window as an analogy for the entire spectrum of urban decay (Wilson & Kelling, 1982). This spectrum covers not only aesthetic or visual deterioration, but also activities perceived as detrimental to a neighbourhood such as panhandling and prostitution (Kelling & Coles, 1997). Broken windows theory observes that ‘if a window in
a building is broken and left unrepaired, all of the rest of the windows will soon be broken” (Skogan, 1990, p. 10). This finding reveals the potential for one crime to induce another, and more broadly, it suggests that minor disorder and decay can go on to “spawn more serious crime” (Skogan, 1990, p. 10). Decay is therefore seen to generate opportunities for crime, as a lack of maintenance signals a lack of capable guardianship.

Jacobs (1969, p. 35) proposed that to guard against crime “there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street”. As such, busier places with more natural surveillance, are characterised by a reduction in crime, due to the increased presence of potential witnesses (Jacobs, 1969). The relationship between bystanders and violent crime however is more complex, as the presence of bystanders during violent interactions between young males, for example, is seen to elicit more aggressive responses (Felson & Clarke, 1998). This phenomenon is particularly salient if bystanders are known to the offender(s); with the provision of an audience serving to “egg offenders on” (Felson & Boba, 2010, p. 63).

‘Suitable targets’ are individuals who possess characteristics that make them desirable to an offender (Cohen et al., 1981). Offenders are thought to make rational assessments about a target’s suitability (see section 3.2.4). To understand however how suitable targets come to converge in space and time with motivated offenders, we look to routine activity theory and its theoretical bedfellow, lifestyle theory. Lifestyle theory, devised by Hindelang, Gottfredson and Garofalo (1978), is used as an explanation as to why certain individuals experience a higher risk of victimisation than others. In their book ‘Toward a Theory of Personal Criminal Victimization’, they assert that certain types of individuals experienced a disproportionate number of victimisations, and that this imbalance is linked to individuals’ lifestyles. ‘Lifestyles’ refer to the routine activities that individuals engage in and include both leisure and vocational activities. Under Hindelang et al.’s (1978) lifestyle/exposure model, the risk of victimisation and aggregate crime rates will increase as people spend more work and leisure time away from the safety of the home.

3.4.1. The Lifestyle/Exposure Model
In Hindelang et al.’s (1978) lifestyle/exposure model (Figure 3.2), ‘lifestyle’ is influenced by several factors, the first being an individuals’ demographic and socio-economic characteristics. An individual’s age, marital status, race, education, occupation, and income, are argued to put limitations on the individual’s behaviour and daily activities (Hindelang et al., 1978). These limitations adopt two forms: influencing both an individual’s role expectations (the expectations of appropriate behaviour as defined by the cultural norms of society), as well as influencing an individual’s structural constraints (situations that limit an individual’s behavioural options including financial limitations, familial or educational commitments, or legal constraints). An example is an individual with a higher income may be able to afford a more public lifestyle - or a younger individual, unable to drive, will be expected to spend more time in the home (Hindelang et al., 1978).

Both role expectations and structural constraints (socio-demographic characteristics) effect an individual’s adaptations (which allow the management of role and structural constraints, and involve skills and attitudes
adopted to aid this functioning). These adaptations become crucial in forming the regular patterns of activity that constitute a person’s lifestyle. This lifestyle is then translated into risk. Certain lifestyles may place individuals in a particular place or situation that exposes them to high risk of victimisation (including exposure to criminal situations and association with offenders) (Hindelang et al., 1978). This is consistent with the principle of homogamy, which dictates that individuals will be more prone to victimisation if frequently associating with, or coming into contact with, “members of demographic groups containing a disproportionate number of offenders” (Turvey & Freeman, 2014, p. 150).

Figure 3.2. Lifestyle/Exposure Model of Personal Victimization - Hindelang et al. (1978)

The routine activity theory/ lifestyle framework is frequently tested when examining victimisation risk (Aebi & Linde, 2014; Cass, 2007; Sampson & Wooldredge, 1987). They are treated as one overarching framework as they both recognise that victimisation is influenced by opportunity. Opportunity theories of personal crime victimisation gain traction from a tendency of crime to pool and concentrate amongst certain individuals (Pease, 1998). The lifestyle/ routine activity framework predicts that crime will concentrate amongst individuals who possess certain characteristics, and lead certain lifestyles, which ultimately increase their exposure to risk (Hindelang et al., 1978).

Demographic Characteristics

Kershaw, Nicholas and Walker (2008) identified the main predictors of violent victimisation to be age and gender: with younger as opposed to older, and males as opposed to females, at higher risk of violent victimisation. These findings are consistent with international accounts of violence (Faehrmann et al., 2008). Gender is an important demographic posited to effect an individuals’ lifestyles and subsequent risk, with males repeatedly emphasised as at higher risk; assault remaining a ‘primarily male’ phenomenon (Sommers & Baskin, 1993). The ‘male’ lifestyle – characterised by an increased likelihood to frequent public places at night and without guardianship – is offered as an explanation for the gender gap in both violent victimisation, and offending rates (Sommers & Baskin, 1993). Research observes that females, as opposed to their male counterparts, are less likely to be in locations and participate in situations conducive to violent offending; therefore avoiding interaction with motivated offenders (Sommers & Baskin, 1993). The different role
expectations of women, combined with an increased likelihood to be guarded (supervised) in terms of their routine activities, reduces females’ exposure to high risk situations – and their exposure as a suitable target to potential perpetrators (Hagan, 1989; Riley & Shaw, 1985).

Age itself is considered to be a significant predictor of violent victimisation risk (Hindelang et al., 1978). Felson, (1997, p. 211) observes that “as people get older they go out less and have fewer opportunities to engage in violent behaviour”. The lifestyle/routine activity framework suggests that younger individuals are more likely to lead lifestyles that expose them to situations where crime is likely to occur. Specifically younger, unmarried individuals are assumed to lead lifestyles which take them away from the safety of the home, and expose them to higher risk environments (Hindelang et al., 1978). As such, marital status also emerges as a demographic predictor of risk. The gender gap in personal victimisation is however, seen to narrow amongst both older, and very young demographic groups. Males’ and females’ role expectations and structural constraints may more closely align in these polarised age groups (Miethe & Meier, 1994).

**Structural Constraints**

Social deprivation measures such as unemployment, local physical disorder, and lower household income, can influence the stock of opportunities for violence (Nicholas et al., 2007). This suggests that the social and contextual environment plays a major role in predicting victimisation. Living in a socially deprived area is seen to increase exposure to risky situations with high levels of offending (Sampson & Lauritsen, 1990). An urban environment is also posited to increase opportunities for violence as a result of the proportion of strangers in highly populated areas (Sampson, 1987): fitting with the prediction of an increased proportion of strangers in an area with reduced guardianship capability (Indermaur & Ferrante, 1993).

An individual’s income and education-level, and more broadly their socio-economic status, are argued to directly influence the risk of victimisation through the associated structural constraints – which influences lifestyle and subsequent exposure to risk. The likelihood of victimisation is seen to increase as individual income decreases (Miethe & Meier, 1994). A higher disposable income may facilitate more public activities, thus increasing exposure to risky situations. A lower income may influence transportation opportunities, and command reliance on public transportation, which similarly increases exposure to risk (Hindelang et al., 1978). Conversely, Felson (1997) observes that family responsibilities reduce individuals’ exposure to risk, by increasing the amount of time spent at home and thereby reducing opportunities to be either a victim, or offender, of street crime.

3.4.2. Victim-Offender Homogeneity

Whilst the lifestyle/routine activity framework, and the rational choice perspective, seek to explain the characteristics of ‘suitable targets’, in the case of assaultive violence there appears to be a considerable overlap between the risk factors for assault victimisation, and assault perpetration (Asencio & Guerra, 2008). Alcohol intoxication is associated with increasing an individual’s susceptibility to violent victimisation (Steele & Josephs, 1990; Povey & Allen, 2003) as well susceptibility to violently offend. Foreman-Peck and Moore (2010)
observe an overlap in the demographic characteristics across both victims and offenders; with public violence typified as intra-gender violence between young males (Morleo et al., 2007). There is also evidence to suggest a strong association between the cognitive processes of both victim and offender, such as impulsive decision-making (Farrington, 1998) and low self-control (Schreck, 1999). Schreck (1999) argues low self-control to successfully predict the engagement in offending, as well as predict the risk of victimisation. Low self-control manifests as victimisation-risk in a diminished ability to perceive risks or protect (guard) oneself sufficiently. Low self-control manifests as offending-risk through impulsive behaviour, an inability to delay gratification, and a low tolerance for frustrating situations. Schreck (1999) studied 1,039 university students and found level of self-control to significantly reduce the influence of demographic characteristics on both offending and victimisation patterns of crime. Similarly, impulsive decision-making - a form of decision making where the decision maker is more strongly motivated by immediate concerns (Rahmen et al., 2001) – is observed as a mutual trait between both victims and offenders (Moore & Foreman-Peck, 2009). Jensen and Brownfield (1986, p. 98) go beyond a coincidental overlap of characteristics to propose that when studying the risks of victimisation, “a major individual level variable, offence activity, has been ignored”.

A victim-offender paradox emerges: the blurring of victim and offender is a phenomenon exclusive to interpersonal assaultive violence (Engineer, Phillips, Thompson & Nicholls, 2003). Samspson and Lauritsen (1990, p. 110) ask whether the “engagement in deviant or violent behaviour increase one’s risk of personal victimisation?” Gottfredson (1984) reports a positive association between experiencing a personal victimisation and self-reported offending behaviour in the British Crime Survey. Indeed, victims are more likely to have past criminal convictions than non-victims (Rivara et al., 1995). Moore and Foreman-Peck (2009) confirm that equally, perpetrators of violence are at greater risk of violent victimisation.

The lifestyle/ routine activity framework explains the offender-victim phenomenon through the principle of ‘homogamy’: the notion that violent offenders are indeed more at risk of violent victimisation as a result of frequently associating with, and exposing themselves to, demographic groups or situations which contain a disproportionate number of other offenders (Hindelang et al., 1978). Steadman (1982, p. 185) argues that as the distinction between victim and offender blur, we must move to studying “violence prone situations”.

3.5. Violence and Crime Pattern Theory
The final necessary element in Felson’s (2002) chemistry of crime, is an environment void of capable guardianship. Unless the offender and target converge in the same place and at the same time, then no crime can take place (Sherman, 1995). Opportunities for violence pool and concentrate amongst certain locations, times, and situations, in the same way they concentrate amongst victims (Cohen & Felson, 1979). Tonry and Farrington (1995, p. 143) observe that “crime is not randomly distributed in time and space but is patterned by opportunities and other environmental factors to form hotspots”.

Certain locations are recognised as experiencing higher levels of repeat victimisation, and as such are referred to as ‘risky facilities’ (Clarke & Eck, 2003; Eck, Clarke & Guerette, 2007). Risky facilities can be defined as
either crime attractors or generators (Brantingham & Brantingham, 1995). Crime attracting locations draw offenders to that particular location due to a reputation as a good place to commit crime. Crime generating locations experience a high concentration of crime because they contain large numbers of potential victims or targets, and large numbers of potential offenders, who may have gone there for non-criminal reasons. Some locations may indeed be a combination of both types (Brantingham & Brantingham, 1995). Furthermore, crime can concentrate even further amongst a few specific premises of this nature (Sherman, 1995).

Brantingham and Brantingham (1993) continue that exactly where crime concentrates is strongly subject to crime-type. Interpersonal violence often occurs at "nodes where the victim’s activity space intersects the offender’s activity space" (Rebocho & Silva, 2014, p. 44). Studies examining the locations of homicide reveal a blue-print of the distribution in space and time of opportunities for violence as early as 1955 (Bullock, 1955; Wolfgang, 1958, Wallace, 1965). All fatal transactions, Luckenbill (1977, p. 178) noted, occurred in non-work or leisure time, with the majority occurring specifically on weekends, between the hours of 6pm and 2 am – and all in ‘leisure’ settings. In 75% of cases the offender and victim were engaged in ‘pleasurable pursuits’ (Luckenbill, 1977, p. 178).

3.6. Violent and Situational Crime Prevention

Situational Crime Prevention is the highly pragmatic application of the opportunity theories of crime (Indermaur, 1999). It is defined by Clarke (1995, p. 91):

Situational crime prevention seeks to reduce opportunities for specific categories of crime by increasing the associated risks and difficulties and reducing the rewards. It is composed of three main elements: an articulated theoretical framework, a standard methodology for tackling specific crime problems and a set of opportunity reducing techniques.

The situational prevention of crime uses measures designed to manipulate the immediate environment, disrupt the balance of the rational decision process, and to address the convergence of motivated offenders, suitable targets and incapable guardians – in an effort to systematically reduce the number of criminogenic opportunities and ultimately drive down the rates of crime (Cohen & Felson, 1979; Felson & Clarke, 1998). Situational crime prevention proposes five overarching principles (housing a total of twenty-five individual techniques) to reduce the attraction to crime in the eyes of rational offenders: (1) increase the effort of crime, (2) increase the risk of detection prior to, during, or post-offence, (3) reduce the rewards obtained through the engagement in a crime, (4) remove precipitating factors that serve to provoke criminal activities, and (5) remove the excuses that offenders may use to justify the offence (Clarke, 1997; Cornish & Clarke, 2003).

Proponents of dispositional criminology exclude assaultive violence as susceptible to situation (Hayward, 2004), and debate even exists amongst proponents of situational criminology concerning the amenability of violence to situational cues (Clarke, 1992a). Violent crimes are less common, less likely to cluster in time and space (Gabor, 1990) and the motivation to commit violence is more varied (Maguire & Brookman, 2005). Felson (2002, p. 161) argues that it would be "quite a mistake to think that situational prevention applies only
to property crime”. The recognition of violence as goal-orientated, instrumental, and fundamentally rational behaviour, he continues, has facilitated a great advance in understanding the situational features of violence. Felson (2002) concludes that conversely, the goals of violent crime render it highly amenable to situational prevention. The twenty-five prevention techniques, as outlined by Cornish and Clarke (2003) are presented in table 3.2.

Table 3.2. Twenty-Five Techniques of Situational Crime Prevention (Cornish and Clarke, 2003)

<table>
<thead>
<tr>
<th>Increase The Effort</th>
<th>Increase The Risks</th>
<th>Reduce The Rewards</th>
<th>Reduce Provocation</th>
<th>Remove Excuses</th>
</tr>
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</table>

The situational techniques have progressed from the initial twelve addressing rewards and risks (Clarke, 1992b), to a revised sixteen introducing the role of guilt and shame (Homel & Clarke, 1997), to the present twenty-five (Cornish & Clarke, 2003) – which have evolved to accommodate the effect of situational cues on the social and psychological setting for crime. Wortley (1998) observes a tendency for critics of situational crime prevention to focus on the formal surveillance and target hardening aspect of the model. Integral features of property crime reduction include the efficacy of steering column locks and electronic immobilisers in driving down vehicle crime (Farrell et al., 2011b), bandit-screens and drop safe boxes in preventing robberies, (Chaiken, Lawless & Stevenson, 1992) and alarm instillation, lighting and security chains in diminishing burglaries (Tilley, Tseloni & Farrell, 2011). These “hard edged, locks and bolts images” of situational crime prevention (Wortley, 1996, p. 128) are undoubtedly less applicable to the more mobile, human targets of violence; unable to be ‘padlocked’ or under constant surveillance (Maguire & Brookman, 2005).

The burgeoning repertoire of SCP techniques reflect that ‘opportunity reduction’ may not necessarily entail a physical intervention (Wortley, 1998). Theoretical developments propose two separate theories regarding the way in which ‘situation’ influences the decision to offend. The first, and traditional, role of situation is in “affecting the extent to which criminal motivations can be realised” (Hebenton, 2011, p. 143). The situation as ‘facilitating’ crime - presenting physical opportunities to commit offences - can be addressed through situational measures to control accessibility, segregate potential offender and target, and enhance surveillance. The second, more recent understanding of situation and crime is its role “in motivating individuals to commit crime by imposing negative experiences” (Hebenton, 2011, p. 143). Wortley (1998) examines the ability of the immediate environment to not only facilitate crime, but to provoke it. Wortley (1998) argues the situation as ‘precipitating’ crime – presenting psychological opportunities to commit offences by posing cues which prompt, permit,
pressurise or actively provoke an individual to produce an emotional arousal and a criminal response. Measures to prevent the psychological opportunities for crime include reducing frustrations, controlling disinhibitors, and avoiding disputes. Situations thus regulate the function of crime, and the provocation of crime (Hebenton, 2011) – with techniques of situational crime prevention being divided accordingly. Measures to reduce physical opportunities are termed ‘hard’ situational prevention (Wortley, 1998), and measures to reduce ‘psychological’ opportunities are termed ‘soft’ situational prevention. In relation to violence, the ‘hard’, traditional, vein of situational prevention may be less equipped to explain the behaviour of assault. Instead, the ‘soft’ situational approach may better encompass the complex nature of assaultive violence.

Hard and soft techniques are not mutually exclusive categories. Crowd control measures for example can serve to reduce the physical convergence of potential offender and target, as well as counteract the frustration and stress associated with overcrowding (Shearing & Stenning, 1987). Nor must situational measures be necessarily tangible measures – with more progressive research highlighting the influence of the immediate social environment in which crime takes place (Wortley, 1998). This two-stage model of situational prevention offers a re-appraisal of the role of opportunity in predicting, preventing and reducing crimes of violence. Techniques which serve to accommodate psychological opportunities for violence can aid the explanation, prevention and reduction of violent crime-types.

An important assumption of situational crime prevention is that of crime specificity (Clarke, 1997; Cornish, 1994). The opportunity structure of crime differs considerably between crime types: the motivation and modus operandi of offenders, the suitability of both target(s) and environment(s), and the ‘tools’ required to offend, are all unique to specific offences (Clarke, 1997). Clarke and Cornish (1985) recommend the analysis of distinctive crime types in order to develop specific preventative measures; “which in turn increase[s] the success of intervention” (Ozer & Akbas, 2011, p. 181). The present research will focus on physical assault in the context of the night-time economy: the collection of businesses and services operating after 6pm, associated with an increase in the consumption of alcohol. Opportunities for violence are seen to cluster in the night-time economy: with one in five violent incidents occurring inside or in the immediate vicinity of a pub, bar or club (Jowell, Prescott, Clarke & Blears, 2005). The criminogenic potential of the night-time economy was recognised as early as 1926: with evidence that crime disproportionately clustered around saloons (Reckless, 1926).

3.7. Violence in the Night-Time Economy
The 1980s and early 1990s saw an international increase in both property and violent crime across westernised countries (Tseloni et al., 2010). De Haan (2011, p. 38) observed the rapid increase of lethal street violence in the Netherlands and noted that whilst public debate lent towards dramatizations of ‘evil’ and ‘irrational’ offenders, the reality was instead that these offenders were “remarkably unremarkable”. The spike in violence was regarded an ‘epidemic’, without consideration that the phenomenon could be the result of an increase in risky behaviours “which were in fact widely accepted or tolerated, if not stimulated by the night-time economy” (De Haan, 2011, p. 38).
After the Second World War, the proliferation of bars and licensed venues, and subsequent boom in alcohol consumption, can be used to explain the parallel increase in violent assaults both internationally, and native to England and Wales specifically (Scott & Dedel, 2006). The development of the 24 hour ‘city centre’ in the late 1980s and early 1990s further promoted and revitalised the night-time economy; sparking high volume, ‘vertical’, binge drinking behaviour (Montgomery, 1994; Plant & Plant, 2004). A fifth of all violent incidents occur within drinking establishments of the night-time economy (Jowell et al., 2005); with 80% of such nightlife assaults deemed to be alcohol-related (Budd, 2003). Felson (1998) describes that young, intoxicated males generate the ‘chemistry’ for crime. Indeed, intra gender (male to male), alcohol-fuelled, physical assaults occurring in and around licensed venues account for the biggest proportion of all assaults (Morteo et al., 2007).

The relationship between violent victimisation in the night-time economy and lifestyle/routine activity theory and crime pattern theory is robust (Graham & Homel, 2008): “there are few activities as routine as the imbibing of alcoholic beverages” (Homel & Tomsen, 1993, p. 54). Individuals who actively participate in the night-time economy are more likely to be the victim of violent crimes (Clarke et al., 1985; Miethe et al., 1987). Brownfield (1986) remarks that many activities involving the “recreational and social pursuit of fun” increase victimisation risk (cited in Sampson & Lauritsen, 1990, p. 112). Lifestyle theory dictates that those who go out drinking or frequently engage in social activity, especially at night, are at “higher risk of assaultive violence because such behaviour often occurs at bars, parties and other social gatherings” (Sampson & Lauritsen, 1990, p. 112). Social pursuits also increase the time spent away from the safety of the home (Fisher et al., 1998, 2000, 2002; Ullman, Karabatsos & Koss, 1999; Cass, 2007).

Drinking settings are ‘open public spaces’ where interactions with strangers are more permissible, which leads to increased opportunities for conflict and provocation (Graham & Homel, 2008). A high density of licensed outlets is seen to exacerbate opportunities for violence (Livingston, 2008; Pridemore & Grubesic, 2011). The clustering of venues achieves this in a number of ways. The first being an increase in the practice of ‘bar hopping’, which prompts a simultaneous increase in the consumption of alcohol (Felson, Berends, Richardson & Veno, 1997; Felson, 1998), repeatedly linked to the increased occurrence of violence. The second danger of increased outlet-density is the sudden increase in the number of people emptying such outlets (Marsh & Kibby, 1992); similar or fixed closing times prompting a rapid boom in opportunities for assaultive violence (Livingston, 2008). Competition for public transportation, female attention and food services ensues (Scott & Dedel, 2006): with a wealth of literature supporting the availability of transport especially, as an important precipitator of assault (Homel et al., 2004; Mattinson, 2001; Maguire, Nettleton, Rix & Raybould, 2003).

The primary function of bars to facilitate socialisation with strangers and acquaintances, coupled with a male-dominated and alcohol-fuelled environment, are direct stimulants for the production of criminogenic opportunities (Hobbs, Winlow, Hadfield & Lister, 2005). In one sense, “drinking alcohol may be considered a type of routine activity because it creates opportunities for violence” (Felson, 1997, p. 211).

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8 ‘vertical’ or ‘standing-up’ drinking
Interpersonal violence has a strong association with alcohol use, with Budd (2003) finding over a third of stranger and acquaintance assaults to involve an offender perceived to be under its influence. There is a plethora of evidence linking alcohol consumption to the commission of violence. These include the parallels between rates of population-level alcohol consumption and conviction rates for violence (Bye, 2007), alcohol-poisoning and homicide incidence (Pridemore, 2004), and the rate of hospitalisation for violent injury against the unit price of alcohol (Markowitz, 2005, Matthews, Shepherd & Sivarajasingham, 2006). Felson (1997, p. 210) argues that alcohol use is “clearly a situational risk factor for violence”.

3.7.1. Models of Alcohol-Related Aggression

The routine-activity/lifestyle theory can be readily applied to the link between alcohol and violence; both in terms of how opportunities for violence are seen to concentrate around the night-time economy setting, and how an active night-life is seen to increase both the risk of violent victimisation and offending (Clarke, Ekblom, Hough & Mayhew, 1985; Felson, 1997; Hindelang et al., 1978; Homel et al., 2004; Miethe et al., 1987). However, the inclusion of decisions ‘impaired’ drugs or alcohol as part of the rational choice framework, attracts greater criticism. DeHaan and Vos (2003, p. 45) argue such substances to “unashamedly defy the normal injunction to think and act rationally”. The situational/opportunity perspective proposes that beyond the necessary elements for a criminal opportunity coming together, the offender must make a decision on whether to offend based on the perceived costs and rewards of exploiting the presented opportunity (Gabor, 1986).

Rational choice theory goes on to argue that this is a reasoned decision, even if tempered by time constraints, inaccurate information, or indeed the influence of drugs or alcohol (Cornish & Clarke, 1986b). Foreman-Peck and Moore (2010, p. 162) go further to suggest that the decision to consume alcohol as a means to reduce risk-aversion is in itself a ‘rational’ choice: “individuals choose whether to inhibit themselves or exercise self-control from a considered assessment of the benefits and costs of abandoning behavioural restrictions”. If individuals conclude there to be advantages in temporarily lowering inhibitions, then alcohol emerges the “instrument of rational action, where the agent takes into account the difficulty of switching inhibitions on and off” (Foreman-Peck & Moore, 2010, p. 162). There is even suggestion that the social beliefs and expectations around alcohol’s link to aggression is itself a self-fulfilling prophecy (Felson et al., 2008; Goldman, Brown, & Christiansen, 1987). However, there emerges two competing models in the quest to comprehend alcohol-related aggression: causal versus situational.

The causal model of alcohol-aggression explains the physiological arousal, increased heart rate and blood pressure, and skin conductance level triggered by alcohol as a precursor, or pseudo-stimulator of violence by disrupting cognitive functioning or altering the emotional state (Assaad & Exum 2002; Bye, 2007; Stewart & Pihl, 1994). Markowitz (2005) and Matthews et al. (2006) go as far as to place violence as an ‘unintended by-product’ of alcohol consumption. Aggression research however, rejects the notion that it is merely the pharmacological effects of alcohol acting as a disinhibitor of an innate instinct or drive that results in aggressive
behaviour (Greenberg, 1982). The causal model of alcohol-related aggression is also challenged by the evidence that alcohol use remains divorced from violence amongst the vast majority of drinkers. Proponents of the situational perspective contend that “drinking rarely, if ever, fully suffices as an explanation for the occurrence of violence” (Collins, 1988, p. 108). Instead it is argued that the circumstances of drinking produce greater changes in behaviour than that of the alcohol itself (Carpenter & Armenti, 1972). This is supported by evidence that opportunities for violence are further concentrated amongst certain venues within the night-time economy: with 16% of licensed venues experiencing 60% of licensed venue crime (Scott & Dedel, 2006). The situational perspective again looks to the concept of ‘bounded rationality’, which hypothesises that decisions are “rational within the constraints of time, ability and the availability of relevant information” (Pease, 2006, p. 339), and stipulates that the ingestion of alcohol is not causally linked to aggression, but that instead alcohol diminishes the capacity to attend to multiple situational cues (Chermack & Giancola, 1997). Assaad and Exum (2002) continue that alcohol may influence decision-making by directing focus towards provocative situational cues, and by disinhibiting aggression (minimising the typical fear or anxiety experienced when aggressing): with alcohol awarding people “big mouths and big ears” (Felson 2002, p. 154).

A model of alcohol-related aggression that can therefore describe the comorbidity of alcohol use and violence, at the situational level, and from a rational choice perspective, is the attention-allocation model (Steele and Josephs, 1990), which draws on the concept of alcohol myopia: whereby “alcohol has a myopic effect on attentional capacity that presumably facilitates aggression by focusing attention on more salient provocative, rather than less salient inhibitory cues in hostile environments” (Giancola & Corman, 2007, p. 649).

This impairment creates a “myopic” effect on attention that restricts the range of internal and external cues that can be perceived and processed. As a result, remaining attentional resources are allocated to the most salient and easy-to-process cues. In hostile situations, alcohol facilitates violence by narrowing attention on provocative cues because, given their alarming/threatening nature, they are generally more salient than non-provocative or inhibitory cues. As a result of this alcohol myopia, the impact of non-provocative or inhibitory cues is not fully processed, or possibly not even perceived, thus increasing the probability of a violent reaction (Giancola, Duke & Ritz, 2011, p. 1019).

A number of established alcohol researchers explain alcohol-related aggression through the attention-allocation model (Abbey, 2002; Aviles et al., 2005; Permanen, 1976). The model has more recently been empirically tested in laboratory settings which lends support to the myopic influence of alcohol (Giancola & Corman, 2007; Giancola et al., 2011). A study by Giancola et al. (2011, p. 1019) observed 16 intoxicated male participants who were instructed to engage in a laboratory task “in which electric shocks were received from, and administered to, a fictitious opponent under the guise of a competitive reaction-time task”. Half of the
participants were exposed to violence-inhibiting cues⁹, whilst the other half were exposed to violence-promoting cues¹⁰. The researchers argue that results showing participants exposed to inhibiting cues as dramatically, and significantly, less aggressive than participants exposed to provocative cues, despite equal levels of intoxication, demonstrates “that alcohol, in and of itself, does not cause aggression; it merely directs behaviour by focusing attention on cues that are most salient in one’s environment” (Giancola et al., 2011, p. 1020).

An initial criticism of Giancola et al.’s (2011) study is that no sober/placebo group was employed. In its original form, the attention-allocation model predicts that if equally provoked, both sober and intoxicated individuals will behave in an equally aggressive fashion (Steele & Josephs, 1990; Steele & Southwick, 1985). This prediction has since been moderated, with the recognition that there is a degree of inhibition naturally associated with sobriety (Steele & Josephs, 1990; Steele & Southwick, 1985). The model now acknowledges that if presented with equally provocative stimuli, sober individuals will be less aggressive than intoxicated counterparts (Hoaken, Assaad, & Pihl, 1998). However, if presented with equally inhibiting stimuli, the aggression levels of intoxicated individuals can actually be driven below those of sober individuals (Steele & Josephs, 1990; Steele & Southwick, 1985). The rationale is that sober persons are more able to allocate their cognitive resources towards provocative and non-provocative cues simultaneously, leading to ‘moderate’ levels of aggression. As intoxicated persons have fewer attentional resources and an impaired working memory, when those resources are distracted away from provocative cues, the result will be less aggression than the aggression seen in sober persons (Giancola et al., 2011). This prediction has been successfully supported by other studies which found that when distracting intoxicated individuals’ attention away from provocative cues, alcohol can actually serve to reduce disinhibition to below the level seen in sober counterparts (MacDonald et al., 2000; Giancola & Corman, 2007; Mann & Ward, 2004). There is therefore evidence that alcohol can both increase and decrease aggression, depending on where one’s attention is directed to in the immediate environment (Giancola, Josephs, Parrott & Duke, 2010; Steele & Josephs, 1990). These findings support the principles of Steele and Joseph’s (1990) attention-allocation model, and support the model’s application to the situational interpretation, and prevention, of alcohol-related violence.

3.7.2. The ‘Barroom’ Environment

Studies of bars and pubs have shown that their design and management can lead to violence or its absence. Violent opportunities in pubs increase when they are larger in size; are dominated by young males; have clienteles that do not know each other; make it difficult to avoid jostling others; and have untrained and inexperienced bar staff (Felson & Clarke, 1998, p. 10)

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⁹ a video depicting peaceful images (serene nature scenes, families) in a room decorated with similar scenes, whilst listening to soothing music

¹⁰ a video depicting violent scenes from popular movies and footage of sporting violence, in a room decorated with posters depicting violence, whilst listening to harsh music
Cues in both the immediate physical and social environment of the night-time economy are found to facilitate, and in some cases provoke, violent offending behaviour (Wortley, 1998). The identification of environmental cues specific to violence supports a situational understanding of violent crime, and can help to drive future preventative strategies (Graham & Homel, 2008). The barroom environment has been described as an “ecological system” (Homel & Tomsen, 1993, p. 56); housing a plethora of tangible and social cues which can either facilitate, precipitate, or inhibit, opportunities for interpersonal violence. The tendency of violence to cluster amongst certain venues within the night-time economy setting - with 16% of licensed venues experiencing 60% of licensed venue crime (Scott & Dedel, 2006) - supports the notion that certain environments are conducive to physical and psychological opportunities for violent crime.

Homel et al. (2004) found four key predictors of barroom assault rates: the intoxicated-patron ratio, the swearing level, the rival-patron ratio, and the presence of chairs with armrests. McGregor (1990) argues that the ‘real cause’ of aggression lies in discomfort. The environmental design of licensed venues can serve to design out situational precipitators of assault; with the provision of adequate seating as one of the primary techniques to reduce frustration (psychological opportunities for crime) (Graham, Rocque, Yetman, Ross & Guistra, 1980; Graham & Homel, 1997; Homel & Tomsen, 1993). Comfortable patrons are seen to display less hostility and consume alcohol at a slower pace (Homel and Tomsen, 1993). Entertained patrons are found to display similar behaviours (Graham et al., 1980). A lack of quality entertainment can increase boredom, which is also argued to be a generator of psychological opportunities for violence (Graham et al., 2006; Graham & Homel, 1997; Homel & Clarke, 1994; Homel & Tomsen, 1993). Situational interventions include the provision of television screens, stage entertainment, live music, and quizzes (Homel & Tomsen, 1993).

Over-crowding is another situational precipitator of assault (Graham et al., 2006). Homel and Tomsen (1993) observe that congested exits, stairs, toilets, dance floors, mezzanine (smoking) areas and corridors, increase the occurrence of violence; by increasing both the levels of frustration and the likelihood of physical convergence between a potential offender and target (Wortley, 1998). Congestion-control can be aided by venue layout and design (Dehan, 1999; Maguire & Brookman, 2006; Pernanen, 1991), by utilising salient measures of crowd-control: including clear sign-posting, territorial segregation, designated areas, ‘innocuous’ physical barriers (Shearing & Stenning, 1987), and by improvements to venue-staff training (Graham et al., 2006). Other situational precipitators within the barroom setting include poor ventilation (Homel & Tomsen, 1993), smoky atmospheres (Graham & Homel 1997), high noise levels (Homel & Clarke, 1994), and even venue temperature (Anderson, Bushman and Groom, 1997; Veitch & Arkelin, 1995; Wortley 1998): all of which could serve to increase the stock of psychological opportunities for violence.

Dehan (1999) argues that when studying the situational properties of night-time economy violence, it is impossible to neglect that drinking is a primarily social event. Research suggests that cues in the immediate social environment can also precipitate assault by serving to subconsciously permit aggression (Wortley, 1998). ‘Machismo’ culture and competitive climates can present non-physical (intangible) cues that endorse
assaultive violence (Dehan, 1999). Successful preventative techniques within night-time venues include: controlling levels of swearing (Homel et al., 2004), prohibiting sexual touching (Graham, et al., 2006; Homel & Clarke, 1994), banning football shirts from dress codes (Frosdick & Marsh, 2005), controlling staff aggression (Graham et al., 1980; Homel & Tomsen, 1993) and preserving a balanced gender-ratio (Chatterton & Hollands, 2002).

The physical appearance and condition of a premises is argued to be one of the initial situational cues, with Graham and Homel (1997) suggesting “it is reasonable to hypothesise that the first clue the [individual] has as to what will be acceptable behaviour in a venue is its physical appearance” (Cited in Dehan, 1999, p. 12). Environments fostering visible decay and uncleanliness are observed as unattended, un-guarded areas and suggestive of a lack of capable guardianship - a vital ingredient in the formula for crime (Wilson & Kelling, 1982). Situational interventions include addressing a venue’s poor lighting, cleanliness, and unattractive décor in order to signal higher levels of guardianship and command a higher standard of behaviour (Graham et al., 1980).

3.7.3. The Stock of Criminogenic Opportunities
In observing violence as a product of opportunity, subject to a rational decision making process, and influenced by situational cues, it follows that opportunities for violence may be effectively interrupted, and therefore reduced. In their appraisal of the crime drop phenomenon from an opportunity perspective, Tilley, Farrell and Clarke (2015, p. 60) conclude that fluctuation in the stock of criminogenic opportunities is governed by three principles:

- ‘Intended improvements in security’ (through the increased quantity and quality of security measures and changes to environmental design)
- ‘Unintended improvements in security’ (capturing the debut and keystone sub-theories of the security hypothesis, which propose that a reduction in opportunities for one crime type, subsequently reduces opportunities for others (Farrell et al., 2011a))
- ‘Unintended effects of routine activities’ (including changing lifestyles and technological progress).

The premise of the ‘security hypothesis’ is that an increase in both the quality and quantity of security measures occurred in the 1990s (Farrell et al., 2011a). It can therefore be viewed as a potential instrument in the successful ‘interruption’, or prevention of crime. The role of security measures, security-by-design, and policy implementation in driving aggregate rates of violence (including night-time economy violence), is yet to be fully explored (Tseloni et al., 2012).

Two major policy shifts are posited to have affected the high-risk environment of the night-time economy: the Licensing Act 2003 (enacted in 2005) and the smoking ban (enacted in 2007). The 2003 Licensing Act is described as the greatest over hall of alcohol policy in recent history (Newburn, 2007) as it permitted the extension of opening hours to 24-hours, upon the successful application of establishments, as well as the regulation of door staff and sales to underage, or already intoxicated, patrons.
Another potential driver of the overall stock of opportunities for night-time violence is rooted in population lifestyles and routine activities. Aebi and Linde (2010; 2014) argue there to be two distinct turning points in western lifestyles: occurring first in the 1960s and again in the 1990s. The 1960s lifestyle change saw an increase, for both males and females, in the time spent in public places, especially at night (Aebi & Linde, 2014). The post Second World War rise in crime has been repeatedly linked to this change in routine activities, and the subsequent increase in the number of suitable targets and reduced levels of capable guardianship (Cohen & Felson, 1979; Ross, 2013). However, another major lifestyle shift in the 1990s “relates to the reunification of the European continent as well as the development of computer technologies and the Internet” (Aebi & Linde, 2014, p. 569). This shift equally altered the western lifestyle, by increasing the amount of time spent at home - especially salient for young people who could afford a household internet connection (Aebi & Linde, 2010; 2014). Whether this shift has served to alter opportunities for night-time economy violence, in the context of England and Wales, is one area examined in the following chapters.

The lifestyle/routine activity theory of crime, and other situational theories including rational choice and crime pattern theory, “explain criminal opportunity across different ecological units” (Ozer & Akbas, 2011, p. 180). The most distinctive feature of this discipline is that motivated offenders are observed as only one element in the explanation, and prevention, of opportunities for crime. The approach focuses on the vulnerability of certain targets to victimisation, and the capacity of certain environments to facilitate, or provoke, opportunities for crime. Studying the behaviour and characteristics of the victims, and how they contribute to the risk of victimisation and ‘suitability’ from the standpoint of offenders, have been traditionally overlooked in favour of studying factors predicting offending (Loeber, 1988).

This present research frames interpersonal violence (without financial or sexual motive) as goal-orientated, patterned by criminogenic opportunities and vulnerable to situational elements. The next chapter will detail the methodological steps necessary to (1) identify patterns of violent victimisation in the night-time economy in the Crime Survey for England and Wales; (2) examine whether the overarching trajectory of this distinct crime type mirrors the downward phenomenon seen across other crime types and, if so, (3) to explore whether the stock of opportunities for violence in the night-time economy can explain its decline.
4. Chapter Four Methodology

This research employs secondary data analysis of the Crime Survey for England and Wales (CSEW) to isolate trends and predictors of physical assault in the night-time economy between 1981 and 2011/12; using SPSS as the primary analytical tool. This chapter outlines aims of the present research, explains the selection of the CSEW as the main data source above alternative sources, and details the relevant changes to the CSEW that have occurred over its thirty years of measuring crime. The current chapter also presents the decisions made at each stage of the secondary data analysis process. First, outlining the selection, filtration, and preparation of the data available from the individual cycles of the CSEW. Second, describing the rationale for, and techniques used in, the different stages of data analysis: which uniformly sought to understand night-time economy violence from a situational/ opportunity perspective.

The present research used data analysis to examine fluctuation in the stock of opportunities for night-time economy violence over the course of the crime survey: identifying both the overarching trajectory of physical assault in the night-time economy, and sub-trends disaggregated by (1) offence characteristics and (2) victim characteristics, between 1981 and 2011/12. Analytical methods then moved to more rigorously test the opportunity structure of night-time economy violence: by observing whether opportunity-level variables can significantly explain (1) respondents’ risk of assault victimisation and (2) the risk of sustaining serious injury (wounding) when assault does occur. The significant opportunity-level predictors of assault-victimisation and resultant severity in the night-time economy are first identified in the most recent CSEW sweep(s), and then tracked over time to observe any fluctuation.

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4.1. Methodological Approach

Research approaching the crime drop from an opportunity perspective has traditionally focused on the decline in property crime (Farrell et al., 2011a; Thompson, 2014; Tseloni et al., 2014; Tilley et al., 2011). For example, Tilley et al. (2011) link a 58% reduction in the stock of criminogenic opportunities for burglary to the proliferation of security during the 1990s. The aim of the present research was to extend this approach to the study of the violent crime ‘physical assault’ (assault without financial or sexual motive) – with a specific focus on assaultive violence occurring in the ‘night-time economy’. Whether the stock of criminogenic opportunities, as dictated by changes in the ‘criminologies of everyday life’ (Garland, 2000), including lifestyles, routine activities, offender-decision making processes, and situational cues, can explain patterns, as well as overarching trends in this crime type, was also explored. The Crime Survey for England and Wales (CSEW) is a victimisation survey using a nationally representative sample of households and is recognised as the most reliable source of information on crime trends (UK Statistics Authority, 2010). This survey was therefore adopted as the main

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11 SPSS (Statistical Package for the Social Sciences) is data analysis software produced by IBM
source of information regarding assault incidence and prevalence, sub-trends and patterns, and changes in both victim and offence characteristics between 1981 and 2012.

The present research involved the isolation of ‘physical assault’ from its financially motivated and sexually motivated counterparts. Physical assault was chosen as the focus of the present research as the next logical step in testing the opportunity/security perspective, following existing crime drop research on acquisitive crime, and more recently, on acquisitively-motivated violence (Thompson, 2014). Isolating a specific offence type is an essential principle of situational criminology; whereby a greater granularity of analysis allows the variation in offender crime scripts, and modus operandi, between different crime types, to be identified (Clarke, 1997; Cornish, 1994). The timing and location of assaults for example are a direct reflection of the convergence of motivated offenders, suitable targets and an absence of guardianship at particular points in space and time (Dodd, Nicholas, Povey & Walker, 2004; Felson & Clarke, 1998). Thus, the decision to analyse a specific offence type, occurring across a specific space and time, enables the development of “specific preventative measures, which in turn increase the success of intervention” (Clarke & Comish, 1985 cited in Ozer and Akbas, 2011, p. 181). Assaultive violence in the high-risk context of the night-time economy was selected as the focus of the present research.

4.1.1. Research Aims and Questions
The present research sought to illuminate the behaviour of night-time economy assault during the phenomenon of the crime drop, and to assess the role of criminogenic opportunity in the occurrence, and escalation of such incidents, so as to identify areas for future prevention.

4.1.1.1. Research Aim One
One overarching aim of the research was to explore opportunities for night-time economy violence over the course of the survey. Examining the trends and sub-trends of night-time economy assault between 1981 and 2011/12 is an original contribution to existing crime drop literature - which to date has focused predominantly on the trends, and specifically the dramatic declines, of acquisitive crime. Exploring fluctuation in the stock of opportunities for night-time economy violence required the disaggregation of assault’s overarching trajectory by (1) main offence characteristics and (2) main victim characteristics. Several specific research questions were utilised to address this research aim:

**Research Question 1** Do incidence and prevalence rates of physical assault in the high-risk context of the night-time economy experience similarly dramatic declines to those experienced by other crime types in England and Wales?

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12 The count of crimes (number of assaults per 10,000 population)
13 The count of victims (number of victims per 10,000 population (or as a proportion (percentage) of the population who were victims of an offence once or more)
14 robbery (mugging and snatch theft)
15 indecent and sexual assault
Research Question 2  How do the major offence-characteristics of night-time economy violence fluctuate between 1981 and 2012?

Research Question 3  How do the major victim-characteristics of night-time economy violence fluctuate between 1981 and 2012?

4.1.1.2. Research Aim Two
The second overarching aim was to rigorously test the opportunity structure of night-time economy violence. The present research studied the role of the immediate environment and target suitability, as opposed to offender history or disposition, in determining assault victimisation, and resultant severity. Identifying risk-factors of violence external to the offender’s intention to injure provides avenues for tertiary (immediate) prevention, as opposed to offender-based prevention rooted in rehabilitative and punitive responses.

Research Question 4  What are the present day risk-factors of assault victimisation in the night-time economy?

Research Question 5  Do opportunity-level variables (respondent lifestyles/routine activities) significantly and independently explain the likelihood of assault victimisation after controlling for personal-level variables (respondent socio-demographic characteristics) and does this vary during the crime drop?

Research Question 6  What are the present day risk-factors of assault severity in the night-time economy?

Research Question 7  Do opportunity-level variables (assault’s spatial-temporal dimensions and situational characteristics) significantly and independently explain the likelihood sustaining serious injury once an assault occurs, after controlling for personal-level variables (victim/offender socio-demographic characteristics and victim-offender relationship) and does this vary during the crime drop?

4.1.2. Research strategy
The first stage of analysis involved the calculation of overarching trends, and sub-trends within, assault in the night-time economy over the course of the CSEW (1981 – 2011/12). The second stage focused on trends in the victim-characteristics of night-time economy assault over time by mapping the prevalence of victimisation over the course of the survey (1981 – 2011/12). Both stage one and two evidenced the opportunistic nature of violence by harnessing descriptive-level bivariate analysis to examine how incidents of night-time economy violence pool across certain spatio-temporal and situational variables, and amongst certain individuals. However, bivariate descriptive-level analysis did not allow for other variables to be controlled for, nor could it inferentially test the role of opportunity in the occurrence (and severity) of night-time economy violence. It also failed to test the interaction between the personal-level characteristics (of the actors involved) and opportunity-
level characteristics of assault. As such, stage three and four of analysis harnessed multivariate, inferential-level techniques to more rigorously test the role of opportunity-level variables in assault-victimisation, and assault severity once victimised, after being controlled for the personal characteristics of the actors involved. The third stage of analysis adopted binary logistic regression to build multivariate regression models which identified the significant present-day predictors of assault-victimisation: with a specific focus on whether opportunity-level variables independently and significantly predict assault-victimisation after being controlled for the personal characteristics of the actors involved – and whether this has changed over time. Opportunity literature has linked situational cues to both the occurrence, and severity of interpersonal violence. As such, the fourth stage adopted similar techniques to build multivariate regression models which identified the significant present-day predictors of assault-severity (measured by injuries sustained by victims): with a specific focus on whether opportunity-level variables independently and significantly predict assault-severity after being controlled for the personal characteristics of the actors involved – and whether this has changed over time.

4.1.3. Main Data Source
The Crime Survey for England and Wales\textsuperscript{16} (CSEW) is internationally regarded as one of the most reliable sources of information on crime trends (Farrell et al., 2010). As such, the CSEW was employed as the main data source for the present study’s appraisal of trends in night-time economy violence. Sweeps of the CSEW were retrieved from the UK Data Archive at the University of Essex. The survey itself is a face-to-face victimisation survey in which respondents are asked about their experience of crime in the last 12 months, and their attitudes towards issues of crime. It adopts a stratified sampling method\textsuperscript{17}, and is therefore a nationally representative survey of adults 16 years or older living in private accommodation in England and Wales\textsuperscript{18} (Bolling, Grant & Donovan, 2008): now boasting an annual sample size of over 45,000 respondents (Flatley et al., 2010). All respondents are first issued with a non-victim form (NVF) which attains general information regarding the individual’s demographic and socio-economic blueprint, and whether they had personally experienced crime in the last year (Budd & Mattinson, 2000). Those who express that they have experienced a crime in this time period are then directed to complete a victim form (VF) which elaborates on the specific features and circumstances of that offence (Budd & Mattinson, 2000).

The CSEW has been conducted since 1982, with further cycles in 1984, 1988, 1992, 1994, 1996, 1998 and 2000, and the adopting of an annual format (with continuous sampling) since 2001. Secondary analysis of data from the existing cycles (recording crime between 1981 and 2011/2012) are employed by the present research in an effort to track the trajectory of physical assault in the night-time economy. The CSEW is selected above

\textsuperscript{16} Formerly the British Crime Survey (BCS)
\textsuperscript{17} Stratification involves dividing the sampling frame into groups (strata) before sampling. This process is designed to reduce the risk of drawing an ‘extreme’ sample which would be unrepresentative of the population
\textsuperscript{18} Data has been retrieved from 10-15 year old respondents by the CSEW since 2009, however will not be included in the present research as comparable data sets are not available for the years required
a number of alternative sources as the main source of analysis. The rationale for this selection is that in terms of the offences and population the survey covers, the CSEW is a better measure of long-term trends than alternative data sources also tracking crime in England and Wales (Home Office, 2007). The CSEW adopts a consistent methodology and is unaffected by changes in public reporting levels or changes to police recording practice (Home Office, 2009; Legg & Hosking, 2003; Rosenfeld, 2002).

4.1.4. Alternative Data Sources
Whilst estimates of crime from the CSEW go back as far as 1981, the Home Office figures on crimes recorded by the police span over one hundred years. However, problems are encountered when interpreting modern police figures, as significant changes to police reporting practice and two notable changes to police recording practice (counting rules) made in 1998 and 2002 – served to prompt an artificial rise in crime; violent crime being particularly sensitive to such changes in counting rules (Smith & Hoare, 2009). An artificial increase is explained as an inflation in crime rates not reflective of the true nature of crime, but instead reflective of a change to recording or reporting practices which serve to increase the documented crime rate (Reiner, 2007). Evidence also exists to show that the police come to know only 38% of incidents of all CSEW crime19 (Chaplin et al., 2011). Reporting rates are especially low for crimes of assaultive violence: with only 34% of assaults resulting in no, or minor, injuries being reported to police (Flatley et al., 2010). The CSEW was developed to capture this so called ‘dark figure’ of unreported crime (Brake & Hale, 1992; Home Office, 2009).

An additional source of information on the trajectory of violence emerges in the form of Hospital Episode Statistics (HES) – documenting all NHS admitted patient data from 1989 to the present day annually. The HES records external causes of patient admission; categorised as either accidental or assaultive. By its nature, the HES can only record assaults requiring medical assistance – which eliminates the analysis of assaults with no injury, and the majority of assaults occasioning minor injuries. The CSEW contains information on severity of victim injuries, whether medical attention was sought, and whether admission to the Accident or Emergency Department, or Hospital more generally, was required as a result of victimisation. Brennan et al. (2010, p. 211) conclude that despite limitations to the depth of medical information, victimisation surveys, including the CSEW, “represent the most effective tool currently available for identifying risk factors for violent injury”.

4.2. Analysing Physical Assault in the CSEW
There are a number of considerations when studying the specific crime of physical assault in the Crime Survey for England and Wales (CSEW). ‘Assaults’ are regularly analysed as a single entity, inclusive of sexually and financially motivated variations of the offence, or indeed either of these interchangeably (Osborne, 2011). The annual Home Office publication of crime trends groups ‘assaults without sexual motive’ – inclusive of acquisitive assaults (muggings, robberies). The present research extracts ‘physical assaults’ from their umbrella offence ‘assault’ in order to isolate assaults without apparent (financial or sexual) motive. Identifying

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19 According to the 2010/11 CSEW crime projections (Chaplin et al., 2011)
the situational, spatio-temporal, and opportunistic elements within such offending supports the interpretation of violence as subject to situational influence, and subsequently, situational prevention.

The annual Home Office publication of crime trends similarly groups different variations of assault - ‘common assault’ and ‘attempted assault’ - under the single umbrella term ‘common assaults’. This research dissected physical assault further, and observes assault variations across their (increasing) degrees of severity:

- Threatened Physical Assault [Home Office Offence Code 91]
- Attempted Physical Assault [Home Office Offence Code 21]
- Completed Physical Assault – Collective offence made up of:
  - Common Assault [Home Office Offence Code 13]
  - Other Wounding [Home Office Offence Code 12]
  - Serious Wounding [Home Office Offence Code 11]

A benefit to studying assaultive violence in the CSEW is the comparability and stability of these offence codes spanning the entirety of the survey (1981 – 2012). Detailed guidelines are issued to coders for each CSEW sweep, and are externally audited twice monthly, which promotes the reliability of assault coding over time (Bolling et al., 2008). A criticism of the study of physical assault by severity however, may include the nature of injury severity. Whilst the presence of, or use of a weapon, is largely subject to situational control – the more arbitrary strength/position of impact with the victim’s body, is less subject to such controls (Cookson & Buckley, 2011).

4.2.1. Limitations of the Survey

A criticism of using a victimisation survey to analyse violence is the increased likelihood of such surveys to underestimate interpersonal crime types (Jansson, 2007); hinging on the willingness of respondents to disclose sensitive information to an interviewer in the face-to-face delivery adopted by the CSEW. Victimisation surveys are also associated with the problems of non-recall (Home Office, 2008) and of ‘external telescoping’; a phenomenon of memory recall which could serve to artificially decrease or increase crime incidence (Schneider, 1981). The CSEW builds a picture of crime by asking respondents about their experience of victimisation in the previous 12 months (Home Office, 2011). The possibility of external backward telescoping - where respondents report events as having occurred earlier than they occurred in reality - thus places incidents incorrectly outside of the survey’s reference period and could serve to artificially lower crime incidence (Schneider, 1981). Conversely, external forward telescoping occurs when respondents report events as having occurred more recently than they occurred in reality (Prohaska, Brown & Belli, 1998). This error in retrieving temporal information places incidents incorrectly inside of the survey’s reference period and as such could produce an artificial increase in crime incidence. This specific type of telescoping may be particularly salient when reporting interpersonal victimisation over a 12 month period – with Cohen and Java (1995) professing forward telescoping to be exacerbated when questioned about autobiographical events, and to increase as the reference recall period increases (Huttenlocher, Hedges & Prohaska, 1988). Indeed, Schneider’s (1981)
analysis of offence-specific reporting errors shows assault, as reported in victimisation surveys, to incur more cases of forward telescoping (16%) than backward telescoping (6%)\textsuperscript{20}. The National Crime Victimisation Survey (NCVS) - which records victimisation in the US – has adopted a six month reference period since a 1992 survey redesign with the objective of improving recall and minimising telescoping (Groves & Cork, 2008, p. 89).

Another feature common to victimisation surveys is a lack of “access to the temporal sequencing of victimisation events” (Sampson & Lauritsen, 1990, p. 119). Variables relating to respondents’ fear of crime, or personal security measures, are measured without the context or the temporal sequence: as such analysis cannot determine whether an increase in the fear of crime, or the carrying of a defensive weapon or personal alarm, occurred prior to, or as a result of, a victimisation. This served to limit the analysis of personal security measures when examining the predictive factors of victimisation.

The main aim of the CSEW is to provide robust trends for the crime types it covers, however, the victim survey has notable exclusions and limitations which must be considered. Whilst having little impact on the overall CSEW projections (Pickering, Smith, Bryson & Farmer, 2008), the CSEW’s inability to record crimes experienced by populations living outside the parameters of ‘private accommodation’ eliminates the possibility for the exploration of a variety of cohorts – including those within prisons, nursing homes, university halls of residence, and mental health facilities; many of whom may be at heightened risks of physical assault (Jansson et al., 2007; Budd & Mattinson, 2000). The victimisation survey cannot capture trends in homicide, and is seen to omit ‘victimless’ crimes (for example fraud) and emerging forms of crime (e.g. internet-related crime) (Pickering et al., 2008).

The limitations of the CSEW in relation to the study of physical assault include small numbers of reported gun and knife crimes - which hinder the ability to produce reliable trends (Home Office, 2011). The CSEW is less reliable in measuring rarer crimes of serious violence (Shepherd & Sivarajasingham, 2005) which had the potential to limit the study of assault occasioning ‘serious wounding’ independently. The present research collapsed cases occasioning wounding (serious or other) when observing trends in assault by injury (see section 4.3.1).

Although the number of victimisations is recorded by the CSEW as declared by the interviewee, there is a restriction of a maximum of six \textit{detailed} victim forms (reporting on six crime incidents). This was just four victim forms in the earliest (1982 to 1988) CSEW sweeps and may serve to limit the ‘true’ incidence of crime (including assault) (Budd & Mattinson, 2000). A further limitation to the calculation of assault incidence, is the artificial cap on the number of incidents in a ‘series’ of similar offences (Genn, 1988): defined as occurring “under the same circumstances and probably by the same people” (Budd & Mattinson, 2000, p. 12). The number of incidents in a series have been arbitrarily capped at a maximum of five since the survey began in 1981 (Hough

\textsuperscript{20} Derived from assault victimisations in San Jose over a 6 month reference period (Schneider, 1981)
& Mayhew, 1983). Whilst raw figures are still available in the original datasets, the CSEW officially counts respondents reporting for example nine incidents in a series as having experienced five incidents: the intention being to avoid “extreme cases distorting the rates” (Budd & Mattinson, 2000, p. 32). However, Farrell and Pease (2007) describe the potential for an arbitrary cap to distort the true incidence of crime. The result of this tradition is the potential to artificially reduce the overall incidence rates (total number of offences per 10,000 population) when calculating the overall trajectory of assault in the night-time economy. Trends in assault prevalence (count of victims) remaining unaffected by the cap. A final restriction is the CSEW coding of these ‘series of very similar incidents’ under one offence per victim form, with offence-information existing for the first in the series of incidents. This translates to the researcher treating a series of similar incidents as single incidents - for which detailed offence-information exists - when examining sub-trends and characteristics of assault.

A further criticism of the CSEW is that the direct application of the security hypothesis (Farrell et al., 2008; 2010) - as part of an opportunity/situational approach - is limited as the survey fails to capture venue-level data from respondents victimised in the night-time economy. Thus, important elements in both the physical and social environment, including the security measures in operation, informal measures of security such as building design, aesthetic, physical condition, noise level, gender-ratio, opening hours, surrounding venue-density, as well as the surrounding profile, or mix, of venues and services - hypothesised by existing literature to facilitate, or provoke, opportunities for violence - cannot be directly correlated with the trajectory of night-time economy assault. This restricts assumptions regarding causality and the crime decline. Such restrictions illuminate a key issue with the limitations of secondary data analysis.

4.2.2. Changes over the Survey
As a time-series survey, conducted in multiple cycles over an extended time frame, the CSEW has naturally incurred important changes and modifications over time. The following section outlines the major changes to the CSEW - and how these were addressed for the present research.

(1) Sample Size and Composition
The CSEW has changed in a number of ways since its inception. A main difference, as outlined by Jansson (2007), includes a significant growth in sample size and response rate. Sample size has increased from 11,000 respondents in the first sweep (1982) to 46,031 respondents in the 2011/12 sweep. The CSEW has a high response rate (75% in 2011/12) and the survey is weighted to adjust for possible non-response bias and ensure the sample reflects the profile of the general population (ONS, 2012). Whilst a larger sample set corresponds with greater confidence in statistical findings (Field, 2000), the difference in sampling did not distort the accuracy of the crime count as incidence and prevalence rates are weighted against the sample size.

The inclusion of an additional ethnically boosted sample occurs sporadically between CSEW cycles, and an additional survey which gauges the victimisation experiences of under 16s (10-15 year olds) was introduced in August, 2008 (Home Office, 2011). As the present research is focused on the trajectory of crime over time,
and as the ethnic booster sample and under 16s survey were not included in all available sweeps, these supplementary sample sets were not included in the present analysis in order to avoid incomparable results over time.

(2) Reference Period
Prior to 2001, CSEW respondents were questioned about their experiences of crime in the previous calendar year (January to December). However, the adoption of a rolling-sample format when the CSEW changed to a continuous survey in the 2001/2 sweep, meant that respondents are now asked about their experience of crime in the 12 months prior to interview (Bolling, Clemens, Phelps & Smith, 2002). As respondents are interviewed on a rolling basis over the course of a year, the time period covered by the data is not directly comparable with calendar years (ONS, 2014). Therefore, tables and figures including trends over time refer to the year in which the crime took place prior to 2001/2 (for example the interviews conducted in the 1996 sweep relate to victimisation in 1995 and are labelled as such) - and refer to the year in which the survey interviews took place for the sweeps 2001/02 onwards (Bolling et al., 2002; ONS, 2014). However, as the size of reference period (12 months) remains stable throughout the CSEW the study of assault incidence is unaffected (Jansson, 2007).

(3) Short and Long Victim Forms
From the 1996 CSEW sweep onwards, respondents could be asked a maximum of six victim forms - three long and three short. The three long victim forms collect full details of incidents, with the three short victim forms collecting only key information required to code an incident into an offence. This system is designed to avoid respondent fatigue (Home Office, 2011). However, the 1994 and 199221 sweeps only asked a maximum of five victim forms – three long and two short – and the 1988, 1984 and 1982 sweep were asked a maximum of four victim forms, all of which being long forms (OPCS, 1995). As detailed offence information – including the timing and location of an offence - is exclusive to the long victim form format, the present study’s filter to examine assaults between strangers and acquaintances in the context of the night-time economy serves to retain long victim form data only. For consistency, only the first three long victim forms for each sweep were used in order to facilitate trend uniformity and comparability across the full span of CSEW datasets with respect to detailed analysis of incidents. However, overarching trends and patterns relating to the umbrella category of violence are not lost, as screener questions in the non-victim form – used to establish which respondents were subject to ‘deliberate force/ violence’ in the last 12 months (and hence which respondents should be issued with victim form(s)) - asks the respondent to report the overall number of such incidents.

(4) Offences within the Scope of the Survey
The offence codes allocated to incidents fall into two categories - valid and invalid offence codes. Invalid offence codes refer to incidents in which there was insufficient evidence that an offence had occurred, or where the incident is considered outside of the scope of the survey (Home Office, 2011). Only valid offence codes – those which are applied to cases which fall within the survey’s scope - should be utilised in analysis. However

21 the base numbers are too small to present results by violence typology in the 1992 CSEW sweep (Budd, 2003, p. 24)
the definition of a ‘valid’ offence has altered over the course of the CSEW. Physical assault - and other crimes against the person - occurring against the actual survey respondent (either alone or with others) has remained a constant feature of a ‘valid’ CSEW offence. If it transpires that the respondent was one of several victims, the victim form is coded on the basis of information about the respondent alone (Home Office, 2011). Assaults where the respondents were not targeted (but instead family or friends were targeted) were consistently assigned offence code 19 (an invalid offence code representing assaults outside of survey’s coverage) throughout the survey.

Violent offences occurring exclusively within England and Wales have been a feature of ‘valid’ offences in all CSEW sweeps post 1992. The 1992, 1988, 1984 and 1982 sweeps included incidents occurring outside of England and Wales as within the survey’s scope. For trend uniformity, and for the retrospective appraisal of corresponding shifts in policy and security consumption to be contained to within England and Wales, the present analysis adopted filters to exclude incidents occurring outside of England and Wales in the 1982 - 1992 CSEW cycles. Violent offences committed by offenders perceived to be mentally ill have traditionally been excluded from the scope of the survey [awarded offence code 19] and classified as ‘invalid’ (along with violent offences committed by on-duty Police Officers). From April, 2010 onwards, offences executed by offenders perceived to mentally ill have been included in the survey’s scope and categorised as ‘valid’ (ONS, 2012). For trend uniformity and comparability, the present analysis involved devising and utilised filters to exclude offences committed by mentally ill offenders across the 2009/10 – 2010/11 CSEW sweeps.

(5) Technological Advancements
A further change involves the improvement to questionnaire design and efficiency with the introduction of technology (Jansson, 2007). The move to CAPI (Computer-Assisted Personal Interviewing) signified a major change – with the move to hand-held computers in more recent years presenting an even greater change to recording crimes of violence (Walby & Allen, 2004). Fears regarding the willingness of respondents to report interpersonal violence are especially pertinent with incidents of domestic violence. The interviewer is allowed to skip the victim form in cases of domestic, as well as sexual, assaults where others are present in the household (Home Office, 2011). Technological improvements to the survey - and the move to CAPI (Computer-Assisted Personal Interviewing) - allowed the introduction of self-completion modules regarding such sensitive crime types, and hoped to combat the issues that a face-to-face interview format presents. Self-completion modules were first included in the 1996 and 2001 CSEW sweeps to improve estimates of domestic violence (Walby & Allen, 2004) and a similar module has been included since the 2004/05 CSEW. Results suggest, as predicted, a higher level of admittance to the self-completion module than in the face-to-face interview (Mirrlees-Black, 1999). The difficulties in measuring incidents of domestic violence in the face to face format (Budd, 2003) and the sporadic distribution of the self-completion modules (as well as their absence prior to 1996), limited the extent to which detailed characteristics of domestic assaults could be analysed in the context of the crime drop as part of the present research. Furthermore, an important assumption of situational crime prevention is that of crime specificity, whereby opportunity structures and offender crime scripts differ
considerably between crime-types (Clarke, 1997; Cornish, 1994). Felson (1997, p. 210) observes that “the specific routine activities usually associated with domestic violence are not likely to be the same as those associated with street crime…activities that draw people away from their home are not likely to increase violence in the home”. Due to fundamental methodological and theoretical limitations, the present research subsequently focused exclusively on trends in stranger and acquaintance assault.

4.3. Data Selection
The present analysis examined valid cases of physical assault occurring in and around the night-time economy: where ‘valid’ captures offences occurring within England and Wales, against the survey respondent themselves, and those recorded on the first three (long) victim forms – and excludes offences perpetrated by mentally ill offenders or on-duty police personnel. The inclusion and exclusion criteria of night-time economy assault is outlined in the following sections:

4.3.1. Defining Physical Assault
As previously described, each offence recorded by the victim form(s) is assigned a final Home Office offence code. If one crime consists of a number of offences the coding produces one offence code through a process of severity prioritisation. For example, an incident involving an offender breaking into a respondents’ house and damaging valuable belongings is coded as breaking and entering above vandalism (Budd & Mattinson, 2000). Physical Assault is an umbrella term, housing several different variations with graduated severity: threatened assault, attempted assault, and finally, completed (successfully executed) assault. The definition and characteristics of physical assault - in all its variations- have remained comparable since the survey began (1981). The CSEW criteria for physical assaults are outlined by the ONS Report (2012) and are adapted into diagram-form in Figure 4.1.

22as perceived by the victim
23crime types included in the main count of crime have remained comparable since the survey began in 1981 (ONS, 2012)
Figure 4.1. Physical Assault Typology Diagram derived from the ONS (2012) CSEW offence specification information
4.3.2. Defining the Night-Time Economy

The night-time economy is a service industry based on consumption and leisure, and can be categorised by three distinct characteristics: increased alcohol consumption, a “concentration in town and city centre entertainment zones”, and an orientation towards younger cohorts (Tierney, 2006, p. 454). The night-time economy was selected as the backdrop against which to examine assaultive violence, owing to a heightened danger of stranger and acquaintance assaults (Budd, 2003; Dodd et al., 2004; Felson & Clarke, 1998; Morleo et al., 2007). The ‘night-time economy’ was defined for the purposes of this analysis as economic activity (businesses and services) operating after 6pm and associated with the sale of alcohol for consumption on-trade - as well as public transportation operating between these hours. The present analysis thus coded incidents occurring between 6pm and 6am in and around drinking establishments, public entertainment venues, and public transportation, as having occurred in the ‘night-time economy’ (Figure 4.2).

Figure 4.2. Night-time economy inclusion criteria defined by the present research

- Drinking establishments were collapsed in this way (into a single ‘drinking establishments’ category) to achieve trend uniformity due to sweeps of the CSEW prior to 2007/08 grouping nightclubs with ‘pubs, bars and men’s clubs’ – and sweeps from 2007/8 onwards grouping nightclubs with ‘discos and dancehalls’. This is a limitation of the data as existing literature posits vertical-drinking (commonly, but not exclusively, associated with nightclubs) as a key facilitator/precipitator of opportunities for interpersonal violence (Graham & Homel, 2008; Montgomery, 1994; Plant & Plant, 2004).

- The option of taxi was introduced, and thus only available, from the 1994 sweep of the CSEW onwards. Offences occurring in and around planes (including airports and airport car parks), on boats, and whilst driving in a car or caravan, were excluded from the present study’s definition of public transportation in the night-time economy.
• ‘In and around’ night-time economy locations can be broken down to incidents occurring inside the location (or on mode of transportation), incidents occurring on the street outside of the location, and incidents occurring in the car park of the location.

As informed by research from Maguire and Hopkins (2003), the inclusion criteria of the ‘night-time economy’ centred on the timing and location of offences as opposed to a direct requirement of cases to involve offender or victim intoxication. The authors evidenced the difficulties of defining incidents in the night-time economy by the consumption of alcohol exclusively: primarily citing the subjective perception of offender intoxication in victimisation surveys (Maguire & Hopkins, 2003). Using indirect measures of alcohol related crime – including analysis of those locations near to licensed premises, the homeward routes, and the gathering points of patrons - is similarly recognised by Tierney and Hobbs (2003) as providing opportunities for practical measurement and a crime reduction perspective.

4.3.3. Defining Stranger and Acquaintance Assault

All violent offences recorded by the Victim Forms are assigned by Home Office Coders to a ‘violence group’ concerning the victim’s relationship to the offender(s): stranger violence, acquaintance violence, mugging, or domestic violence. Muggings were excluded through the present analysis’ use of a physical assault filter. The filter to exclude ‘domestic violence’ involved the removal of incidents between romantic partners or ex-partners, relatives, and household members (ONS, 2014). Acquaintance violence involved cases where the victim knew one or more of the offenders, at least by sight; with stranger violence signifying cases where the victim did not know, did not have information about, or had never seen, the offender(s) (ONS, 2014).

4.3.4. Selecting Variables for Inclusion

Variables concerning the characteristics of physical assault, with theoretical grounds for inclusion, and crucially, spanning the timeline of the ‘crime drop’ phenomenon, were selected for analysis. Separate from variables required for dataset filtration, the inclusion variables refer to the relevant variables selected for analysis that captured either the characteristics of the victim (located in the Non-Victim Form) or the characteristics of the offence (located in the Victim Form). The initial stages of analysis required a thorough appraisal of the relevant survey questions (and their corresponding variables and variable pathways) available in the original survey datasets to be taken over into the finalised, filtered, datasets.

- Variables originating in the non-victim form (NVF) concern respondent characteristics. The relevant variables were defined by the researcher as: variables capturing respondent socio-demographic characteristics, and variables capturing respondent routine activities.

- Variables originating in the victim form (VF) concern offence characteristics. The relevant variables were defined by the current research as: variables capturing assault type and severity, the victim-

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24 The acquaintance relationship included knowing at least one of the offender(s) by sight, to talk to casually, or knew well, but no ‘domestic’ relationship to the offender(s).

25 Variables relating to the routine activities of respondents (victims) can be located in both the NVF and VF
offender relationship, victim precipitation\textsuperscript{26}, as well as the situational and spatio-temporal dimensions of assault

Variables considered for inclusion in the present analysis were subject to a set of inclusion criteria: (1) they captured something about the picture of physical assault; (2) they spanned the time frame of the crime drop phenomenon; (3) values within these relevant variables, or variables within these relevant multiple response variable-sets, were comparable across time (or able to be standardised through variable transformation to retrospectively produce uniformity and comparability). Some variables relevant to the picture of assault did not adequately meet these criteria and as such were excluded from the present analysis. A full illustration of variables initially considered for analysis is available for variables in both the non-victim form and the victim form in Appendix A and B respectively.

4.4. Data Preparation
All data preparation, transformation, and analysis was conducted using the SPSS command language in SPSS syntax files. This programming command language underlies all analyses conducted using the interface menus, but is not usually utilised in its raw format. Syntax was adopted as a preferred medium for the present research due to the vast scale of data and number of variables available in the CSEW. The analysis of large-scale datasets improves in both efficiency and accuracy through the use of command language (Collier, 2010). Additional benefits to using command language include the ease with which each of the phases of data preparation (data harmonisation, dataset merging and/or aggregation), as well as the analysis of the data itself, can be tracked and retraced; evidencing the process and rationale at each phase.

4.4.1. Data Harmonisation
Techniques to harmonise the non-victim form and victim form variables of interest were utilised to achieve variable uniformity and ensure variable comparability across every available sweep of the CSEW between 1981 and 2011/12. Data harmonisation is the development of standardised variables across different surveys or different sweeps within a survey (De Vaus, 2002). The practice is used to combine multiple datasets collected at different points in time into a consistent data series, facilitate the study of change over time, support the pooling (aggregation) of individual data sweeps, decrease the error involved in time series analysis, and finally, increase the reliability of results (Esteve & Sobek, 2003). In the UK there has been a “deliberate strategy to develop a standard way of asking a question about a broad range of key demographic concepts…. resulting in a uniformity of definition of concepts, questions and coding classification in a wide range of large-scale national surveys” (De Vaus, 200, p. 50). However, original samples in a time series often vary in quality and contain different data formats and variable coding schemes (De Vaus, 2002; Esteve & Sobek, 2003). Since the CSEW’s inception in 1982, significant changes have been made to the survey to account for social changes and in response to changing survey priorities (e.g. the inclusion of more detailed victim characteristics) (Jansson, 2007). In practice, this means that earlier sweeps are not always directly comparable with later

\textsuperscript{26} Precipitation is defined by Smith and Bouffard (2014: 1) as where “the victim was the first to act in the temporal sequence of the criminal event” and where “the victim encouraged the commission of the crime”
The process of data harmonisation was required as part of the present analysis in order to overcome a number of differences between sweeps of the CSEW:

(1) Inconsistent Variables
Social changes over time are reflected through changes to the CSEW - including the 2011/12 introduction of ‘Civil Partnership’ to variables regarding respondent marital status (ONS, 2012). Conversely, absence of the option for couple cohabitation outside of marriage prior to the 1998 sweep makes it impossible to create an ONS harmonised relationship status variable to span the CSEW which incorporates the granularity of relationship options presently included in the survey. Questions regarding respondent relationship status, disabilities, and socio-economic status have undergone major transformations over time - which were addressed, where possible, by harmonising variables for trend uniformity. The earlier CSEW sweeps focused questions heavily towards the public perception of crime and the police; with later surveys directing the focus instead towards detailed offence, and victim, characteristics (Jansson, 2007). As a result in this shift, numerous variables relevant to the analysis of physical assault are lacking in a comparable format, or absent entirely, from the earlier datasets. Those relevant variables (appearing to capture something about the dimensions, or context, of assault in the night-time economy) not spanning the entirety of the CSEW, but sufficiently bookending the phenomenon of the crime drop, were still selected and harmonised for trend-analysis.

(2) Variable value changes
When variables are seen to change between sweeps, either through changes to the wording of the question, or the addition/ alteration of variable values, or a change in the number of variables within a multiple-response set, such variables are assigned a numerical suffix to represent this change between sweeps. This numerical suffix may change multiple times over the course of the survey; reflecting rolling changes to the content of the variable over time. When analysing assault-dimensions over time, inflating variable values and multiple response variable-sets must be harmonised for trend uniformity. The present analysis adopted appropriate variable transformation processes (including recode and compute) to aggregate (collapse), or exclude, variable values accordingly, to ensure the comparability of variables spanning as many CSEW sweeps as is possible. Cross-over variables, whereby a single sweep of the survey contains two versions of the same variable (identifiable through the numerical suffixes), occur sporadically as a result of the rolling reference period-format adopted by the CSEW in 2001. Questions from the previous year’s survey are asked to a small percentage of the current year’s survey; producing a dataset with differently suffixed variables (Home Office, 2011). Therefore variables with differing content can exist within a given sweep, as opposed to between sweeps. These cross-over variables were identified and harmonised within-sweep accordingly.

(3) Changes to Multiple-Response Sets
Multiple-response variable sets differ from single-response variables in that the survey question they are derived from allows more than one answer to its question. The respondent is not required to select a single answer from alternatives, but can instead offer one or more answers from a range of available answers. Multiple answers cannot be computed into a single variable and as such a set of variables is required to capture
each response given. Prior to 2001, multiple response variables were created as a set of variables equal to the maximum number of answers that could be given. The first variable held the first answer given by the respondent; the second variable held the second answer given, and so on (Budd & Mattinson, 2000). After a survey re-design, CSEW sweeps from 2001 onwards presented multiple response variables differently from previous cycles. Each potential answer was assigned a dichotomised variable (given a value of ‘0’ or ‘1’) depending on whether the respondent gave that particular answer or not (Home Office, 2011). To accommodate the differences in multiple-response variables over time, the present analysis utilised variable transformation processes (recode and compute commands) to recreate sets of dichotomised variables – holding values of ‘0’ and ‘1’ (analogous to the post-2001 sweeps) - across all multiple-response variables spanning the 1982 – 2000 CSEW sweeps.

To accommodate the challenges presented by data diversity and unevenness, data standardisation (harmonising the data formats and correcting errors) and data integration (harmonising the codes for all variables shared across data sets, including the integration of relevant filtration system) are utilised in the data harmonisation process – which occurs prior to data analysis (Esteve & Sobek, 2003). Both stages of data harmonisation draw on variable transformation techniques including: collapsing variables values, recoding variables, computing new variables, and dichotomising responses. The creation of new ‘edited’ datasets with the newly standardised and integrated variables occurred for across the available CSEW sweeps between 1981-2011/12. Every transformation conducted on individual variables in both the non-victim form, and victim form datasets, are illustrated fully by the commands in the syntax files. Variables were then selected, cleaned, and standardised for uniformity over time, or transformed for a specific analytical purpose. Chosen variables from the non-victim form and the victim form were then merged together for each CSEW sweep to form a series of new datasets. Those final variables chosen for inclusion in new datasets, and thus inclusion in the data analysis stage, are illustrated fully in sections 4.7.1 and 4.7.2.

4.4.2. Data Merging
The non-victim and victim forms were matched by a unique identifying number, and merged to allow interaction between respondent-characteristics and offence-characteristics. This process also facilitated the modelling of respondent socio-demographic characteristics against the risk, and resultant severity, of assault victimisation in the night-time economy. The merged datasets required differing filtration systems – with different selection criterion and different variables of interest– for the different stages, and purposes, of analysis. Three main dataset types (subsets) were established and replicated across all possible sweeps of the CSEW. All data subsets were derived from the edited non-victim and victim forms created in the earlier stages of data preparation - but were each subject to unique transformations in the latter stages of analysis.

Data Subset 1 facilitated the examination of overarching trends in night-time economy assault incidence by degree of completion (threatened, attempted, or completed), as well as the examination of sub-trends within completed assaults (the primary focus of the present research). The victim form was filtered to include valid cases of completed physical assault, attempted physical assault, and threatened physical assault, occurring
in the night-time economy. The non-victim form contributed all of the corresponding socio-demographic characteristics for every case of physical (threatened, attempted, and completed) assault.

**Data Subset 2** merged information from the victim form and non-victim form and was designed for the purpose of comparing victim and non-victim characteristics to examine prevalence of assault victimisation in the context of the night-time economy over the course of the CSEW, and to identify significant predictors of assault victimisation in the night-time economy. The victim form was filtered to include only cases where a respondent was victim (to one or more) valid, completed physical assaults, either by serious wounding, other wounding, or common assault, occurring in the night-time economy. The victimisation variable in this dataset is binary (victim of completed assault in previous 12 months, or not) - counting respondents subject to multiple victimisations of this nature as a ‘victim’. The non-victim form included all cases (respondents) so as to compare the characteristics between respondents experiencing assault victimisation and respondents not experiencing assault victimisation. The dataset harnessed respondent-level data from the non-victim form given to all respondents of the survey. This facilitates the observation of differences in victimisation-risk between respondent socio-demographic groups.

**Data Subset 3** also merged information from the victim form and non-victim form, but was designed for the purpose of comparing characteristics between cases of assault to identify the significant predictors of assault severity – defined by injury sustained - in the night-time economy. The victim form was filtered to include cases of valid, completed physical assault, occurring in the night-time economy. The non-victim form contributed all of the corresponding socio-demographic characteristics for every case of completed night-time economy assault. The dataset utilised offence-level data from the victim form asked to all victims of crime. This allowed examination of differences in severity (injury) risk between both victim, and offence (situational), characteristics.

Each of the three data subsets, and their corresponding purpose, are outlined in Figure 4.3.
Figure 4.3. Logic Tree: Dataset Typology and Corresponding Analysis/Results Stages
The different data subsets were utilised for different stages of analysis in order to meet the two overarching aims of the present research: First, to explore the stock of opportunities for night-time economy violence over the course of the crime survey; disaggregating the general trend in night-time economy violence by its (1) offence characteristics and (2) victim characteristics. Second, to rigorously test the opportunity structure of night-time economy violence; examining whether opportunity-level variables can significantly explain respondents’ risk of assault victimisation and, if an assault does occur, (2) the risk of serious injury (wounding) to the victim.

4.5. Research Aim: Analysing the Stock of Opportunities for Assault

Aebi and Linde (2012) caution that researchers must first establish that there has been a drop in different types of crime before attempting to provide explanations. The overarching trends in the incidence (number of offences) and prevalence (number of victims) of assault in the night-time economy were mapped between 1981 and 2011/12 in order to observe whether this particular crime type mirrors the crime drop phenomenon experienced across property crimes, and collective crimes of violence. Descriptive statistical analysis was used (in data subset type 1) to calculate completed assault incidence and prevalence; weighted by sample size to produce an estimation of the number of assaults per 10,000 population for every available sweep of the CSEW. Variation in night-time assault’s trajectory was subject to significance testing, in order to observe whether any decline, or incline, in the trend varied significantly. Confidence interval testing is the statistical method used to determine whether differences in rates or percentages are statistically significant once sampling variation (error) is taken into account. Changes in assault’s trajectory over time were tested for statistical significance at the $p < .05$ level to ensure that the differences were larger than might be expected due to sampling variation.

4.5.1. Stage One: Disaggregating Trends by Offence-Characteristics

The overarching trend in completed Night-time economy assault was then disaggregated by its major offence-characteristics. Data subset 1 was employed for this stage of analysis - using an additional filter to exclusively retain completed assaults (the primary focus of the present research) after completing the examination of trends in attempts and threats.

The opportunity perspective observes that opportunities for crime cluster in space and time. The occurrence of interpersonal violence requires the physical convergence of a motivated offender and suitable target in space and time. As such, stage one of analysis disaggregates the overarching trend in assault by spatio-temporal dimensions between 1981 and 2011/12, in order to observe how the distribution of opportunities for violence in space and time have fluctuated over the course of the crime drop. There is however a wealth of literature examining the role of situational cues (available in the immediate physical or social environment) in informing whether an offender chooses to exploit a presented opportunity. Therefore, stage one of analysis also disaggregates the overarching trend in assault by situational characteristics between 1981 and 2011/12, so as to observe how the situational characteristics of violence have fluctuated over the course of the crime drop.
4.5.2. Stage Two: Disaggregating Trends by Victim-Characteristics

Whilst stage one observed how opportunities for violence are distributed in space and time, more controversially the opportunity perspective also identifies how opportunities for violence are distributed amongst individuals. Certain socio-demographic characteristics, and lifestyles, are hypothesised to influence individuals’ suitability and vulnerability to victimisation. As such, stage two of analysis examines how opportunities for night-time economy violence are distributed amongst victim-characteristics, as well as how they have fluctuated over the course of the crime drop. Bivariate analysis, a statistical method designed to detect or describe the relationship between two variables, was harnessed at the descriptive level to calculate the prevalence of assault victimisation by respondents’ socio-demographic and lifestyle characteristics. The simplest variation of bivariate analysis involves a two-way contingency, or cross-tabulation, table (Wagner, 2011, p. 76) through which the researcher can “explore the relationship between two variables by examining the intersections of categories of each of the variable involved”. Cross-tabulations were performed between each individual explanatory variable and the outcome variable (assault victimisation).

The contingency table-outputs provided the proportion (%) of respondents in each category who had been victim to assault in the night-time economy. These percentages represented the prevalence of victimisation: prevalence of victimisation being defined by the ONS (2014) as the proportion of the population who were victims of an offence once or more\(^{27}\). Prevalence of victimisation was calculated for every unique socio-demographic and lifestyle category, and then replicated across all available sweeps of the CSEW (1981 – 2011/12). These figures were then plotted on diagrams to indicate trends in assault prevalence over time.

4.6. Inferential Analysis

Using descriptive-level bivariate analysis to examine how incidents of night-time economy violence pool across certain spatio-temporal and situational variables, and amongst certain individuals, evidences the opportunistic nature of violence. However, the bivariate descriptive-level analysis adopted in stages one and two of analysis does not allow for other variables to be controlled, nor does it inferentially test the role of opportunity in the occurrence (and severity) of night-time economy violence. It also fails to test the cornerstone of the lifestyle/routine activity framework: the interaction between the personal-level characteristics (of the actor(s) involved in assaults) and the opportunity-level characteristics. As such, analysis stages three and four proceeded to harness multivariate, inferential-level, techniques to test the role of opportunity-level variables in assault-victimisation, and assault severity once victimised, respectively.

4.6.1. Binary Logistic Regression

Binary logistic regression (BLR) was utilised by the present research as the inferential-level analytical tool for stages three and four of analysis. The predominantly non-parametric (categorical), as opposed to parametric (continuous), nature of variables relating to crime informed the statistical techniques available when conducting inferential analysis (Pampel, 2000). Both analytical stages three and four harnessed a binary (non-parametric) analysis...

\(^{27}\) prevalence rates only take into account whether a person was a victim of a specific crime once or more in the reference period and not the number of times victimised (ONS, 2014)
dependent variable: whether the respondent was a victim of assault or not, and whether those victim to assault were seriously injured or not, respectively. The categorical nature of these outcome measures violate the assumptions of tradition linear (OLS)\textsuperscript{28} regression (Sampson & Lauritsen, 1990). Logistic regression and discriminant analysis are two alternative procedures in which the nature of dependent variables are preserved, and categorical outcomes can be modelled (Aldrich & Nelson, 1984). Logistic regression is however the preferred process where the categorical dependent variable is dichotomous (binary) in nature, and where there is a mixture of numerical and categorical independent (explanatory) variables (Burns & Burns, 2009). As both analytical stages three and four utilised binary dependent variables, and used independent variables at varying levels of measurement (nominal, ordinal, and scale), logistic regression - specifically binary logistic regression - was selected as the appropriate mechanism through which to model both assault victimisation, and resultant severity.

Binary logistic regression (BLR) is “a multivariate statistical technique that predicts the outcome of a dependent variable, from a set of independent variables” where the dependent variable has “only two possible outcomes” (ONS, 2014, p. 82). As such, binary logistic regression was utilised by the present research to estimate the relationship between the independent variables and the dependent variable(s) of interest. BLR adopts binominal probability theory in which there are only two values to predict: whether the person (or event) belongs to one group or the other (i.e. victim/ non victim, seriously injured/ not seriously injured). An assumption of BLR is thus that the two dependent variable groups are mutually exclusive and exhaustive (Burns & Burns, 2009). BLR then creates a model which determines the ability of multiple independent variables to successfully predict membership of the target group (value 1) in the dichotomised outcome variable. SPSS automatically predicts the “1” value of the dependent variable in BLR, using the “0” value as the reference value (Garson, 2013). As such, the binary dependent variable for both stages were coded accordingly\textsuperscript{29}. BLR models the odds of the target event occurring (e.g. being victimised) (Menard, 2002), and estimates the impact of independent (explanatory) variables on these odds.

A requirement of regression modelling is that the independent variables are either at the continuous level of measurement (e.g. age), or failing this, that non-continuous level variables (i.e. categorical (nominal and ordinal) level variables) are transformed into a series of dummy variables (Wagner, 2011). Dummy variables are binary-level variables which adopt the numeric value 0 or 1 to indicate the absence or presence of a categorical variable value, and are also used as mechanisms to sort data into mutually exclusive categories (such as victim/ non-victim in the present research) (Pedhazur & Schmelkin, 2013). As such, dummy variable coding is also referred to as ‘binary coding’ (Pedhazur & Schmelkin, 2013, p. 465). The creation of a dummy variable for gender, for example, would convert the nominal values: males/ females into numeric values: 0 (signifying males) and 1 (signifying females). The number of dummy variables will always equate to one less than the total number of values (expressed as K-1) as one value within the variable is assigned as the ‘reference’ group – against which all other

\textsuperscript{28} Ordinary Least Squares [OLS] regression method used to estimate linear dependent variables

\textsuperscript{29} Stage three dependent variable (1= victimised, 0 = not victimised) Stage four dependent variable (1=wounded, 0=no/ negligible injury)
possible groups are compared (Hardy, 1993). Analysis used a consistent reference group within each dummy variable–set (e.g. male coded as 1 (reference group) across all CSEW sweeps) so as to aid comparability of results (odds ratios). The dummy variable sets can be automatically created by SPSS (in certain analytical procedures), or instead can be manually coded by the researcher. SPSS-generated dummy variables were utilised in the logistic regression phases of analysis and manually coded for linear regression procedures (required for multi-collinearity testing).

Burns and Burns (2009, p. 569) outline the two main uses of logistic regression: First, **knowledge of the individual (and comparative) strengths of the predictor (independent) variables** e.g. whether your marital status puts you at a significantly higher probability of victimisation than your employment status). This stage relies on the variable-level coefficients (Wald Chi Square ($\chi^2$) distribution) produced in the model output. Second, **prediction of group membership** – with the goal being to correctly predict the category of outcome for individual cases e.g. whether single individuals have a significantly higher probability of being victimised than married individuals). This stage relies on the individual parameter-level coefficients (Log Odds or Odds Ratios) produced in the model output. The opportunity to request model-fit diagnostics (measuring the model’s strength and fit) presents a third use of BLR: **hypothesis testing**. The way in which the regression model is constructed - specifically if the explanatory (independent) variables are entered into the model in stages, as opposed to simultaneously – the improvement, or detriment, to model-fit statistics can be meaningfully observed (Sampson & Lauritsen, 1990). This stage relies on model-level coefficients measuring both a model’s strength of association (Nagelkerke R$^2$) and goodness-of-fit (Model Chi-Square ($\chi^2$), -2 Log Likelihood, Hosmer and Lemeshow Chi Square ($\chi^2$) Test). Performing binary logistic regression in SPSS produces multiple outputs relating to each of these three uses: (1) measuring the strength of explanatory variables; (2) predicting of group membership; and (3) testing model success.

**(1) Strength of explanatory variables**

The main effects of each explanatory variable are captured by the Wald ($\chi^2$) statistic (and corresponding significance level), and are used to ascertain whether a variable is a significant predictor of the outcome (Field, 2000). The Wald statistic “has a chi square ($\chi^2$) distribution and tells us whether the B coefficient for that predictor variable is significantly different from zero” (Field, 2000: 180). If the variable-level coefficient is significantly different from zero, the assumption that the variable is making a significant contribution to the prediction of the outcome can be made (Field, 2000). The equation of Wald ($\chi^2$) is (**B coefficient/Standard Error**)$^2$. Menard (1995) advises the use of caution when interpreting the Wald statistics where the regression coefficient (B) is large, as standard error (SE) is sensitive to inflation and subsequently, a type II error of the Wald statistic being underestimated (rejected as a significant predictor variable) may result. In examining the size, and significance (using a 95% confidence interval), of the Wald ($\chi^2$) statistic, an index of the significance of each predictor can be produced (Burns & Burns, 2009).
(2) Prediction of group membership

For those variables with a significant main effect on the model, the next step is to examine the differences between individual parameters within those variables; requiring the examination of parameter-level coefficients. Logistic regression models provide coefficients (B) which correspond to each level of the independent variables, and measure their partial contribution to the variation in the dependent variable (Burns & Burns, 2009). The B coefficients (or ‘logits’) may be interpreted as changes in the log odds of the dependent (Sampson & Lauritsen, 1990). However, crucial to the interpretation of logistic regression is the value of the exponential of B (Exp(B)) – which estimates the change in the odds of membership in the target group resulting from a unit change in the predictor variable. It is calculated by using the regression coefficient of the predictor as the exponent (Exp) (Burns & Burns, 2009) and remains similar to the B coefficient, but “is easier to understand because it does not require a logarithmic transformation” (Field, 2000, p. 182).

The Exp(B) coefficients are more commonly referred to as the odds ratios (OR) as they represent the proportionate change in the odds when moving from one category (reference category) of an explanatory variable to another, or similarly a unit change (increase or decrease) in the linear explanatory variables (Field, 2000). The odds ratios are available in the Exp(B) column of the ‘variables in the equations’ model output, and are the most frequently used parameter due to their ease of interpretation (Hosmer & Lemeshow, 2000).

Odds ratios represent the increased or decreased likelihood of an event occurring between values of the same variable. Odds ratios greater than 1 reflect a positive effect: indicating that the odds of the dependent variable occurring increase when the independent variable increases. Conversely, odds ratios less than 1 reflect a negative (diminishing) effect: indicating that the likelihood of the dependent variable occurring decreases as the independent variable increases (Menard, 2002). For example, individuals who engage in risky types of activities such as alcohol or drug-consumption are hypothesised to have increased odds of being victimised (Homel & Clarke, 1994). A significant change in the odds was determined by a corresponding significance value lower than .05. This 95% confidence interval for the Exp(B) coefficient indicates that this same Exp(B) value would result on 95 occasions if the relationship were to be tested 100 times in the population (Field, 2000). Once the logit (B) has been transformed into an odds ratio (Exp(B)), the formula ((Exp(B)-1) x 100) can be used to convert the increase or decrease in the odds ratio between variable groups (how far the OR deviates from the pivot point of 1) into a percentage of change in the odds – easing the interpretation of ORs further.

(3) Testing Model Success

The null model (Block 0) is an SPSS-generated model containing only the constant (intercept) before any of the coefficients (explanatory factors) are entered (Sampson & Lauritsen, 1990). The model produces a percentage, which states that if we knew nothing about independent variables and instead guessed the most commonly occurring outcome (of the two possible outcomes of a binary dependent variable) we would be correct in this (X) percent of cases (Wagner, 2011). BLR compares this baseline with the model designed by the researcher -
inclusive of all the predictor variables - to determine whether the new ‘fitted’ model more appropriately explains the variation in the dependent variable and more successfully fits the test data (Burns & Burns, 2009).

A measure of the fitted model’s success in accurately predicting the outcome variable (when compared to the null model) is captured by strength of association statistics. These measure how much of the variance in the binary dependent variable is successfully explained by the explanatory variables in the model. The present analysis used the Nagelkerke’s R-Square statistic to examine the percentage of variance explained by the model and thus the strength of association. This statistic acts as a pseudo $R^2$ as $R^2$ is traditionally designed for OLS linear regression and parametric data (Wagner, 2011). Nagelkerke's R-Square is a modification of the Cox and Snell R-Square - a similar test of association but with a maximum of less than 1.0, rendering it difficult to interpret. Nagelkerke's $R^2$ divides Cox and Snell's $R^2$ by its maximum in order to ensure a measure that ranges from 0 to 1 - and as such is the most-reported of the R-squared estimates (Nagelkerke, 1991; Menard, 2002; Devine et al., 2009). Therefore, Nagelkerke Pseudo $R^2$ will read higher than the Cox and Snell $R^2$ measure: however both of these pseudo $R^2$ will be lower than the traditional $R^2$ coefficient in OLS (linear) regression (University of Strathclyde, n.d.).

Further measures of the fitted model’s success are captured by goodness-of-fit statistics: which include both the Model chi-square ($\chi^2$) statistic and the Hosmer and Lemeshow Test. The model chi-square ($\chi^2$) statistic can be found in the omnibus test of model coefficients output and demonstrates whether the researcher’s fitted model is significantly better at predicting the outcome than the intercept-only null model (Garson, 2013). The model $\chi^2$ represents the reduction (i.e. improvement in fit) in -2 log likelihood when the predictor variables are added to the null model (Sampson & Lauritsen, 1990). The -2 log likelihood (-2LL), also referred to as the deviance, is a measure of how well the estimated model fits the data. The -2LL for a model indicates the extent to which the model fails to perfectly predict the values of the dependent variabale ($\hat{y}$). The smaller the -2LL (deviance) is, the better the model fits the data. As such, a good fitted model translates to a significantly reduced -2LL value (Aldrich & Nelson, 1984; Menard, 1995). Ultimately, the -2LL measures the improvement in model-fit that the explanatory variables have made to the null model: with the model $\chi^2$ used to assess the size, and significance, of this difference (Burns & Burns, 2009).

An alternative test of model-fit is Hosmer and Lemeshow’s (1989) chi-square ($\chi^2$) distribution. This tests the null hypothesis that the data was generated by the model fitted by the researcher. The test computes a chi-square from the observed and expected frequencies. Then a probability (p) value is computed from the chi-square distribution to test the fit of the logistic model (Hosmer & Lemeshow, 1989). If the Hosmer and Lemeshow $\chi^2$ statistic has a corresponding significance (p value) greater than .05, then “we fail to reject the null hypothesis that there is no

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30 The difference between the -2LL in the fitted model and the -2LL in the null (block 0) model is hence the equivalent value of the model $\chi^2$
difference between observed and model predicted values, implying that the model’s estimates fit the data at an acceptable level” (Burns & Burns, 2009, p. 580). This additional measure of goodness-of-fit was included in the present analysis to ensure that the final fitted models achieved the desirable outcome of non-significance; indicating an adequate fit with the data (Garson, 2013).

The availability of model diagnostics presents an opportunity for further hypothesis testing through the way in which a fitted model is constructed. A multi-stage approach to logit modelling was adopted by the present research as it provides “an indication of the predictive power of our major theoretical variables” (Sampson & Lauritsen, 1990, p. 123). As such, explanatory variables were not entered into the logistic regression model in one step (or block), but instead entered using the hierarchical entry-method in order to observe the improvement to the model when subsequent block(s) (containing the variables of interest) were entered into a control model containing a first block of demographic characteristics and structural constraint variables. The addition of new variable block(s) to this control model produces a final fitted model which incorporates all of the available explanatory variables, and produces new model statistics. The control model’s diagnostic statistics thus acts as a base against which the strength and fit of the final fitted model can be tested (Sampson & Lauritsen, 1990). This facilitates the measurement of the predictive power of the theoretical variables by quantifying their independent contribution to the outcome of the dependent variable.

The default method of regression model construction is to ‘enter’ the variables into blocks, whereby parameter estimates are calculated for each block (Field, 2000). This technique was selected by the present research as the mode of variable entry in SPSS, in accordance with existing research suggesting its suitability for theory-testing (Studenmund & Cassidy, 1987). Researcher discretion is used to decide which variables are entered into the model, and in which blocks (if multi-stage analysis is used), on a theoretical basis informed by existing literature and concepts. The alternative variable entry techniques were available under the ‘stepwise’ variable entry category, whereby SPSS begins by running models containing only the intercept and then proceeds to automatically retain or reject predictor variables from being entered into the model, based on specific statistical criterion (Field, 2000). Stepwise methods are more appropriate in analyses where causality is not of interest and instead emphasis rests on a model to fit your data (Agresti & Finlay, 1986; Menard, 1995). For this reason, coupled with criticism of the stepwise techniques as influenced by random variation in the data and susceptible to unreliable results (Field, 2000), the ‘forced entry’ method was instead adopted.

4.7. Research Aim: Testing the Opportunity Structure of Assault
Stages three and four of analysis sought to test the opportunity-structure of assault victimisation, and resulting severity, in the night-time economy. The present research used binary logistic regression (BLR) to develop two statistical models - designed for the two sub-stages of analysis. Stage three of analysis harnessed BLR to identify the factors that increase the likelihood of completed assault-victimisation. Stage four of analysis used BLR to identify the factors that increase the likelihood of sustaining a serious injury when completed assault does occur.
4.7.1. Stage Three: Modelling Assault Victimisation

Data subset 2 was employed for this stage of analysis; facilitating the comparison of victims’ and non-victims’ characteristics. The identification of the personal-level (socio-demographic) and opportunity-level (lifestyle/routine activity) risk factors of victimisation can isolate the role of opportunity in violent victimisation, and is essential to future harm reduction interventions (Finney, 2004).

Measures of respondents’ routine activities were constructed to test hypotheses estimating their relationship to physical victimisation risk, and their collective explanatory power in explaining assault victimisation, when controlled for the personal characteristics of respondents - which are hypothesised by the lifestyle/exposure nexus to impact individuals’ lifestyles and routine activities through the corresponding structural constraints and role expectations associated with these personal characteristics.

4.7.1.1. Dependent variable

This stage of analysis employed one dependent variable: overall risk of completed (successful) physical assault victimisation. The dependent variable was derived from the victim form questions establishing whether the respondent had been personally victimised in the previous 12 months and the type of victimisation; electing to analyse risks of ‘completed physical assault’ (resulting in either serious wounding, other wounding or common assault).

The variable relating to completed physical assault was operationalised using the Home Office-derived final offence code variable. The appropriate variable values were aggregated to form a composite ‘completed physical assault’ variable. This stage of analysis looks at the risk of having been a victim (of one or more incidents) of completed physical assault in the 12 months prior to interview, or not. This dependent variable was therefore coded as a dichotomous dummy variable (0=not victim, 1=victim). Participants experiencing an attempted or threatened physical assault only, were excluded from the ‘victim’ category.

4.7.1.2. Independent Variables (Personal-Level)

Existing research has suggested that certain personal (socio-demographic) variables play a role in predicting violent victimisation (Fisher et al., 2000, 2002; Baum & Klaus, 2005; Cass, 2007). However, the lifestyle/exposure model of personal victimisation (Hindelang et al., 1978) suggests that the existing link between personal (socio-demographic) characteristics and the heightened risk of violent victimisation is not causal, but instead manifests through the differences in lifestyles (routine activities) between socio-demographic groups, which are seen to either increase, or decrease, individuals’ exposure to risk and opportunities for victimisation. Personal-level variables are

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31 Attempted and threatened assaults not included
32 Final Offence Code 11 (Serious Wounding), Final Offence Code 12 (Other Wounding), and Final Offence Code 13 (Common Assault)
33 Final offence Code 21
34 Final offence Code 91
therefore entered into the regression model as control variables, before the addition of routine activity (opportunity-level) variables.

Regression modelling is able to accommodate predictor variables at both the parametric (continuous) and non-parametric (categorical) level of measurement. The procedure is able to incorporate categorical predictor variables through the creation of dummy variables, which assign one category (value) within the variable as the ‘reference’ category – against which all other variable categories (values) are compared. The reference category of each variable was held constant across the available CSEW sweeps so as to aid the comparability of results over time. In Table 4.1 the operationalisation of each predictor (independent) variables is outlined, and the reference category for each non-continuous variable is highlighted in bold.

Table 4.1. Socio-Demographic Independent Variables

<table>
<thead>
<tr>
<th>Respondent Socio-Demographic Variables</th>
<th>Scale (reference category <strong>bold</strong>)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Continuous variable</td>
<td>Respondent Demographics</td>
</tr>
<tr>
<td>Sex</td>
<td>(1 = male, 2 = female)</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>(1 = married or de facto, 2 = single never married, 3 = single)</td>
<td>Respondent Demographics</td>
</tr>
<tr>
<td>Employment</td>
<td>(1 = employed, 2 = unemployed, 3 = inactive)</td>
<td>Respondent Structural Constraints</td>
</tr>
<tr>
<td>Education</td>
<td>(0 = no level 3 education, 1 = level 3 education or above)</td>
<td>Respondent Structural Constraints</td>
</tr>
<tr>
<td>Tenure</td>
<td>(1 = owners, 2 = social rented sector, 3 = private rented sector)</td>
<td>Respondent Structural Constraints</td>
</tr>
<tr>
<td>Parental Status</td>
<td>(0= no children, 1= lone parent household with a child/children, 2 = has a child/children)</td>
<td>Proximity to Crime</td>
</tr>
<tr>
<td>Area of Residence</td>
<td>(0= not inner city, 1 = inner city resident)</td>
<td>Proximity to Crime</td>
</tr>
</tbody>
</table>

Gender is the characteristic most commonly associated with night-time economy assault as interpersonal violence is still considered a male phenomenon (Kershaw et al., 2008; Sommers & Baskin, 1993; Ascencio & Guerra, 2008; Brennan et al., 2010). Sex was measured in the CSEW as a dichotomous variable (male or female). However, the binary gender response variable arguably limits the study of transgender cohorts, which emerging literature suggests may be at even higher risk of violent victimisation. There is increasing international awareness of the growing prevalence of transphobic hate crimes (Mahoney, Davies & Scurlock-Evans, 2014). The binary gender variable limits analysis of this demographic group, however more recent sweeps of the CSEW (since 2011/12) have introduced ‘gender-identity’ as a perceived offender motivation (ONS, 2014), though the binary gender variable remains. This must be updated to facilitate in-depth analysis of this emerging crime type.

The introduction of marital status as a demographic control variable was informed by literature observing the impact of marital status on both role expectations, and structural constraints (Miethe & Meier, 1994), which in turn rendered marital status a necessary control when observing the routine activity theory of victimisation. The marital status measure for analysis was operationalised by collapsing values in the original variable to create four overarching categories: married or de facto (a composite category collapsing married partners, civil partners, and cohabiting partners for trend uniformity), single (that is never married), single (previously married) – a composite category collapsing separated and divorced respondents - and finally, widowed. It was deemed inappropriate to
collapse widowed respondents with separated or divorced respondents (in the composite ‘single, previously married’ variable) due to differences in terms of actual lifestyle and routine activities (Sampson & Woolordrige, 1987; Sampson & Lauritsen, 1990). As marital status captures variation in capacity for guardianship against personal victimisation (i.e. one person versus two persons) (Hindelang et al., 1978; Cohen et al., 1981) it was also theoretically desirable to collapse married individuals and those with cohabiting partners as one category (married or de facto). As such, marital status also emerges as a demographic predictor of risk. Age itself is considered to be a significant predictor of violent victimisation risk (Hindelang et al., 1978). The lifestyle/routine activity framework suggests that younger individuals are more likely to lead lifestyles that expose them to situations where crime is likely to occur (Felson, 1997). Specifically younger, unmarried individuals are assumed to lead lifestyles which take them away from the safety of the home, and expose them to higher risk environments (Hindelang et al., 1978).

Structural constraint variables capture situations that limit behavioural options for individuals and may include economic, familial, educational, and legal constraints. These constraints can bound a person’s range of behaviours and routine activities, which in turn may influence risk of victimisation. Whilst income level is cited as an example of structural constraints in Hindelang et al.'s (1978) lifestyle model, the variable capturing respondents’ income was excluded from the present analysis due to the irregular recording of income throughout the duration of the survey. In their analysis of personal victimisation in the CSEW, Sampson and Lauritsen (1990, p. 136) omit respondent income, citing that “income is poorly measured by the BCS35”, and instead use education-level as a “general proxy for individual-level socio-economic status”.36

Education was thus selected as a socio-economic indicator, with the potential to influence structural constraints within a routine activity model of violent victimisation risk. The present analysis, emulating the precedent set by Sampson and Lauritsen (1990) in their study of personal victimisation, used variable transformation to create a binary education variable owing to “the skewed distribution of educational status” (Sampson & Lauritsen, 1990, p. 136). The dichotomised education variable recorded respondents as either achieving a National Level 3 qualification or above, or achieving a National Level 2 qualification or below. A National Qualification Framework [NQF] level 3 education or above was selected as the threshold against which to dichotomise education. Level 3 education (or above) captures those achieving A-levels, associate’s degrees, undergraduate, and postgraduate degrees – as well as students currently in full-time education in college or university (and as such studying at Level 3 or above).

Employment was a structural constraint operationalised by collapsing appropriate values in the variable establishing respondents’ employment status in the last week. The employment measure was coded to mirror the International Labour Organisation (ILO) categories of employment: employed, unemployed, and economically inactive. ‘Employed respondents’ captured those who reported working at least one hour of paid work per week.

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35 CSEW formerly known as the BCS (British Crime Survey)
36 A 2011/12 CSEW sweep measure of household income (with six bands of income level) was added to the 2011/12 assault victimisation model and was found to be a non-significant predictor of victimisation-risk in the final model (Model B), holding all other variables equal.
‘Unemployed respondents’ captured those able, and seeking, employment – characterised by those having actively searched for jobs in the five weeks prior to interview, and who reported being hypothetically available to take up employment in the next two weeks if the opportunity was presented. ‘Economically Inactive’ is a composite variable housing those available for, but not seeking, employment, those reporting no need for employment, and finally those not available for employment for a number of reasons including temporary or long-term illness or disability, retirement, student-status, or those looking after the family. The present analysis utilised variable transformation procedures to isolate students in full-time education from the ‘economically inactive’ umbrella category, owing to existing research highlighting their differences in routine activity, and the heightened risk associated with student-lifestyle (see Garius & Grove, 2015). Students are presented as the “archetypal easy victim” owing to their low levels of vigilance and relaxed attitude towards protective behaviours (Morrall, Marshall, Pattison & Macdonald, 2010, p. 823). Characteristics of student lifestyles identify them as a specific ‘victim community’ beyond the well-established increased risk associated with their age bracket (Morrall et al., 2010, p. 822). Specifically, the association with increased drug and alcohol consumption, are argued to increase exposure to victimisation in cases of both violent and acquisitive crime (Dowdall, 2007; Fisher & Wilkes, 2003; Gebhardt, Kaphingst & Dejong, 2000; Webb et al., 1996; Sloan & Fisher, 2011).

A respondent’s parental status specifically captures respondents with a dependent (under 16 years old) child or children (including biological, adopted, step and foster children), whom primarily reside with the respondent. The present analysis engaged in variable transformation to isolate parents (from households reporting the residency of children), and then more specifically to isolate lone-parent households as an individual variable value (using an additional household structure variable) in reference to the literature positing single-parents to have a heightened vulnerability to acquisitive victimisation (Tseloni, Wittebrood, Farrell & Pease, 2004). Through the lifestyle/ routine activity framework, Felson (1997) observes that family responsibilities may serve to reduce the likelihood of personal-victimisation, by increasing the amount of time spent at home and therefore reducing exposure to risk.

A measure of the proximity to crime was operationalised by respondent area of residence: a dichotomised variable dividing area by inner-city status due to research indicating an association with higher risks of victimisation for both property and violent crime (Gottfredson, 1984). Proximity to crime refers to the physical space between an offender and a potential target. Whilst area of residence (and resulting proximity to crime) is featured heavily in predicting other crime types, the present research specifically examines crime in night-time economy environments; which are concentrated in inner city, destination areas. As such, immediate area of residence may have limited influence on victimisation-risk.

4.7.1.3. Independent Variables (Opportunity-Level)

Measures of lifestyle/routine activity include individuals’ “major daytime activity, frequency of night-time activity and household composition” (Miethe, Stafford & Sloane, 1990, p. 362). The concept of exposure posits that individuals who frequent high-risk situations or environments may have a higher risk of victimisation. The lifestyle/routine activity indicators utilised by the present research are outlined in Table 4.2.
Table 4.2. Lifestyle/ Routine Activity Independent Variables

<table>
<thead>
<tr>
<th>Respondent Lifestyle/ Routine Activity Variables</th>
<th>Scale (reference category bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pub/ bar visitation in last month</td>
<td>(0 = 0 times, 1 = 1-3 times, 2 = 4-8 times, 3 = 9-12 times, 4 = 12+ times)</td>
</tr>
<tr>
<td>Nightclub visitation in last month</td>
<td>(0 = 0 times, 1 = 1-3 times, 2 = 4-8 times, 3 = 9-12 times, 4 = 12+ times)</td>
</tr>
<tr>
<td>Hours away from the home average weekday</td>
<td>(1 = &lt;1 hour, 2 = 1-5 hours, 3 = 5+ hours)</td>
</tr>
<tr>
<td>No. accessible vehicles</td>
<td>(0 = none, 1 = one car, 2 = two cars, 3 = 3+ cars)</td>
</tr>
<tr>
<td>No. cohabiting household members</td>
<td>Continuous variable</td>
</tr>
</tbody>
</table>

In past studies, exposure to crime has been captured by activities away from the home. Hindelang et al. (1978) argue that individuals who spend more time away from home, and an increased amount of time in risky places, are at increased risk of victimisation as they are more likely to converge in space and time with a motivated offender, in an environment lacking capable guardianship. An individuals' access to vehicles, and household composition, are two additional factors thought to directly influence the routine activities of individuals (Miethe et al., 1990). The accessibility to vehicles is theorised to affect victimisation through two opposing mechanisms: first, facilitating activities out of the home (including visitation to the night-time economy) and thus increasing victimisation risk. Second, by reducing reliance on public transport which may in turn reduce exposure to risky situations and drive down victimisation risk (Hindelang et al., 1978). The number of cohabiting adults (household composition) is an indication of social guardianship (with fewer people in household suggestive of less guardianship).

The concept of exposure was operationalised using five items that estimated behaviours away from the home. These measures included: (1) pub/ bar visitation frequency, (2) nightclub visitation frequency, (3) how many hours the respondent spends away from home per day, (4) the number of vehicles the respondent had access to or owned over the previous 12 months (0 = none, 1 = 1 car, 2 = 2 cars) with respondents reporting access to between three and ten cars collapsed into one value (3 = 3+ cars) value, and (5) the number of cohabiting adults.

4.7.1.4. Victimisation Model Construction

A model was built to include respondents' demographic characteristics, structural constraints, and routine activities as explanatory (independent) variables predicting the risk of the response (dependent) variable – completed assault victimisation in the night-time economy. The odds ratios produced by the logit model addressed the primary research question by identifying significant risk factors of assault victimisation – and the model replication across all CSEW sweeps between 1997 and 2011/12 addressed how these risk-factors varied during the crime drop phenomenon. Modelling victimisation risk factors is restricted to these years as the variables of interest (lifestyle/ routine activity variables) are only available in a comparable format in the 1997 (the 1998 CSEW cycle) onwards.
Figure 4.4. Modelling Assault Victimisation (Model Construction) 1997 – 2011/12
The lifestyle/routine activities framework proposes that the observed connections between demographic characteristics and violent victimisation are actually operationalised through the influence on individuals’ lifestyles and routine activities. The construction of the assault-victimisation model itself (Figure 4.4) examines whether the respondents’ routine activities significantly influence their risk of assault-victimisation, after being controlled for the personal (socio-demographic) characteristics of assault. Using a hierarchical block entry method whilst model-building, and harnessing strength of association and model-fit statistics, the collective strength of respondent routine activity variables in predicting victimisation-risk can be compared to the collective strength of respondent socio-demographic variables.

The first set of explanatory variables (respondent demographics and structural constraints) were entered as a collective block (Block A) into the model. This created a base model (Model One) and produced odds ratios and model strength and fit statistics. The next set of explanatory variables of interest (respondent routine activities) were then entered as a second collective block (Block B) to the base model (Model One); producing a new model (Model Two) which combined Block A (demographic variables, structural constraints) and Block B (routine activities). All of the variables in Model Two are controlled for one another and produce a new set of odds ratios and model strength and fit statistics. The comparison of Model One and Two’s strength and fit addressed the secondary research hypothesis by calculating whether respondent routine activities independently influenced the odds of completed assault victimisation (when controlled for respondent socio-demographic characteristics) - and whether the entry of respondent routine activity variables significantly improved the strength and fit of a logit model predicting victimisation.

4.7.1.5. Events per Variable

Multivariate methods of analysis are sensitive to problematic results if too few outcome events are available relative to the number of explanatory variables within a model (Concato, Feinstein & Holford, 1993). As such, general guidelines for events per variable (EPV) have been developed to combat the potential for type I error when over-fitting regression models (Peduzzi, Holford & Feinstein, 1995). Although not an exact figure, the consensus regarding EPV is a minimum of 10 events per independent variable (where the event denotes the cases belonging to the less frequent category in the dependent variable) (Agresti, 2007; Concato, Peduzzi, Holford & Feinstein, 1995; Peduzzi et al., 1995). More recent simulation studies conducted by Vittinghoff and McCulloch (2006) have contested the minimum of 10 events as too conservative, and found a range of circumstances where EPV amounting to less than 10 was acceptable. The present research calculated EPV to ensure at least 10 events (victimisations) per explanatory variable for every cycle of the CSEW in which assault-victimisation was modelled (1997 – 2011/12) (Table 4.3). It was calculated by dividing the number of events (victimisations) by the number of explanatory variables analysed (of which there were 13 in stage three). Table 4.3 shows that EPV did not fall below 10 in any of the sweeps of the CSEW included in analysis.

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37 Over-fitting is the inclusion of too many independent variables (Peduzzi et al., 1996)
Table 4.3. Calculation of Events per Variable (EPV) in datasets 1997 – 2011/12

<table>
<thead>
<tr>
<th>CSEW Sweep</th>
<th>Number Of Cases</th>
<th>EPV Value (1 dp)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No victimisation</td>
<td>Victimisation</td>
</tr>
<tr>
<td>1998</td>
<td>14769</td>
<td>178</td>
</tr>
<tr>
<td>2000</td>
<td>19204</td>
<td>207</td>
</tr>
<tr>
<td>2001/2</td>
<td>32547</td>
<td>277</td>
</tr>
<tr>
<td>2002/3</td>
<td>36207</td>
<td>272</td>
</tr>
<tr>
<td>2003/4</td>
<td>37644</td>
<td>287</td>
</tr>
<tr>
<td>2004/5</td>
<td>44822</td>
<td>298</td>
</tr>
<tr>
<td>2005/6</td>
<td>47513</td>
<td>283</td>
</tr>
<tr>
<td>2006/7</td>
<td>46898</td>
<td>305</td>
</tr>
<tr>
<td>2007/8</td>
<td>46701</td>
<td>282</td>
</tr>
<tr>
<td>2008/9</td>
<td>46009</td>
<td>277</td>
</tr>
<tr>
<td>2009/10</td>
<td>44403</td>
<td>235</td>
</tr>
<tr>
<td>2010/11</td>
<td>46484</td>
<td>270</td>
</tr>
<tr>
<td>2011/12</td>
<td>45774</td>
<td>257</td>
</tr>
</tbody>
</table>

4.7.1.6. Multicollinearity Testing

Multicollinearity is a statistical phenomenon in which two or more explanatory variables are directly correlated with each other, and as such has the potential to influence the final parameters of a regression model (Field, 2000). It is therefore “essential to test for collinearity following a logistic regression analysis” (Field, 2000, p. 201). Whilst regression procedures for categorical (including binary) dependent variables do not have collinearity diagnostics, it is possible to use the linear regression process for this purpose (IBM, 2014). By entering the same outcome and predictor variables into a multi-linear regression model and requesting collinearity diagnostics, it was possible to obtain tolerance and variance inflation factor (VIF) statistics, which identify any collinearity between explanatory variables (Field, 2000).

The entry of categorical explanatory variables into a multi-linear regression model required the manual creation of individual dummy (indicator) variables for every parameter (Wagner, 2011). Variable transformations were required to manually create the dichotomised dummy predictor variables from the values of the existing (parent) categorical predictor variables for entry into a linear model. As discussed in section 4.6.1, the number of dummies needed per predictor (parent) variable equates to one less than the total number of values within that parent variable (K-1) due to one value within the variable assigned as a ‘reference’ or ‘base’ group (Hardy, 1993).

The reference categories of the linear regression dummies mirrored the reference categories used in logistic regression modelling for consistency. The replication of a logit model as a linear model does not produce meaningful model coefficients as the dependent variable is not linear, but does produce VIF and tolerance statistics which can successfully assess collinearity between the independent variables (Field, 2000). The ‘variance inflation factors’ (VIF) measure how much the variance of the estimated coefficients are increased compared to a case of no correlation among the explanatory variables. Myers’ (1990) criteria for assessing collinearity proposes that a VIF value greater than 10 is indicative of collinearity issues. The ‘tolerance’ captures the percentage of variance in the explanatory variable that cannot be accounted for by the other explanatory variables, hence very small tolerance values indicate that a variable is redundant. Menard’s (1995) criteria for assessing collinearity
recommends that a tolerance value less than 0.1 is an indicator of a serious collinearity problem. Therefore, items with a VIF value over 10 and a tolerance value lower than 0.1 were to be removed from subsequent analyses (Kutner, Nachtsheim & Neter, 2005). The results demonstrated that VIF remained consistently below 10, and similarly tolerance level remained above 0.1 for every available variable parameter in the multi-linear regression models (Appendix C): indicating no serious problems with variable collinearity and no probable cause to exclude any explanatory variables from the victimisation models on this basis.

4.7.2. Stage Four: Modelling Assault Severity
The data subset 3 was employed for this stage of analysis; allowing the comparison of completed assaults resulting in serious injury to the victim, in the context of the night-time economy. The circumstances of violence – namely the opportunity-level (spatio-temporal and situational) characteristics of assaults - were examined in relation to assault severity. The present analysis draws on a growing body of research which argues the context of aggression to influence the escalation of disputes (Marcus & Reio, 2002) and evidences the role of ‘opportunity’ in moving an interaction from a non-physical dispute to one involving physical contact (Felson, 2015).

4.7.2.1. Dependent Variable
Severity of assault was defined by the level of injury sustained as a result of a completed (successful) assault victimisation. The binary dependent variable was operationalised using the Final Home Offence Code variable, and it divides those victims sustaining no (or negligible) injury and those sustaining a wounding (serious or other). Whilst the final offence code 13 (common assault) is indicative of the victim sustaining no or negligible injury – offence codes 11 (serious wounding) and 12 (other wounding) are indicative of the victim sustaining discernible injury (see Figure 4.1). Offences coded as resulting in either ‘serious’ or ‘other’ wounding were collapsed into the target dependent variable category ‘wounding’. This stage of analysis looks at the risk of an assault in the night-time economy resulting in wounding (a more serious harm outcome) for those victims of completed physical assault in the 12 months prior to interview, or not. This dependent variable was therefore coded as a dichotomous dummy variable (0=no or negligible injury, 1=wounding).

4.7.2.2. Independent Variables (Personal-Level)
Victim socio-demographic characteristics (victim-specific characteristics) were included as the first level in the logit model building process. Each of these demographic and structural constraint variables were operationalised in the same way as in stage three (see Table 4.1) and served as control variables for the offence-specific variables of interest entered in the second level of the regression model.

‘Personal’-level characteristics are extended in the severity modelling stage to include both the sociodemographic characteristics of the victim, and the available characteristics of the victim-offender relationship (Table 4.4). Those respondents answering ‘don’t know’, or those refusing to answer, were set as missing values (with the exception of variables capturing perceived offender characteristics (e.g. intoxication level). Each of the independent variables and their operationalisation is outlined in Table 4.4 and is discussed below.

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38 Attempted and threatened assaults were not included in stage four of analysis.
The victim-offender relationship is categorised as either an assault between stranger(s), or an assault between acquaintance(s). The gender of offender(s) is operationalised as (1 = male(s), 2 = female(s), 3 = mixed group). Whether victims used force during the assault, and more specifically used force first against the offender(s) was operationalised using the variable recording whether victims used force during victimisation – as well as a secondary variable asking those who reported having used force whether they initiated force before the offender. The combination of these variable facilitated the isolation of victims using force first as a separate variable value. The variable values represented victims using force first (victim precipitation) and victims using force after the offender had used force (victim retaliation), as well as those victims who used no force during the course of assault. The inclusion of this variable was informed by research highlighting an often blurred line between victim and offender in cases of interpersonal violence in the night-time economy (Engineer et al., 2003).

### 4.7.2.3. Opportunity-Level Variables

The spatio-temporal dimensions (Table 4.5) and situational characteristics (Table 4.6) of night-time economy were also examined in their relation to assault severity.

#### Table 4.4. Victim-Offender Independent Variables

<table>
<thead>
<tr>
<th>Victim-Offender Variables</th>
<th>Scale (reference category <strong>bold</strong>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victim-Offender Relationship</td>
<td>(1 = stranger, 2 = acquaintance)</td>
</tr>
<tr>
<td>Victim Precipitation</td>
<td>(1 = precipitation, 2 = retaliation, 3 = no force)</td>
</tr>
<tr>
<td>Offender(s) Sex</td>
<td>(1 = male, 2 = female, 3 = mixed group)</td>
</tr>
</tbody>
</table>

The temporal dimensions included time of day\(^{39}\) (1 = evening, 2 = night): where evening was defined as 6pm to 12am and night as 12am to 6am, as well as day of the week (1 = weekday, 2 = weekend): where weekday was defined as Monday 6am to Friday 6am, and weekend as Friday 6pm to Monday 6am.

The spatial dimensions of assault occurring in the night-time economy, by their broadest categories, were operationalised as (1 = in/around drinking establishments, 2 = in/around places of public entertainment, 3 = in/around public transportation). A more specific measure of offence position groups those incidents occurring inside night-time economy locations, and those occurring outside (on the streets or in car parks surrounding locations): operationalised as (1 = inside location, 2 = outside location).

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\(^{39}\) Restricted to the hours between 6pm and 6am due to the present analysis’ focus on the night-time economy specifically.
The variable capturing number of offenders was operationalised as (1= single offender, 2= 2 offenders, 3= 3+ offenders). Variables capturing the (perceived) influence of alcohol on both victim and of offender(s) were included as possible explanatory factors of assault severity in response to research highlighting the role alcohol plays in both offending and victimisation (Graham & Wells, 2003; Graham & West, 2001). Felson (1997, p. 210) argues that “alcohol use is clearly a situational risk factor for violence”. Whether the victim had consumed alcohol immediately prior to their victimisation was operationalised as (0 = no alcohol, 1 = alcohol consumed). The perceived influence of substances on offender(s) was measured in relation to both drugs and alcohol – with both variables operationalised as (1 = offender(s) did appear under the influence, 2 = offender(s) did not appear under the influence, 3 = do not know). The inclusion of the traditionally excluded ‘do not know’ response was a deliberate measure to avoid artificial inflation of the proportion of incidents where offender(s) were perceived to be under the influence of either alcohol or drugs; univariate analysis revealing for example that almost half of victims (44%) report ‘do not know’ when asked whether offender(s) were under the influence of drugs in the 2011/12 sweep.

A cornerstone of the situational approach is the role of ‘capable guardianship’. Whether the victim was alone or accompanied at the time of victimisation captures the principle of extending social guardianship. The variable was operationalised as (1 = alone, 2 = one other person, 3 = two or more people). The presence of bystanders at the time of the incident also suggests social guardianship. Whether any bystanders were aware of the assault (‘whether others were aware of what was happening’) was a dichotomous variable operationalised as (0 = no, 1 = yes). Finally, whether the offender(s) had weapons or not was operationalised as (0 = no weapon, 1 = weapon).

4.7.2.4. Severity Model Construction
As offence-specific detail can only be obtained from those respondents who had been subject to crime in the previous 12 months, which is a small subset of respondents, the sample size of cases used to model the resulting severity of an offence is therefore greatly reduced. Stage four can only draw on cases of physical assault in the night-time economy to model outcome of such incidents. As such, stage four of analysis required multiple-dataset aggregation to produce sample sizes where significance testing is viable and the EVP threshold is passed. Consequently, the sample size for stage four of analysis was greatly reduced from that of stage three. Multiple sweeps of the CSEW (data subset 3) were thus aggregated in accordance with their position in the crime drop in order to increase the sample size and to achieve the events per variable (EPV) value above 10 required of inferential analysis; promoting validity of results and avoiding independent variable values with low, or missing,
corresponding counts in the dependent variable. Brennan, Moore, and Shepherd (2010, p. 212) practised similar aggregation of CSEW sweeps in their analysis of medically treated victims of violence in the six cycles of the survey between 2002/3 and 2007/8 in order to “yield a sufficient number of victims”.

Type 3 data subsets were aggregated by key points in the trajectory of physical assault so as to not dilute overarching trends: 1981 to 1993 (the increase of assault), 1995 – 1999 (the peak of assault), 2001/2 to 2005/6 (the steep decline in assault), and finally 2006/7 to 2011/12 (the stabilisation of assault). Multi-stage multivariate level modelling could however only be performed in the two aggregated sweeps capturing the decline of assault (spanning 2001/2 – 2011/12). The CSEW years between 1981 and 1999 did not produce a sufficient sample size and as such inferential-level analysis could not be usefully harnessed.

Binary logistic regression was employed to model the risk of injury sustained as a result of assault victimisation. A model was built to include victims’ socio-demographic characteristics (demographic characteristics, structural constraints) and offence-specific (situational) characteristics as explanatory variables predicting the risk of the response variable – whether injuries were sustained. The odds ratios produced by the logit model addressed the primary research question by identifying significant risk factors of assault injury (severity) – and the model replication across the available CSEW aggregated datasets (2001/2 – 2005/6 and 2006/7 – 2011/12) addressed how these significant risk-factors varied during the crime drop phenomenon.

The construction of the model itself (Figure 4.5) examined whether the opportunity-level characteristics of an assault significantly influence the severity of victim-injury, after controlling the personal characteristics of the actors involved. Using a hierarchical block entry method when model-building, and harnessing strength of association and model-fit statistics, the collective strength of opportunity-level variables in predicting injury-risk can be compared to the collective strength of victim socio-demographic characteristics.
Figure 4.5. Modelling Assault Severity (Model Construction) 2001/2 – 2011/12
The first set of explanatory variables (victim demographics and structural constraints) were entered as a collective block (Block A) into the model. This created a base model (Model One) and produces value odds ratios and model strength and fit statistics. The next set of explanatory variables of interest (offence-specific characteristics and spatio-temporal dimensions) were then entered as a second collective block (Block B) to the base model (Model One); producing a new final model (Model Two) which combined Block A (victim socio-demographic characteristics) and Block B (situational characteristics). All of the variables in Model Two are controlled for one another and produce a new set of odds ratios and model strength and fit statistics. The comparison of Model One and Two’s strength and fit addresses the secondary research hypothesis by calculating whether offence-specific (situational) characteristics independently influence the risk of injury (when controlled for victim socio-demographic characteristics) and whether the entry of situational variables significantly improved the strength and fit of a logit model predicting injury risk.

4.7.2.5. Events per Variable

As multivariate models are sensitive to skewed results if too few outcome events are available relative to the number of explanatory variables within a model (Peduzzi et al., 1995), stage four of research calculated EPV to ensure at least 10 events (woundings) per explanatory variable for both aggregated cycles of the CSEW in which assault-severity was modelled (2001/2-2005/6, 2006/7–2011/12) (Table 4.7). EVP was calculated by dividing the number of events (woundings) by the number of explanatory variables analysed (of which there were 21 in stage four). Table 4.7 shows that EPV did not fall below 10 in either of the aggregated sweeps.

<table>
<thead>
<tr>
<th>CSEW Dataset</th>
<th>Number Of Cases</th>
<th>EPV Value (1 dp) (Wounding)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No/Negligible Injury</td>
<td>Wounding</td>
</tr>
<tr>
<td>2001/02 – 2005/06</td>
<td>961</td>
<td>552</td>
</tr>
<tr>
<td>2006/07 – 2011/12</td>
<td>1138</td>
<td>596</td>
</tr>
</tbody>
</table>

4.7.2.6. Multicollinearity Testing

Multicollinearity was also tested for in stage four of analysis by replicating the logit models through the linear regression procedure and by requesting collinearity diagnostics. By entering the same outcome and predictor variables into a multiple-linear regression model – through the same process of dummy variable creation outlined in stage three (see section 4.7.1.6) - the necessary VIF and Tolerance statistics were obtained; designed to detect any collinearity between explanatory variables (Field, 2000). Variable transformation was harnessed to manually create the dummy variable sets for inclusion in the linear model structure and the resulting multicollinearity results are presented in Appendix D. The results demonstrated that VIF remained consistently below 10, and similarly tolerance level remained above 0.1 for every available variable parameter in the multi-linear regression models: indicating no serious problems with variable collinearity and no probable cause to exclude any explanatory variables from the severity models.
4.8. Correlation versus Causation

The issue of correlation versus causation was especially pertinent during the analytical stage of this research. The correlation versus causation debate exists as researchers often calculate the correlation between two variables, and go further to equate this with the existence of a true causal relationship. The assumption that correlation proves causation is considered a logical fallacy in that two events occurring together are taken to have a cause-and-effect relationship - also known as *cum hoc ergo propter hoc* which when translated means “with this, therefore because of this”. In the analysis stage, the assumption of causation - from either the correlation of predictor variables and outcome variables and trends in night-time economy assaultive violence – were approached with this fallacy in mind.
5. Chapter Five Offence Characteristics of Assault in the Night-Time Economy: Results and Discussion

This chapter provides a national level picture of the extent of night-time economy violence in England and Wales between 1981 and 2011/12. Incidents of night-time violence involve physical assaults occurring in and around drinking establishments, public entertainment venues, and public transportation, between 6pm and 6am (which are associated with the increased consumption of alcohol). The chapter first presents findings on the overarching incidence, and prevalence, of night-time economy assault in the Crime Survey for England and Wales, to establish the trajectory of this specific crime type in the context of an international crime drop. Second, the chapter examines trends in night-time violence by its main offence characteristics. The analysis of assault by its spatial, temporal and situational dimensions draws upon concepts of situational criminology (Nelson & Bromley, 2001). It seeks to explore past, and present, patterns of assault and the nature of the environment in which assault occurs. In direct contrast to the wealth of existing literature around why violence occurs, the present analysis focuses on where, when, and how, assaultive violence occurs. This chapter examines how the stock of opportunities for night-time violence vary over time, and how these opportunities are distributed spatially and temporally; contributing to the exiting crime drop rhetoric and a situational understanding of violent crime.

5.1. Assault Trajectory

The overarching trajectory of completed physical assaults in the night-time economy is presented by both the incidence rate (the count of the number of crimes per 10,000 people) and the prevalence rate (the count of the number of victims per 10,000 people). The following section of analysis broaches the first research question: do incidence and prevalence rates of physical assault in the high-risk context of the night-time economy experience similarly dramatic declines to those experienced by other crime types in England and Wales?

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40 Calculation of trends can be found in Appendix E
To control for population changes over this time period, trends are examined as a rate (per 10,000 population). Rates of assault prevalence (victims of completed physical assault once or more) significantly increased by 91.9% from a rate of 62 victims per 10,000 population in 1981, to a peak of 119 victims per 10,000 population in 1997. A significant 50.4% decline in prevalence occurred over the proceeding decade until 2005/6, to a rate of 59 victims of night-time economy assault per 10,000 population. After a temporary incline in the prevalence rate (identified by Adjusted Wald confidence interval testing as non-statistically significant), Figure 5.1 indicates that the prevalence of assault in the night-time economy resumed its downward trend after 2006/7: dropping to a rate of 56 victims per 10,000 population by 2011/12, and representing an overall 52.9% increase between 1997 and 2011/12. This signifies that the prevalence of night-time economy violence has dropped to a rate lower than when the survey first began.

The difference between the rates of prevalence and incidence are a product of the level of repeat victimisation (Britton et al., 2012). An incidence rate where a series of similar incidents are identified as a single incident, for which detailed offence information exists in the CSEW, reduces the gap between prevalence and incidence trends. When examining the incidence rate where series of very similar incidents are treated as single incidents, night-time economy assault incidence rose significantly by 97%, doubling from a rate of 66 incidents per 10,000 population in 1981 to 130 incidents per 10,000 population by 1995. A significant 54.6% decline in

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41 Across all line graphs in the present research points (markers) represent the data and lines are extrapolated
42 Trend significance (Adjusted Wald confidence interval testing) available in Appendix E
physical assaults followed, which lowered the incidence rate to 59 assaults per 10,000 population by 2011/12. These results indicate that both the incidence and prevalence of assault in the night-time economy are at their lowest rates since the CSEW began: with the majority of decline occurring in the decade between 1995 and 2005/6. Both incidence and prevalence increased (non-significantly) by 10% between 2005/6 and 2006/7, with decline resuming, albeit less acutely, after 2006/7 – a pattern mirrored closely by the overarching trends in CSEW violence (Hadfield & Newton, 2010). This suggests a possible stabilisation of the crime drop phenomenon for night-time assaults.

When examining trends in assault incidence where a series of similar incidents are counted as a series, but capped at a maximum of 5 incidents\(^{43}\) (truncated), a similar trajectory can be witnessed on a greater scale. Such incidents fell 67.5% in the decade between 1995 and 2005/6, from a peak of 160 assaults per 10,000 population, towards 82 assaults per 10,000 population. The trend is, however, seen to experience a 32.8% increase between 2009/10 and 2011/12, shown by Adjusted Wald significance testing to be a significant change. Examining trends in uncapped incidence\(^{44}\), is informed by criticism of the arbitrary nature of the cap at 5 incidents (Farrell & Pease, 2007; Walby, Towers & Francis, 2014). The trend in non-truncated assault incidence reveals assault to be on a higher scale still, and indicates increased levels of repeat victimisation amongst targets of night-time economy violence. Whilst experiencing a more erratic trajectory, this trend falls significantly by 56.5% between 1995 and 2008/9, from a peak of 193 assault per 10,000 people to 84 incidents per 10,000 people by 2008/9. An increase thereafter between 2008/9 and 2011/12 is found to be non-statistically significant by Adjusted Wald confidence interval testing.

Figure 5.1 confirms that night-time economy stranger and acquaintance violence experienced a dramatic decline that mirrored the umbrella category of violence, as well as other crime types within England and Wales. However, the present research finds stabilisation in the decline of assault prevalence, and indications of an increase in repeat victimisation when examining series of similar incidents. As fears that the downward trend in crime will go into reverse grow (Farrell et al., 2010) the incentive to understand patterns of assault, and to identify high-risk environments and high-risk targets, is heightened.

As 1960s post-war urbanisation triggered a major proliferation in entertainment and licensed venues, individuals’ public and leisure activity levels flourished – which increasingly brought them “into contact with unfamiliar, annoying and threatening people” (Fischer, 1981, p. 308). Throughout the late 1980s, de-industrialising British cities adopted the mantra of the “24-hour” city, seeking to develop a “night-time economy” as part of efforts to develop a post-industrial economy (Bianchini, 1995; Hollands, 1997; Heath, 1997; Lovatt & O’Connor, 1995). The move successfully coincided with offers by pubcos (stock exchange listed pub chain

\(^{43}\) Victims reporting over 5 incidents to have occurred within a series of similar incidents are capped at 5 incidents per series (e.g. those reporting 11 incidents in a series will be counted as having reported 5). This technique is routinely used in official crime figures as a mechanism of avoiding “extreme cases distorting the rates” (Budd & Mattinson, 2000, p. 32).

\(^{44}\) Victims reporting between 1…96 incidents in a series are treated as such. Victims reporting 97 ('more or too many to remember') are set to missing (removed) from the present analysis.
companies) to invest in disused buildings in central cities to recycle them into nightlife establishments (Roberts, 2006) and was accompanied by deregulatory government measures for nightlife businesses (Hae, 2011; Hadfield, 2006). This explosion of the ‘night-time economy’ dramatically increased the stock of potential opportunities for inter-personal violence (Wikström, 1995) which can be viewed as a major contributory factor in the subsequent increase in violent assaults throughout the 1980s continuing into the mid-1990s (Dingwall, 2005) (Figure 5.1). However, what is less clear is why despite the continued proliferation of entertainment venues and license establishments - with the number of on and off license premises increasing by 4% between 1999 and 200945 (DCMS cited in Antoniades & Thompson, 2009) – the cases of violence in the night-time economy have more than halved (Figure 5.1).

The occurrence of violence is patterned by the routine activities of individuals; with Homel and Tomsen, (1993, p. 54) noting “there are few activities as routine as the imbibing of alcohol beverages”. The role of ‘routine activity’ in night-time assault lies in the convergence, and more specifically the frequency of convergence, between suitable targets and motivated offenders (Cohen & Felson, 1979) - which is largely dictated by the density of licensed outlets in an area (Livingston, 2008). Existing research suggests that the clustering of venues can exacerbate opportunities for violence (Hope, 1985) due to the sudden increase in the number of people emptying such outlets (Marsh & Kibby, 1992). Therefore similar or fixed closing times can prompt a boom in opportunities for assaultive violence (Livingston, 2008). To minimise the convergence of offender and target, staggered opening hours have been shown to efficiently reduce rates of assaultive violence (Chikritzhs & Stockwell, 2002; Dehan, 1999). This research informed what is uniformly regarded as the greatest overhaul of policy concerning alcohol and the night-time environment - The Licensing Act 2003 – which move to extend opening times to a possible 24 hours (upon success of licensed venue applications) (Newburn, 2007).

The Licensing Act 2003 has been examined by a number of researchers – with mixed results regarding its impact (Hadfield & Newton, 2010). Enacted on the 24th November, 2005, its main objective was to stagger the opening hours of licensed establishments in the night-time economy by providing the opportunity for 24 hour licensing (Hadfield & Newton, 2010), with the additional aims of regulating door staff, entertainment, and late-night refreshments, as well as restricting the sale of alcohol to underage, and intoxicated, patrons of the night-time economy (Babb, 2007). Despite fears of increased alcohol consumption and violent crime, evidence suggests that the act succeeded in staggering the opening hours of night-time venues, which may in turn have been a driving force in the continuation of crime decline (Newton, 2011). The present analysis finds overarching trends in assault incidence to have fallen by 14.5% between 2006/7 and 2011/12 in the night-time economy. This is supported by Babb’s (2007) findings of overarching declines. Whilst this key policy change, and its impact on trends in violence, is widely researched, discussed, and examined, Figure 5.1 illustrates that violent crimes of the night-time economy had in fact been falling for a decade (1995 – 2005/6) before the Act’s implementation.

45 Department for Culture, Media and Sport
Other elements of the night-time environment – including a change in the nature of routine activities, the absorption of situational measures into society, or earlier policy changes - may have been instrumental in the onset of assault’s decline. Examining trends in assaults of the night-time economy over the last thirty years by their widest offence dimensions, will allow a more detailed appraisal of the driving forces behind the crime drop phenomena. As such, the following analysis harnesses incidence trends where series of similar incidents are treated as single incidents, for which detailed offence information exists. The following sections of analysis will specifically broach the second research question: how do the major offence-characteristics of night-time economy violence fluctuate between 1981 and 2012?

5.2. Assault Severity

5.2.1. Assault Completion

![Figure 5.2. Trends in Night-Time Economy Assault Incidence by Assault Completion, 1981 - 2011/12](image)

Completed physical assaults are consistently more common than either threats or attempts, with a peak in 1995 of 130 incidents per 10,000 population. Threatened assault (whereby a threat to assault was made against, but not necessarily to, the respondent) rose 130% in the decade between 1983 (20 incidents per 10,000 population) and 1993 (46 incidents per 10,000 population), and then proceeded to decrease by 56.5% to 20 incidents per 10,000 population by 2011/12.

The rarest form of assault in the night-time economy is attempted assault (whereby an assault is thwarted before its completion, or where a threat to assault is made by an offender with a weapon). Whilst caution must

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[^46]: Calculation of trends can be found in Appendix F
be exercised when interpreting small numbers (Field, 2000), attempted assaults appear to increase as both threatened, and completed, variations of assaults decrease. However, the rate of attempted assault is too low to illuminate any significant shifts in trends in accordance with Adjusted Wald confidence interval testing.

All proceeding analysis in the present research will focus on trends, characteristics and predictors of the most pervasive form of assault: completed physical assaults of the night-time economy as they represent an opportunity for assaultive violence successfully exploited by a motivated offender and will have different opportunity structures to unsuccessful assaults

5.2.2. Assault Injury

![Figure 5.3. Trends in Completed Night-Time Economy Assault Incidence by Injury Level, 1981 - 2011/12](image)

When examining trends in completed assault incidence by injury level, assault occasioning no or negligible injury emerges the most common outcome. This assault-type rose 109% from 44 incidents per 10,000 population to a peak of 92 incidents per 10,000 population by 1995. The incidence rate then experienced a 62% drop between its peak in 1995 and 2011/12 – with a reduction in incidence to 35 per 10,000 population.

Wounding (serious or other) remains the least likely outcome of a completed physical assault throughout the duration of the survey. This assault-type rose 104.5% from 22 incidents per 10,000 population in 1981 to 45 incidents per 10,000 population by 1997. Incidence proceeded to drop by 60% from its peak to 18 incidents per 10,000 population by 2009/10. Incidence is then seen to steadily increase 33.3% to 24 incidents per 10,000 population.

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47 The significance of trends is determined by the Adjusted Wald Confidence Interval method. If individual data points are not statistically different from each other, their 95% confidence intervals (drawn as error bars around each data point) will not overlap.
population by 2011/12. Trends in the injury outcome of night-time economy assaults mirror those seen in overall levels of violence, which are also dominated by cases resulting in minor, or no injury (Britton et al., 2012).

5.3. Spatio-Temporal Dimensions

How opportunities for night-time economy assault are distributed in space and time are outlined in the following subsection of analysis.

5.3.1. Location of Assault

When observing assault incidence by night-time economy location (Figure 5.4), the majority of assaults occur in and around drinking establishments (including pubs, bars, nightclubs, discos and working men’s clubs): a pattern which persists across all survey sweeps. When compared to public entertainment venues (cafes, restaurants, cinemas) assaults and transport-related assaults, drinking venue assaults have also experienced the most variable change, with assaults in/around drinking establishments experiencing a significant 98% increase (near doubling) between 1981 and 1997. Following a peak of 117 incidents per 10,000 population, a significant 59.8% decline served to more than half the number of drinking venue assaults by 2011/12; resulting in the lowest rate since records began (47 incidents per 10,000 population). A temporary increase in drinking-venue assaults (10.2%) is seen to occur between 2005/6 and 2006/7, however this is found to be statistically non-significant.

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Figure 5.4. Trends in Completed Night-Time Economy Assault Incidence by Location, 1981 - 2011/12

Calculation of trends can be found in Appendix G
5.3.1.1. Changes to Drinking Venues

Opportunities for assault are seen to decline across all overarching location-types (Figure 5.4), however due to the absolute number of assaults occurring in and around drinking establishments being much greater than the absolute number of assaults occurring in and around public entertainment venues or public transportation, the general assault trend (both upward and downward) is mainly driven by the drinking venues of the night-time economy. The explosion of the night-time economy in the late 1980s and early 1990s brought with it an increase in “anti-social behaviour, outbursts of violence, excessive and underage alcohol consumption, and urinating and vomiting in the street” (Chatterton & Hollands, 2003, p. 54). Such disorder juxtaposed the cosmopolitan-framed ‘urban renaissance’ (Jayne, Holloway, & Valentine, 2006) and sparked the growth of moral panic concerning city centre drinking cultures (Hobbs et al., 2000; Lister et al., 2000). The rise in recorded violence generated interest in measures of crime reduction (Dingwall, 2005) and an increase in the number of policies targeted at drinking venues (the highest risk businesses of the night-time economy as shown by Figure 5.4). The Public Entertainments Licences Act (1997) allowed local authorities to revoke the licenses of clubs with substance and disorder problems. The Criminal Justice and Public Order Act (1994) and Criminal Justice and Police Act (2001) awarded police the power to shut down problem venues and issue on the spot penalties for disorder and underage drinking. Alongside targeted public policy change, the private security industry began to grow exponentially (O’Brien, Hobbs & Westermarland, 2008).

(1) New Security Networks

Chatterton and Hollands (2003) argue that police forces were unprepared for the scale of the growth in nightlife and that, unlike other large sports and music events, street nightlife receives comparatively few resources. This led venues to seek complementary methods to police the city at night. In particular, there has been the emergence of what Newburn (2001) has termed ‘new security networks’ which involve hybrid, and increasingly privatised, policing networks. Private door-security firms and doormen (or bouncers) play a key role is such networks and outnumber police by a ratio of ten to one in many downtown areas at peak times (Chatterton & Hollands, 2003, p. 54). This figure is argued by Jayne et al. (2006) to severely underestimate the ratio of private security staff to police: with for example Manchester city centre entertaining 75,000 patrons during Friday and Saturday evenings, with only 30 police officers engaged in public order whilst crowds are controlled by 1000 bouncers (Hobbs, 2003). Similarly, Nottingham is seen to host 30,000 patrons on weekend evenings with the support of 4,000 bouncers compared to just 15 police officers (Jayne et al., 2006).

Bouncers are seen to play a key role in regulating the nightscape (Hobbs et al., 2000; Hae, 2011). Whilst the notion of door culture as saturated with violence and intimidation (Wells et al., 1998) still exists, a change over the last two decades has been to “supplement the still pervasive hard man with door pickers and style selectors” (Chatterton & Hollands, 2003, p. 56). Door supervision has become more professionalised through local authority door registration schemes and the National Security Industry Authority - with bouncers now seen as “gatekeepers of the night-time economy who ensure a connection between venue ambience and clientele” (Chatterton & Hollands, 2003, p. 57). This changing role tasked security staff with upgrading the styles and
appearance of drinking venues through patron selection (or rejection) at the door (Chatterton and Hollands, 2002). Further changes were introduced by the Licensing Act, 2003 (enforced in 2005), including the enforced regulation of door staff, and the encouragement of female door staff employment (Hobbs, O’Brien & Westmarland, 2007; O’Brien et al., 2008). Such changes may have been influential in sustaining assault’s 20.3% decline between 2006/7 and 2011/12 in and around the drinking establishments of the night-time economy.

Closed-Circuit Television (CCTV) installation is another branch of securitization argued to have played a crucial role in policing the city (Norris & Armstrong, 1998; Toon, 2000) and the diminishing incidence of barroom violence (Maguire & Brookman, 2005). From the first installations in 1993, CCTV went on to become the most heavily funded form of crime prevention in UK (not including law enforcement) (Dingwall, 2005). Cameras are also often situated in places where alcohol related offending is a particular concern (Wilson & Sutton, 2003). Described as the “silver bullet” of crime prevention, CCTV has brought about overall reductions in crime (Chatterton & Hollands, 2003), however there remains debate as to the strength of CCTV in specifically reducing violent crime (Dingwall, 2005).

(2) Design Changes

In response to the steep increases in crime, studies in the mid-1990s examined the physical environment and design layout of premises to aid the reduction of both property and violent crime (Dehan, 1999). The role of venue appearance and design in reducing the incidence of barroom violence is supported by interviews with ‘predatory’ or highly motivated offenders (Winder & Wesson, 2006). These ‘weekend warriors’ actively seeking to engage in night-time violence (Marsh & Kibby, 1992) make rational choices on whether to offend based on a venue’s physical characteristics (Homel & Clarke, 1994). Certain premises establish a reputation for aggression (Homel & Clarke, 1994) and possess attributes - in both their appearance and design – which both facilitate and precipitate violence (Graham & Homel, 1996). The apparent concentration of assaultive violence within certain licensed venues (hot ‘dots’ in hot ‘spots’) (Scott & Dedel, 2006) — indicates that certain environments are conducive to both the physical and psychological opportunities for violent crime.

The physical appearance and condition of a premises is argued to be one such influence: with Graham and Homel (1997) suggesting “it is reasonable to hypothesise that the first clue the drinker has as to what will be acceptable behaviour in a venue is its physical appearance” (cited in Dehan, 1999, p. 12). Indeed Graham et al. (1980), in their seminal study on assault concentration in Vancouver, found levels of violence to be correlated with poorly maintained, unclean establishments. Environments fostering observable decay and uncleanliness are observed as unattended, un-guarded areas and suggestive of a lack of capable guardianship (Wilson & Kelling, 1982) - a vital ingredient in the formula for crime (Cohen & Felson, 1979). A perceived lack of capable guardianship decreases the perceived risks in a potential offender’s decision making process - thus facilitating the physical opportunity to commit assaultive violence. A situational intervention to reduce barroom assaults would therefore include addressing a venue’s poor lighting, cleanliness, and unattractive décor in an
effort to signal higher levels of guardianship (Graham et al., 1980) and command a higher standard of behaviour. Hobbs, Winlow, Lister, and Hadfield (2003) similarly observed that violence occurred disproportionately in venues with poor designs, as well as difficult bar access, weak supervision and poorly trained bar staff.

A clampdown on the UK barroom environment began in the late 1990s and early 2000s - after the media focused unwanted attention on the poor management and design of venues (Maguire & Brookman, 2005). The British Beer and Pub Association (BBPA, n.d) devised and disseminated guides to barroom design with a look to ‘design-out’ the physical opportunities for licensed venue crime. A primary goal in crime prevention through environmental design, or ‘CPTED’ (Jeffery, 1971), is to increase capable guardianship, or indeed the perception of capable guardianship. The first stage in addressing barroom design is the propensity of the building itself to enhance natural visibility; selecting buildings which are simple in shape and avoiding complex properties hiding a number of ‘dark-corners’ (Easteal & Wilson, 1991). Maximising natural surveillance dictates that entrances should kept to a minimum and be visible from the bar, door-managers should be utilised—ensuring however to make sufficient space for such managers and avoid visual congestion at entrances. Zone-adjustable lighting and mirrors can be incorporated into the venue design, alcoves should be poised at 90 degree angles and any partitions or screens utilised should be transparent (BBPA, n.d). Raising the height of the bar, regular bar clearing and minimising view-obstructing pillars or columns where possible are also suggested as means to enhance staff visibility (Graham & Homel, 2008). Visible female and male toilet entrances, that are un-obscured by a secondary shared door, reduce opportunities for inter-gender conflict (BBPA, n.d; Cornish & Clarke, 2003). Parallel to the recommended design changes, and influx of private securitisation, ran the commercialisation of the alcohol industry, which directly impacted the gentrification of nightlife, as well as influenced patterns of consumption (Chatterton & Hollands, 2002; 2003).

(3) ‘On-Trade Revolution’

Chatterton and Hollands (2002; 2003) argue that a significant change in the motivation for engagement in nightlife activity took place in the 1990s – against a backdrop of “profound economic, social and cultural change which has been characterised by a shift from an industrial to a post-industrial consumer society and a culture of consumption” (Measham & Brain, 2005, p. 275). In more industrial times, drinking was associated with masculinity and the rituals and relationships of the workplace (Brain, 2000). In the 1990s, a commercialisation of drinking venues occurred in response to this shift, as well as in response to the developing ‘dance scene’ (Measham & Brain, 2005, p. 267).

In the wake of the phenomenon of ‘clubbing’ came a move away from the “traditional nightclubs and their association with seediness, violence and excess” of the late 1980s and early 1990s (Chatterton & Hollands, 2003, p. 68). Nightlife businesses are now less associated with an ‘immoral’ underworld or dangerously liminal and transgressive activities (Hobbs, Winlow, Hadfield & Lister, 2005), and are instead looked upon as part of
“a legitimate industry that supplies post-industrial “lifestyle consumption” to cities and enhances cities’ image as lively, cosmopolitan urban habitats” (Hae, 2011, p. 566).

Measham and Brain (2005, p. 267) describe the decade between 1995 and 2005 as marking an “on-trade revolution” in the UK: characterised by “major overhauls in the design and promotion of drinking establishments through the creation of café-bars, dance-bars, and themed pubs”. There has been an erosion of the traditional ale-houses, bars and taverns, giving way to the emergence of gentrified hybrid bar/clubs (Talbot, 2006; Chatterton & Hollands, 2001) in an attempt to create more cosmopolitan atmospheres, encourage new attitudes to dress code and gender relations, and to combine eating and drinking (Diffford, 2000): “drawing upon motifs associated with ‘Europeanisation’” (Chatterton & Hollands, 2003, p. 96). Research by Aebi and Linde (2014, p. 569) argues that indeed a turning point in Western European lifestyles in the 1990s was a shift towards the “reunification of the European continent”

The proliferation of cafes and restaurants has indeed been recognised as playing a significant role in the gentrification of British cities (Jayne et al., 2006) - a process termed ‘domestication by cappuccino’ (Atkinson, 2003). This trend may help to explain the downward trajectory in overall rates of night-time violence, and may simultaneously account for the small incline in the number of opportunities for assaults in/around public entertainment venues (Figure 5.4) (defined by the CSEW as cafes, restaurants, cinemas).

5.3.1.2. Changes to Public Transportation
Transport-related assaults, whilst occurring on a much smaller scale, have also experienced a downward trajectory in the night-time economy. Incidents occurring in and around public transportation began their decline earlier (in 1995) than licensed-venue assaults, and peaked at 12 incidents per 10,000 population. The following decline lowered the rate of public transport assault to the lowest recorded by the CSEW, at 2 incidents per 10,000 population. Shepherd and Farrington (1995) observed that opportunities for crime, including violent crime, on public transportation, declined in tandem with improvements to security and security-by-design measures of methods of transportation (Shepherd & Farrington, 1995). Whilst changes to the management and design of public transport environments were credited with the near elimination of opportunities for financially-motivated assaults on public transportation by Heal and Laycock (1986), a potential diffusion of benefits in reducing opportunities for non-financially motivated assaults requires further investigation.

Figure 5.5 segregates the incidence of assaults occurring in/around public transport by transportation mode (in clustered datasets due to small numbers) between 1981 and 2011/12. The results indicate that nearly all of the (albeit comparatively small) reduction in transport-related assault originates from trains and buses, which appears particularly high in the 1995-1999 sweeps. Whilst proportionally this may be reflective of patterns in transport usage, several specific design changes made to buses and trains may also explain the trends of decline on these transportation modes.
Figure 5.5 captures an 88% decline in bus-related assaults in the night-time economy between the 1981-1993 and the 2006/7 – 2011/12 datasets. Existing research cites the most common sources of conflict as (1) disputes over fares\footnote{Fare deliberation being a primary feature of bus and taxi assaults, and largely absent from train, tube, aircraft assaults} in assaults between drivers and passengers (driver-passerger assaults) (Oxley, 1987) and (2) passenger overcrowding in assaults between passengers (inter-passenger assaults) (Easteal & Wilson, 1991). Several situational interventions have been demonstrated to reduce the stock of physical opportunities for assaults on buses. The installation of Perspex, polycarbonate partitions, which serve to segregate driver and passenger and ‘target harden’ the driver’s space, have served to significantly reduce opportunities for driver-passerger assaults and have been credited with a 30% decrease in assaults on Buses (Shepherd & Farrington, 1995). Installation of CCTV, a measure of ‘formal surveillance’, influences both the deterrence and apprehension of potential offenders. The indication of capable guardianship promoted by CCTV can have a diminishing effect on both driver-passerger and inter-passerger assaults (Easteal & Wilson, 1991). The presence of central exit doors, which encourage patrons to leave via central or rear doors, also reduces opportunities for assaults (Easteal & Wilson, 1991): a situational technique of ‘avoiding disputes’. Separating bus passengers form pedestrians with bus shelters or territorial pillars, may also serve to minimise overcrowding and simultaneously inhibit swift escapes from disembarking offenders (LeVine & Wachs, 1985): a situational technique of ‘screening exits’.
The First Leeds Bus Company incorporated a variety of such situational, security and surveillance measures into their buses – including two-way radios, digital CCTV as compulsory for double decker buses, and shatterproof-laminated assault screens – positioned to cover the area from the left of the driver; limiting the reach of potential offenders and forcing assailants to use the left, commonly less-dominant, arm - reducing the power of attacks (Health and Safety Executive (HSE), 2008). These measures generated a reduction in the physical opportunities for public transport crime (HSE, 2008). Measures to control situational precipitators or ‘psychological’ opportunities for assaults on buses included improvements to the fare system: with the introduction of exact-fares, zone-based systems, and bus passes (Easteal & Wilson, 1991). Such changes were found to contribute to the significant reduction of driver-passerger assaults across bus services in Britain (Shepherd & Farrington, 1995). Similarly, better design of the vehicles themselves can facilitate easier passenger flow, reduce isolation, and increase visibility (Shepherd and Farrington, 1985): all measures to aid both physical, and psychological, opportunity reduction of driver-passerger and inter-passerger assaults; signifying crime prevention through environmental design (CPTED) (Jeffery, 1971).

(2) On/ Around Trains
Several situational interventions have been shown to reduce the stock of criminogenic opportunities for train and tube assaults. Whilst opportunities for driver-passerger assaults (both physical and psychological) in such locations are greatly diminished by driver-segregation and the lack of physical/verbal driver-contact, reductions in Inter-passerger assaults have been accredited to improvements in formal and natural surveillance, and changes to the environment's design and appearance (CPTED). Formal surveillance in the form of CCTV installation is proffered, by Shepherd and Farrington (1995), to be integral in the falls in violence experienced on the London Underground. Britain embarked on a redesign of railway stations to encourage a less run-down appearance and to eliminate recesses, alcoves and dead-end hallways conducive to assault (Department of Transport, 1986). The closing down of toilets and closing off of certain areas during off-peak times followed, with a similar goal of eradicating the railway’s ‘dark corners’ (Department of Transport, 1986). Such ‘access control’ reduces physical opportunities, as it denies would-be offenders unguarded locations (Easteal & Wilson, 1991).
5.3.2. Position of Assault

Figure 5.6. Trends in Completed Night-Time Economy Assault Incidence by Location Position, 1981 - 2011/12

Incidents are consistently more likely to occur inside night-time economy locations (inside of the drinking establishments, inside entertainment venues and inside (on) public transportation): therefore the downward trend is most pronounced when looking at the position of drinking venue assaults. Assaults occurring inside drinking venues rose 100% from the beginning of the survey (35 per 10,000 population) to a peak of 70 incidents per 10,000 population by 1997. A steep decline to 27 incidents per 10,000 population occurred by 2011/12 – signifying a 61.4% decrease. The increase observed between 2005/6 and 2006/7 is not statically significant (in accordance with Adjusted Wald significance testing).

Whilst assaults are consistently less likely to occur on the streets and areas immediately outside of drinking venues (surrounding streets and car parks), the proportional gap between inside/outside assaults has narrowed over the course of the crime decline - suggesting that something at a situational-level has changed to narrow the gap. Shepherd and Sivarajasingham (2005) observed the reduction in street assaults experienced after the introduction of CCTV across almost all UK towns and city centres in the 1990s. A situational intervention offering naturally enhanced visibility and guardianship of potential offender and target is the installation of street lighting. Whilst the efficacy of street lighting as a deterrent for crime gains mixed reviews (Welsh & Farrington, 2008), a study by Wright, Heilweil, Pelletier & Dickinson (1974) found that in Kansas city improved street lighting provoked a steep and statistically significant 51.9% decrease in night-time street violence (defined as robbery and physical assault) with a lesser, statistically non-significant 22.6% reduction in property crime (defined as larceny and motor vehicle theft). Improvements to surveillance may
therefore be an influential factor in the decline of assault occurring in the public spaces of the night-time economy.

An important recent policy change with the potential to influence the positioning of night-time assaults is the introduction of a smoking ban. The ban came into force for all enclosed places of work by April, 2007 in Wales, and July, 2007 in England. The present research finds that assaults outside drinking venues stabilised, whilst assaults inside drinking establishments continued their path of decline during the same period. Whilst the full impact of the ban is not yet clear, the present findings suggest that the ban may have reduced psychological opportunities for aggression, resulting in violence, inside night-time economy venues. Graham and Homel (2008) hypothesise this to be a result of the elimination of a smoky atmosphere and poor ventilation in night-time economy venues: representing an elimination of a situational precipitator of assault.

5.3.3. Time of Day

![Figure 5.7. Trends in Completed Night-Time Economy Assault Incidence by Time of Day, 1981 - 2011/12](image)

The observation of assault incidence by time of day (restricted to assaults occurring between 6pm and 6am due to the present research’s focus on the night-time economy) reveals the increased likelihood of being assaulted during the evening (defined as 6pm and 12am) as opposed to during the night (defined as 12am-6am). However, this gap narrows during the course of the crime drop.

Assaults occurring in the evening (6pm and 12am) rose 85.2% from 54 incidents per 10,000 population in 1981, to a peak of 100 incidents per 10,000 population in 1995. Incidence then fell to 36 incidents per 10,000 population by 2011/12 – signifying a 64% decrease in the number of evening assaults. Assaults occurring in
the night (12am-6am) rose 280% from 10 incidents per 10,000 population in 1981, to a peak of 38 incidents per 10,000 population at the later time of 1999. Incidence then fell to a low of 17 incidents per 10,000 population by 2005/6 – signifying a 55.3% decrease in the number of evening assaults. However, more recent years of the CSEW have witnessed night-time (12pm to 6am) assaults increase by 35.3% by 2011/12.

The Licensing Act, 2003 (enacted in 2005) sought to stagger the opening hours of licensed establishments in the night-time economy by allowing the extension of such opening hours. Hadfield and Newton (2010, p. 4) describe that the Act was regarded as “ushering in an era in which people drank the same amount as before over a longer period of time”. However research by Hughes et al. (2009) and Hadfield et al. (2010) suggests that the prolonged presence of visitors in licensed premises, with later drinking hours, corresponds with an increase in reported alcohol consumption. These findings contradict the foundations upon which the Licensing Act was implemented, and coupled with the habitual practice of ‘pre-loading’ (Forsyth, 2010), the extension of opening hours may partially explain the temporary 23.5% increase in assaults occurring between 12am and 6am found by the present analysis between 2005/6 and 2006/7 (whilst assaults in the evening time experienced a temporary 6.9% increase over the same time period).

These results are supported by the findings of Babb (2007), who used police recorded data to review the impact of the Licensing Act, 2003. Whilst the author observed an overarching reduction in crime since the act’s implementation in November 2005, she also observed that increases in several offence types (including serious violent crime, less serious wounding, assault without injury, and criminal damage) occurred in the earlier hours of the morning. Similarly, Newton, Sarker, Gurjinderpal, Van den Bergh and Young (2007) found significant increases in attendance for assaultive injury based on AED data (in their case study area of central London). Babb (2007, p. i) explains that the rise in early hour violence is “likely to partly reflect the change to opening hours of licensed premises and the increased numbers of people in a public place at these times”.

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50 drinking at home or in a public place before attending nightlife venues
5.3.4. Time of the Week

Figure 5.8. Trends in Completed Night-Time Economy Assault Incidence by Time of the Week, 1981 - 2011/12

Consistently, the greatest proportion of night-time economy assaults are seen to occur during the weekend (Friday 6pm to Monday 6am) as opposed to during the week (Monday 6am to Friday 6pm): a finding supported by existing literature (Budd, 2003; Measham & Brain, 2005; Hobbs, 2003; Newton & Hirschfield, 2009).

Whilst both weekday and weekend assaults have experienced decline over the crime drop, weekday assaults remain comparatively stable; from which it can be inferred that weekend style consumption - characterised by heightened, sessional alcohol consumption as well as increased patron concentration (Measham & Brain, 2005) - is the driving force behind the incline of assault in the night-time economy through to the mid-1990s. The regulation of the weekend nightscape, including the gentrification of clubbing-style, dancing venues, and increased concentration of security personnel over weekend periods (Hobbs et al., 2003; Jayne et al., 2006) may have triggered the significant 48.9% decrease in the decade between 1995 and 2005/6 alone.

However, the proportional gap between weekday and weekend assaults has widened over the course of the survey: with near equal distribution at the beginning of the survey (with 43% of assaults occurring on weekdays compared to 57% occurring on weekends) becoming more polarised by the most recent sweep of the survey (with 21% of all assaults occurring on weekdays and 79% of assaults occurring on weekends). This suggests that whilst weekend assaults have experienced significant decline, future preventative measures will be most effective if directed towards the weekend, as opposed to the weekday, economy.
5.4. Situational Characteristics

5.4.1. Number of Offenders

![Graph showing trends in completed night-time economy assault incidence by number of offenders, 1981-2011/12](image)

Figure 5.9. Trends in Completed Night-Time Economy Assault Incidence by Number of Offenders, 1981 - 2011/12

Whilst assaults involving either two or three offenders can be seen to follow the pattern of decline, they are comparatively rare throughout the duration of the survey; with assaults perpetrated by lone offenders, and those perpetrated by groups of four or more offenders, carrying the weight of the decline. The present analysis found that consistently, the majority of assaults in the night-time economy are perpetrated by single offenders: supported by the finding of Smith and Allen (2004) that lone offenders were responsible for almost two thirds of night-time violence. Single-offender assaults rose 146.4% from 28 incidents per 10,000 population in 1981, to a peak of 69 incidents per 10,000 population by 1999. A steep 55.1% decline followed - lowering the incident rate to 31 incidents per 10,000 population by 2005/6. Post-decline, a brief period of increase (29%), with the crime decline resuming once again by 2007/8 – with incidence reaching 36 per 10,000 population by 2011/12. The results suggest that the years of increase in night-time economy assault were characterised by a surge in lone offenders.

The second most likely encounter in the night-time economy, is an assault perpetrated by four or more offenders; dismissing a linear relationship between number of offenders and proportion of assaults. Group-offender assaults (four plus) rose 70% between 1981 (20 per 10,000 population) and 1997 (34 per 10,000

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51 Calculation of trends can be found in Appendix H
A 67.6% decline in such assaults occurred by 2011/12, with incidence reaching 11 per 10,000 population.

5.4.2. Consumption of Drugs/Alcohol
Felson (1997, p. 210) argues that “alcohol use is clearly a situational risk factor for violence”. Existing research highlights the role of alcohol in both violent offending and victimisation (Graham & Wells, 2003; Graham and West, 2001).

5.4.2.1. Perceived Offender Alcohol Consumption

Figure 5.10. Trends in Completed Night-Time Economy Assault Incidence by Perceived Offender Alcohol-Intake, 1981 - 2011/12

Whether or not assaults are recorded in the CSEW as being perpetrated by offender(s) under the influence of a substance (either alcohol and/or drugs), and trends in such assaults, are informed by victim perception. Victim survey data captures victims’ interpretations of offender consumption of alcohol (by asking whether offender(s) appeared to be under the influence of (a) alcohol and/or (b) drugs) which serves to restrict the reliability of both trends in alcohol-related assault (identified in Figure 5.10) and trends in drug-related assault (identified in Figure 5.11).

Perhaps unsurprisingly, Figure 5.10 illustrates that assaults where offender(s) were perceived to be under the influence of alcohol account for the greatest proportion of assaults in the night-time economy. The highest risk period for assault by an intoxicated offender was in 1997, as incidence had risen 101.9% from 54 incidents per 10,000 population in 1981, to a peak of 109 incidents per 10,000 population. Although lower risk, the number
of assaults in which the offender(s) were perceived as not being under the influence of alcohol peaked in 1995: followed by a broadly stable decline.

Whilst both assault-types experienced a drop from their peak: with alcohol-fuelled assaults falling 99.5% by 2011/12 (to 51 incidents per 10,000 population) and non-alcohol assaults falling 80% by 2011/12 to 4 per 10,000 population, it is clear that alcohol-fuelled incidents were the driver of the steep increase, and equally steep decrease in violent assaults. Several key policies designed to restrict the consumption of alcohol – including the Confiscation of Alcohol (Young Persons) Act 1997 – were enacted to reduce street, and particularly youth and underage, drinking. Hough and Hunter (2008) argue that the decline in alcohol-fuelled violence may be a product of changes to the drinking environment, or reflective of more cyclical trends in general levels of alcohol consumption – which have been falling at national levels. The General lifestyle survey (GLS)\textsuperscript{52} is an annual study including information of the levels of alcohol consumption in Britain (Hadfield & Newton, 2010). The GLS shows alcohol consumption to have increased slightly between 1998 and 2002, then to steadily decline between 2002 and 2011 (ONS, 2010; GLS, 2013).

Assaults where the influence of alcohol on offender(s) was unknown emerged as a minor proportion of all night-time assaults. The numbers of such assaults are too low to illustrate any significant changes in trend, but do reveal a higher level of confidence amongst CSEW respondents in their ability to assess offender intoxication in relation to alcohol, rather than drug use (Figure 5.11): although this finding does not reflect an increase in the accuracy of such assessments.

\textsuperscript{52} formerly the general household survey
5.4.2.2 Perceived Offender Drug Consumption

Assaults where the offender(s) were perceived to be under the influence of drugs account for the smallest proportion of assaults in the night-time economy; in direct contrast to assaults involving intoxicated-offenders. Assaults perceived by the victim to be drug-fuelled did however experience an 800% increase in the decade between 1987 and 1997 – rising from 3 per 10,000 population to 27 per 10,000 population. A decline followed with such assaults falling 74.1% by 2006/7 (to 7 per 10,000 population). However, an increase in assaults perceived as being drug-fuelled occurred over the survey, reaching 13 incidents per 10,000 population in 2011/12 – signifying a 46.2% increase post-decline.
5.4.2.3. Victim Alcohol Consumption

**Figure 5.12. Trends in Completed Night-Time Economy Assault Incidence by Victim Alcohol Consumption, 2001/2 - 2011/12**

Victims’ consumption of alcohol was not recorded in the CSEW sweeps prior to 2001/2, and as such is not available for analysis during the period of assault increase. During the course of crime’s decline, night-time economy assaults are consistently more likely to involve victims who did not report the consumption of alcohol prior to victimisation. This is a reversal of the picture of alcohol consumption and offending: whereby the perpetrators of assault are perceived to be under the influence of alcohol in the vast majority of cases (Figure 5.10).

Sparks (1982) observes that situations fostering group orientated drug and alcohol consumption, as having high victimogenic potential. Whilst alcohol can be seen to increase the risk of offending (Figure 5.10), the influence on respondent-victimisation is less acute. Whilst the majority of assaultive violence involves incidents where the victim had reportedly not consumed alcohol prior to the incident (Figure 5.12), a positive association is seen to exist between the victim’s consumption of alcohol and the severity of the assault (measured by injuries sustained) (see section 7.1.2).
5.4.3. Offender Weapon Possession

Figure 5.13. Trends in Completed Night-Time Economy Assault Incidence by Offender Weapon-Possession, 1981 - 2011/12

The majority of night-time economy assaults involve offender(s) without weapons\textsuperscript{53}. Weapon-less assaults rose 124.4\% from 45 per 10,000 population in 1981 to 101 per 10,000 population by 1997. A steep decline followed, with weapon-less assaults falling 50.5\% to 50 per 10,000 population by 2011/12; returning to the same incident rate as when the survey itself began. Assaults where the offender(s) had weapons rose less consistently, from 13 incidents per 10,000 population in 1981 to 28 per 10,000 population by 1995 – signifying a 115.4\% increase in incidence. A 75\% decrease follows, with incidence declining to 7 incidents per 10,000 population by 2011/12.

These results are supported by existing literature alleging the most common weapons of assault to be located on the body (Cookson & Buckley, 2011; Smith & Allen, 2004) and with the most common resultant injury being bruising or black eyes (Cookson & Buckley, 2011). The dominating use of body parts - to punch, kick and scratch etc. - remains seven-fold the rate of assaults involving weapons in the 2011/12 sweep (Figure 5.17). This finding signifies the opportunistic nature of assaultive violence through the use of tools at one’s immediate disposal.

Whilst the majority of assaults are seen to occur without the involvement of an external weapon, the present research finds a significant positive correlation ($r = .797$, $p(0.00) < 0.01$) between the rate of offender weapon

\textsuperscript{53}includes distinct weapon-types (e.g. firearm, knife/axe, glassware, hitting implements, stabbing implements, hazardous chemicals, car) as well as anything perceived by the victim to be a weapon (e.g. dog, key, brick, shopping bag) (ONS,2012)
possession and the rate of assault resulting in serious injury (wounding). Whilst there is little control over the availability of the body as a weapon, there are situational interventions to dictate - and limit - the choice of external weapons - which are seen to be capable of even greater injuries (such as glasses, bottles, knives, stabbing and hitting implements, and firearms). Figure 5.14 presents the incident rate (per 10,000 completed physical assaults) for each identifiable weapon type across the survey.

5.4.3.1. Weapon Type

Figure 5.14. Distribution of Weaponry in Physical Assault Offences, 1981 - 2011/12

The use of tools at an offenders’ immediate disposal, such as bottles and glasses (as opposed to firearms and knives), evidences the opportunistic nature of violence (Farrell, 2010). Figure 5.14 identifies the prevailing dominance of glassware across the survey. However, whilst other weapon-types remain comparably stable, a dramatic 36.3% reduction in the use of explicitly opportunistic glassware appears to have driven the downward trend in assaults with a weapon, and signals the importance of the environment in the stock of opportunities for interpersonal violence.

The BBPA (n.d) recommendations included the regular collection of glasses, or the storing of glasses out of patron reach, due to the growing literature linking glassware to assaultive (facial) injury in the night-time economy. Shepherd, Huggett and Kidner (1993) observed a significant association between alcohol use and facial injuries resulting from glass - with 45% of such injuries associated with alcohol – a figure which soars to 90% when occurring in and around licensed venues. Shepherd et al. (1993) recommended the designing out of annealed (conventional) glass from the barroom environment and hypothesised that a corresponding decline in the incidence, or severity, of assaults would ensue. These recommendations prompted a switch from
annealed to toughened glassware in UK bars licensed to sell alcohol (Warburton & Shepherd, 2000). The introduction of toughened, ‘tempered’ glass – designed to crumble into sugar-like pieces as opposed to the annealed glass’ shards is credited with provoking a significant decrease in the use of glass and bottles as assault weapons, and injury severity suffered (Warburton & Shepherd, 2000) - which is supported by the findings of the present analysis that the use of glassware as weaponry during assaults fell 36.3% between the peak of night-time economy violence (1995 – 1999) and the most recent CSEW sweeps (2006/7 - 2011/12). Winder and Wesson (2006) however, find that tempered glass – whilst effective as a safer assault implement- is not free from risk. Such glass is found to break easily and has been found to cause more employee injuries through handling than the traditional, annealed glass. The authors suggest that further improvements to barroom incidents of injury, would entail the implementation of an all-plastic policy (Winder & Wesson, 2006). This move is however opposed by CAMRA (The Campaign for Real Ale) - the largest single-issue consumer group in the UK (Hanson, 2005). CAMRA campaign to maintain the traditional nature of British pub and beer culture (Chatterton & Hollands, 2003); including the preservation of glass bottles and drinking glasses (Bath Chronicle, 2011). Opposition is driven by fear for patron satisfaction and reflects the often opposing forces of attracting patrons to venues whilst keeping them safe (O’Malley & Valerde, 2004).

The present research indicates that a disproportionate focus is awarded to the carrying of identifiable weapons (knives and firearms), as the overwhelming majority of weapon-related assaults involve opportunistic weapons available in the immediate environment such as glasses/bottles (508 assaults in every 10,000 assaults in the 2006/7 – 2011/12 aggregated sweep) and hitting implements (283 in every 10,000 assaults in the 2006/7 – 2011/12 aggregated sweep) (Figure 5.14). Firearms consistently emerge as the rarest offender weapon, with the most recent picture (2006/7 – 2011/12 sweep) indicating that just 23 in every 10,000 assaults will involve an offender with a firearm. Knives or other stabbing implements (e.g. screwdrivers) are more common than firearms amongst assaults in the night-time economy, with the most recent picture of weapon distribution indicating that 167 assaults in every 10,000 assaults will involve offender(s) with a knife/stabbing implement (Figure 5.14). Whilst the absolute number of assault involving knives/stabbing implements is comparatively low when compared to glassware, the use of stabbing implements has experienced a 23.7% decline over the course of the survey. Increased security measures and policies targeting the prohibition and detection of identifiable weapons - for example the increased use of metal detectors at venue entrances or devices handheld by doormen (Witherspoon, 2012) - may have served to reduce the availability of knives (and their usage) over the course of the survey. The Licensing Act 2003 prompted employment of female door staff for the specific purposes of increasing staff searching powers: body searches for weaponry and illegal substances by female staff is now industry standard practice (O’Brien et al., 2008).
5.4.4. Bystander Awareness

Assaults where others were aware of what was happening rose 44% between 1981 and 1997. Assaults where no one else was aware of what was happening rose at a comparatively greater rate; increasing by 233% between 1981 and a peak in 1995.

Both types of night-time economy assault experienced decline in the decade between 1995 and 2005/6. Assaults where bystanders were aware fell a total of 44.6% between 1997 and 2011/12, however the downward trend appears to plateau post 2005/6 (confirmed by trend significance testing revealing no significant change in trajectory during this period (Appendix H)). Conversely, assaults where no one was aware of the incident continued to fall steeply between its peak (spanning 1995 to 1999) until 2011/12. Such incidents fell significantly by 67.1% from 70 to 23 incidents per 10,000 population. Whilst both ‘hidden’ assaults (where no one else was aware) and ‘public assaults’ (where other people were aware) experienced decline over the period of the crime drop, ‘hidden’ assaults appear to experience the greatest change across the course of the survey. ‘Public assaults remain comparatively stable over the survey, and the gap between the two types of assault has narrowed since 1981.

Chapter three highlights the role of ‘capable guardianship’ and ‘natural surveillance’ in forming opportunities for crime (Cohen and Felson, 1979; Cornish and Clarke, 2003). Busier places are hypothesised to harbour more natural surveillance, or more ‘potential witnesses’, and as a result, to incur a reduction in crime (Jacobs, 1969). Whether the incident was witnessed by other people (bystanders) captures the principle of extending
social guardianship. In contrast to the anticipated depressive effect of bystander awareness on the net volume of assault, Figure 5.15 indicates that the majority of assaults in the night-time economy occur in the presence of others. Whilst this may be a direct result of the public nature of the venues and services of the night-time economy examined in the present research, the relationship between bystanders and violent crime is also hypothesised to be more complex. Busier places can directly translate to an increase in the stock of suitable targets and motivated offenders and can be the source of the situational precipitation of violence (e.g. overcrowding, competition for services) (Scott and Dedel, 2006; Shearing & Stenning, 1987). Furthermore, the presence of bystanders during verbal disputes between young males can actually be seen to elicit more aggressive responses, and therefore increase the likelihood of physical violence (Felson & Boba, 2010; Felson & Clarke, 1998). The role of bystander awareness on violence escalation, after controlling for the gender of victim and offender, is tested in section 7.4.2.

5.5. Victim-Offender Interaction

5.5.1. Victim-Offender Relationship

![Graph showing trends in completed night-time economy assault incidence by victim-offender relationship, 1981-2011/12](image)

Figure 5.16. Trends in Completed Night-Time Economy Assault Incidence by Victim-Offender Relationship, 1981 - 2011/12

In the night-time economy, one is consistently more likely to experience an assault perpetrated by stranger(s) than an assault perpetrated by acquaintance(s). The highest risk period for stranger assaults was in 1995, as

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54 Calculation of trends can be found in Appendix I
incidence had risen 82.5% from 40 incidents per 10,000 population in 1981, to a peak of 73 incidents per 10,000 population.

The highest risk period for acquaintance assault was in 1997 at 60 incidents per 10,000 population – having risen 130.8% from 26 incidents per 10,000 population in 1981. Both assault-types experienced a drop from their peak: with stranger assaults falling 47.9% by 2011/12 (38 per 10,000 population) and acquaintance assaults falling 63.3% by 2011/12 to the lowest incident rate since the survey began (22 per 10,000 population).

The night-time economy environment is characterised by stranger socialisation, and existing research supports the prominence of stranger violence in the night-time economy (Budd 2003; Hobbs et al., 2005; Mattinson, 2001; Smith & Allen, 2004). Hindelang (1976) notes however a tendency of victimisation surveys to undercount acquaintance crimes, which may serve to mask the true count of acquaintance violence in the present analysis.

5.5.2. Victim Precipitation

![Graph showing trends in completed night-time economy assault incidence by victims' use of force, 2001/2-2011/12.](image)

Figure 5.17. Trends in Completed Night-Time Economy Assault Incidence by Victims’ Use of Force, 2001/2 - 2011/12

The proportion of assaults characterised as ‘reactive’, or subject to provocation, is captured in Figure 5.17. Victims’ use of force was not recorded in the CSEW sweeps prior to 2001/2, and as such is not available for analysis during the period of assault increase. During the crime drop, the majority of incidents involve the victim using no force throughout the assault. This is, however, followed closely by victims using force in retaliation (using force after the offender(s) have used force). Both categories experience a drop between 2001/2 and 2011/12, with a 34.9% decrease in assaults where the victim used no force, and a 35.7% decrease in assaults where the victim retaliated with force.
Assaults where the victim reported using force first (before offender(s) used force) is a comparatively rare event. Whilst caution must be exercised in interpreting small figures (Garson, 2013), a 66.7% drop in assaults precipitated by them victim occurred between 2001/2 (3 incidents per 10,000 population) and 2011/12 (1 incident per 10,000 population).

5.5.3. Offender Sex

The majority of assaults in the night-time economy are perpetrated by male offenders: a pattern which persists throughout the duration of the survey. Assaults by men rose 103.8% to a peak of 106 incidents per 10,000 population in 1997. However, a significant 54.7% decline in male-led assaults by 2011/12 serves to narrow the gap between male-led assaults and those perpetrated by females, or mixed gender groups. Comparatively rare female-led assaults experienced an incline from 3 incidents per 10,000 population in 1981, to 15 per 10,000 population by 1997. Female-led assaults have since experienced a more stable and modest decline up until 2011/12, found to be a non-statistically significant reduction by confidence interval testing (p>.05).

Whilst the present research reveals an increase in the proportion of assaults committed by females across the survey, and a narrowing of the proportional gender-gap, Figure 5.18 illustrates that the number of female-led assaults remains dwarfed by the number of male-led assaults; a finding supported by existing research proposing young males as up to ten times more likely to engage in alcohol related violence than females (Maguire et al., 2003). The comparative rarity of female-led violence indicates that the wave of media attention dedicated to the rise of female drunk and disorderly behaviour is arguably disproportionate.
Walklate (2001) argues that the turn of the century brought with it a surge of interest in young women’s alcohol consumption and in ‘females behaving badly’. This notion has since been reproduced more and more frequently (Davies, 2011) with headlines such as: ‘Menace of the violent girls’ (Slack, 2008), ‘The Feral Sex: The terrifying rise of violent girl gangs’ (Bracchi, 2008), ‘Rise of “ladette” culture as 241 women arrested each day for violence’ (Whitehead, 2009a), ‘Number of “ladette women” fined for drunk and disorderly behaviour rises by a third’ (Whitehead, 2009b). These and similar articles describe young girls as threatening, and as menacing gang members who speak and act violently (Davies, 2011). The consumption of alcohol by young women has come to symbolize the problematic British ‘Binge drinker’ (Marsh, 2004) and implicit in these representations is a perception that violence and aggression amongst young females is exponentially increasing (Batchelor, 2001) and that the night-time environment is the context in which violence by young women is most visible (O’Brien et al., 2008). This disproportionate media focus may be rooted in the notion of female offenders as ‘doubly deviant’ as not only do they breach commonly accepted standards of behaviour, but their behaviour also conflicts with gender stereotypes (Heidensohn, 1985; Walklate, 1995). Davies (2011, p. 43) observes that indeed news coverage cyclically focuses on the more unusual aspects of unruliness and argues the gender bias in offending to make girls’ activities “more interesting and spectacular, unpredictable, odd and quirky”. Figure 5.18 indicates that the fear of female assault is disproportionate as the net volume of male-led assaults remains six-fold the volume of female-led assaults in the 2011/12 sweep. The incline experienced in female-led assaults throughout the 1980s and early 1990s may instead reflect an increase in the volume of female patrons present in the night-time economy, with existing literature positing an increase in female participation in the night-time economy as part of a wider change in the consumption patterns and lifestyles of women over this period (Chatterton & Hollands, 2003).

A major transition in the 1990’s was the proliferation of bars designed to attract the previously neglected market of female patrons, resulting in the infiltration of female actors and participators into the night-time economy, and a significantly altered gender-ratio within venues (Diedel, 2000; Chatterton & Hollands, 2003). There has been marked growth in the consumption of night-time leisure by young women (Hobbs et al., 2007; Institute of Alcohol Studies, 2002): “especially those aged between 16-24 years” (O’Brien et al., 2008, p. 163). Chatterton and Hollands (2003) understand the changing economic, educational, and domestic status of young women as instrumental to their increased participation. The prioritisation of career and delay in starting families reflected a shift in the domestic position of young women (Kelso, 2000), which when coupled with greater educational success and increased levels of disposable income (O’Brien et al., 2008), resulted in a dramatically increased capacity for leisure and consumption amongst females (Chatterton & Hollands, 2003). The increasing presence of women may have itself served to alter elements in both the physical, and social, environment of British nightscape – with numerous commentators noting the powerful role young female consumers played in the transformation of nightlife premises and cultures (Andersson, 2002; Hollands, 1995) – which in turn may have been instrumental in driving down opportunities for assaults between males. Disaggregating the trend in
violence committed by male offender(s) by the gender of their targets reveals that assaults between males are the dominant category of violence; supporting principle of homogamy: which argues there to be considerable overlap between the risk factors for assault victimisation, and assault perpetration (Asencio & Guerra, 2008).

A dramatic and significant drop in the number of such assaults between males, after peaking in 1997, is seen to be the main driver of the drop in night-time economy violence (Figure 5.19). Decline in the rate of assaults between females between 1997 and 2011/12 is found to be non-statistically significant (Appendix I).

Figure 5.19. Trends in Completed Night-Time Economy Assault Incidence by Offender-Victim Gender Interaction, 1981 - 2011/12

Lees (1993) comments in the early 1990s that “the pub is a male environment where girls may go with their boyfriend but do not feel confident to go on their own or even in a group of girls”. As females began saturating this highly masculinised environment, a phenomena occurred of women “consciously choosing nightlife spaces that they perceived were more women friendly” (Chatterton & Hollands, 2003, p. 154). The deliberate targeting of young, professional women by the nightlife industry (Chaudhuri, 2001; Llewyn-Smith, 2001) and feminisation of night-life venues (Difford, 2000) followed. This shift in the marketing techniques of venues – which includes drink promotions targeted at women, first generation alcopops and alcoholic lemonades (Measham & Brain, 2005), changing music policy, and feminised décor – demonstrates that female customers “became increasingly crucial to the growth of night-time economy” (O’Brien et al., 2008, p.165). Deliberate feminisation of the bar environment in the late 1990s is described by Robert Cartwright, Communications Director of the Bass Leisure Group: “we created bars with big open windows, large wine displays and extensive menus, and we put newspapers by the bar for women to read while they were waiting for their friends” (cited in Chaudhuri,
It follows that the ‘gentrification’ of venues’ physical appearance and design, initially designed to attract a female market (Forsyth & Lennox, 2010), may have served to reduce the net volume of opportunities for night-time assault through the principles of crime prevention through environmental design.

The saturation of females may have simultaneously driven down psychological opportunities for assaults between males by depressing the machismo climate; altering the social environment. Existing research suggests that the social environment of a venue can also precipitate assault in serving to subconsciously permit aggression (Wortley, 1998). ‘Machismo’ culture and competitive climates can present non-physical (intangible) cues that endorse assaultive violence (Wortley, 1998). Efforts to design out such intangible social cues from environments are more restricted, but successful techniques include the control of swearing (Homel et al., 2004), the prohibition of sexual touching (Homel and Clarke, 1994), the banning of football shirts from dress codes (Frosdick & Marsh, 2005) and the controlling of staff aggression levels (Graham et al., 1980; Homel & Tomsen, 1993). Reducing the social cues that indicate a tolerance for disorderly behaviour, and a lack of capable guardianship, can have a suppressive effect on the incidence of violence (Graham, West & Wells, 2000). The occurrence of assault in the night-time economy is impossible to divorce from the machismo and risk-taking cultures they harbour (Forsyth and Lennox (2010). The ‘machismo’ level as a precipitator of assault is confirmed by evidence demonstrating a venue’s gender ratio to be a significant predictor of violence rates (Homel & Tomsen, 1993).

Chatterton and Hollands (2003) observe the night industry as long-harbouring this highly masculinised and explicitly heterosexual ‘macho’ environment. Aggression in the night-time economy is fostered “by encouraging young men to drink large volumes of alcohol in a very short period and in a traditional macho style where such patterns of consumption and manliness are reinforced by the marketing and advertising” (Marsh & Kibby, 1992 cited in Dehan, 1999, p. 14). Certain night-time venues can be seen to foster an overtly ‘macho’ atmosphere (Winder & Wesson, 2006). The competitive environment associated with male rivalries (Graham et al., 2000), sexual competition in pursuit of prospective partners (Tomsen, Homel & Thommeny, 1989), and male face-saving (Archer, Holloway & McLoughlin, 1995) are all rooted in the construction of ‘machismo’.

Through semi-structured interviews with males aged 20-24, Graham and Wells (2003) identified the main motivations for night-time economy violence amongst this crime-prone cohort to be the preservation of male honour and group loyalty, as well as fighting for ‘fun’. Neff et al. (1991) similarly found that fights primarily occur in the attempted preservation of ‘macho concerns’: sexual prowess, physical strength and honour. The result is an overwhelming proportion of assaults occurring between men: a trend experienced across western culture (Bushman, 1997). Whilst “young men and the macho culture is the single most common source of conflict in many drinking contexts” (Graham & Homel, 2008, p. 7), the dramatic increase in female participation in the night-time economy has seen the adoption of ‘hyper-masculine’ characteristics by a proportion of the female population (Borland, 2008). Indeed, existing studies have observed the number of female-perpetrated assaults to have experienced small increases in recent years (Forsyth & Lennox, 2010); supporting the findings of the
present research (Figure 5.18). Female assaults remain however considerably less frequent, and more likely to employ passive forms of violence - such as issuing intimidating glares\(^5\) (Graham & Homel, 2008) or in cases of physical violence, pulling hair (Collins, Quigley & Leonard, 2007). However, motivations for such assaults greatly parallel those of intra-gender male assault; with sexual jealousy similarly being the most frequently cited motivation for female-led conflict (Collins et al., 2007).

Whilst a boom in female participators has amplified the stock of physical opportunities, thus increasing opportunities for females to participate in assaults, the increased presence of women in venues has been shown to reduce venue violence and the occurrence of assaults between males (Macintyre & Homel, 1997; Felson & Clarke, 1998): thus a gender-ratio paradox has emerged owing to changes in Britain’s night-time industry. The preventative effect of an increased female presence on male conflict can be interpreted in several ways. First, as a calming influence on males and the macho culture (Macintyre & Homel, 1997); a high proportion of all-male groups in venues serve to exacerbate feelings of group loyalty and rivalry – whilst mixed gender groups are significantly less likely to enter conflicts (Homel & Tomsen, 1993) (also seen in Figure 5.19). Second, the increased presence of females can be seen to reduce the competition for sexual partners by increasing the store of prospective partners, thus reducing psychological opportunities for assault (Scott & Dedel, 2006; Tomsen et al., 1989).

Disaggregating the trend in physical assault by its widest dimensions illustrates the likelihood of opportunities for violence to concentrate along certain environmental dimensions. How these opportunities for violence pool amongst certain targets (victims) will be the next focus of analysis.

The downward trajectory of assault in the night-time economy indicates that the international crime drop phenomenon was also experienced by this specific crime type in the high-risk environment of the night-time economy. The main source of the crime decline can be linked to a reduction in assaults perpetrated by alcohol-intoxicated young males, in and immediately outside of drinking venues, during the weekend economy. Existing literature cites the emergence of ‘feminised’ nightlife spaces directed at attracting young women (Difford, 2000) as having gone hand in hand with the corporate gentrification of bars, pubs, cafes and clubs (Chatterton & Hollands, 2001) and a deliberate effort on behalf of licensed venues to “reduce violence in the mainstream through design and upgrading” (Chatterton & Hollands, 2003, p. 111). The decline in violence lends supports to the absorption of situational and crime prevention through environmental design (CPTED) measures as a possible explanation for the decline in violent crime as well as acquisitively motivated crime. Indeed, Tilley et al. (2015) observe that fluctuations in the aggregate stock of opportunities for crime can be governed by improvements to both formal measures of security and by improvements to environmental design under the crime prevention through environmental design (CPTED) principle. The authors also articulate that

\(^5\) Stares and threats are not included in the present research’s definition of ‘physical assault’
opportunities for crime are governed by routine activities, including changing lifestyles (Tilley et al., 2015). An influential factor on night-time violence is therefore rooted in respondents’ lifestyles and routine activities. The next chapter examines how opportunities for violent victimisation cluster along different socio-demographic, and lifestyle, dimensions.
Chapter Six Victim Characteristics of Assault in the Night-Time Economy: Results and Discussion

This chapter examines trends in the victim characteristics of assault in the night-time economy over time. The analysis examines characteristics influencing violent victimisation; with the tendency of existing literature to focus on the characteristics influencing violent offending (Loeber, 1988). Both the routine activity (Cohen & Felson, 1979) and lifestyle/exposure model (Hindelang et al., 1978) rest on the assumption that crime "feeds upon" the routine activities of everyday life (Felson & Cohen, 1980; Messner & Blau, 1987). Consequently, understanding the distribution of conventional activities, including the level of participation in the night-time economy, may provide greater insight into the stock of opportunities for assaultive violence (Miethe et al, 1990).

This chapter examines how opportunities for assault victimisation in the night-time economy concentrate amongst respondents with certain personal-level (socio-demographic) and opportunity-level (lifestyle/routine activity) characteristics. The analysis presented within this chapter broaches the third research question: how do the major victim characteristics of night-time economy violence fluctuate between 1981 and 2012? By examining the fluctuation in victim characteristics over the course of the crime survey, the present research contributes to the exiting crime drop rhetoric, as well as increases our understanding of night-time economy violence from a victim perspective.

6.1. Prevalence of Victimisation by Respondents’ Demographic Characteristics

The lifestyle model of crime asserts that certain types of individuals experience a disproportionate number of victimisations, and that this imbalance is linked to individuals' lifestyles. 'Lifestyle' refers to the routine activities that individuals engage in and is influenced by several factors; the first being an individuals' demographic (personal) characteristics. The lifestyle model theorises that an individual's behaviour and daily activities (Hindelang et al., 1978), and the resulting level of exposure to situations conducive to violence (Felson, 2012), can be linked to the role expectations of the demographic groups to which an individual belongs (Hindelang et al., 1978).

6.1.1. Gender

Sex is an important demographic factor posited to influence an individual’s lifestyle and subsequent victimisation risk. Assault is perceived to remain a ‘primarily male’ phenomenon (Kershaw et al., 2008): supported by findings in the previous chapter (Figure 5.18) that males are the most frequent offenders of night-time violence. Males are also repeatedly emphasised to be at higher risk of violent victimisation (Ascencio & Guerra, 2008; Brennan et al., 2010; Sommers & Baskin, 1993). To observe how the risk of violent victimisation has varied by gender over time, prevalence of assault victimisation is calculated for both male and female.

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56 Calculation of trends can be found in Appendix J
respondents and mapped across all available sweeps of the CSEW (Figure 6.1). Prevalence is expressed as the percentage of respondents who were subject to physical assault in the Night-Time Economy.

Across all available sweeps of the CSEW (1981 to 2011/12) male respondents experienced consistently higher assault prevalence than female respondents. Assault prevalence for males increased between 1981 and 1997, from 1.3% of male respondents being victimised in 1981 to 2.1% of male respondents being victimised in 1997. Assault prevalence for females increased from 1981 and peaked between 1995 – 1999 (from 0.1% of female respondents to 0.5% of female respondents) (Figure 6.1). For males, a steep drop in assault prevalence occurs after 1997; falling from 2.1% to 0.9% in 2011/12. The drop in assault prevalence for females is less pronounced by comparison (from 0.5% to 0.3% by 2011/12). Whilst males remain at greater risk of assault, consistent with existing research positing males as more susceptible to victimisation, in the night-time economy (Ascencio & Guerra, 2008; Brennan et al., 2010; Budd, 2003; Rossow, 2001; Sampson & Lauritsen, 1990; Sommers & Baskin, 1993), the prevalence gap between genders can be seen to narrow over the period of the drop.

This narrowing of the gender gap mirrors the findings of Lauritsen and Heimer’s (2008), who observed violent victimisation by gender in the NCVS between 1973 and 2004. The liberation hypothesis (Adler, 1975; Simon, 1975) hypothesised that offending patterns between genders would narrow over time as the social roles became more similar. Extending this hypothesis to victimisation, and incorporating the routine activity/lifestyle theory’s exposure-victimisation nexus, it is theorised that “as males and females share increasingly similar daily routines and environments…their risk for violence will become more comparable” (Lauritsen & Heimer, 2008, p. 126). The narrowing of the gender gap in the present analysis offers evidence in support of this theory.

Figure 6.1. Prevalence of Night-Time Economy Assault Victimisation (%) by Gender, 1981 - 2011/12

Across all available sweeps of the CSEW (1981 to 2011/12) male respondents experienced consistently higher assault prevalence than female respondents. Assault prevalence for males increased between 1981 and 1997, from 1.3% of male respondents being victimised in 1981 to 2.1% of male respondents being victimised in 1997. Assault prevalence for females increased from 1981 and peaked between 1995 – 1999 (from 0.1% of female respondents to 0.5% of female respondents) (Figure 6.1). For males, a steep drop in assault prevalence occurs after 1997; falling from 2.1% to 0.9% in 2011/12. The drop in assault prevalence for females is less pronounced by comparison (from 0.5% to 0.3% by 2011/12). Whilst males remain at greater risk of assault, consistent with existing research positing males as more susceptible to victimisation, in the night-time economy (Ascencio & Guerra, 2008; Brennan et al., 2010; Budd, 2003; Rossow, 2001; Sampson & Lauritsen, 1990; Sommers & Baskin, 1993), the prevalence gap between genders can be seen to narrow over the period of the drop.

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Sommers and Baskin (1993) described the ‘male lifestyle’ to be characterised by an increased likelihood to frequent public places at night without guardianship, and as such to incur an increased exposure to violent victimisation. The heightened risk of male assault victimisation in the night-time economy suggests that this characterisation is still relevant today. However, the role expectations of women and their corresponding routine activities began to change in the 1960s: with shifting roles in the labour force (Cohen & Felson, 1979), economic liberation (Rosenfeld, 2006) and declining domesticity (Dugan, Nagin & Rosenfeld, 1999). A major transition of the 1990’s was the infiltration of female actors into the night-time economy, which served to significantly alter the gender-ratio of venues (Chatterton & Hollands, 2003). An increase in female participation (Forsyth & Lennox, 2010) therefore appears to have increased both their availability as a target, and as a potential offender (see section 5.5.3) of assault in the night-time economy.
6.1.2. Age

Age is considered to be another significant demographic predictor of violent victimisation risk (Kershaw et al., 2008; Faehrmann et al., 2008). A lifestyle/routine activity framework would indicate that younger individuals are more likely to lead lifestyles that expose them to situations in which crime is likely to occur (Hindelang et al., 1978). Specifically, younger individuals are assumed to engage in activities which routinely take them away from the safety of the home, and towards higher risk environments (Felson, 1997; Hindelang et al., 1978). How assault victimisation in the night-time environment varies by age, and how the risk of victimisation fluctuates over time for different age groups, is calculated by breaking down the prevalence of assault by respondents’ banded age group, and mapping it across all available cycles of the CSEW (Figure 6.2).

![Figure 6.2. Prevalence of Night-Time Economy Assault Victimisation (%) by Banded Age Group, 1981 - 2011/12](image)

Assault prevalence for those aged 16 to 24 appears consistently higher than the prevalence for those aged 25 and above. When this high-risk age bracket is broken down further, its two subsets adopt distinctly different courses over the duration of the survey. At the beginning of the CSEW, assault prevalence for both 16-19 and 20-24 year olds begins at a similar level (3% and 2.8% respectively), however the prevalence rate for 16-19 year olds increased to 4.5% by 1983, exceeding the 3% prevalence rate of 20-24 year olds. This pattern temporarily reverses between 1987 and 1993; where assault prevalence becomes highest for 20 to 24 year olds. However the years 1995 to 1997 see a steep increase in the prevalence of assault in 16-19 year olds (from 5.1% in 1993 to 6.9% by 1997). In this period of steep incline, assault prevalence for 20-24 year olds, conversely, experiences a marginal decrease (from 5.3% in 1993 to 4.8% by 1997). Whilst the crime drop for 16-24 year olds begins after 1997 – falling from its peak of 6.9% to 2.8% by 2011/12 – the crime drop for 20-
24 years olds begins after 1999, and falls from its peak of 5.5% to 2.7% in 2009/10. Between 2009/10 and 2011/12 assault prevalence for 20-24 years olds is actually seen to experience a 1% increase.

Another age bracket, 25-34 year olds, emerged as a high-risk category later in the survey's timeline, with assault prevalence increasing from 1.1% in 1993 to 2.3% in 1995. A crime drop for this category occurred thereafter – until prevalence returned to the 1.1% level by 2011/12. Thirty-five to forty-four Year olds, whilst experiencing comparatively low assault prevalence, are also seen to experience an increase from 1981 (0.4%) to a peak in 2001/2 (0.9%). A consistent decline follows: reducing prevalence to its original starting point of 0.4% by 2011/12.

Although older age groups (45s and or over) experience the lowest assault prevalence across the CSEW, marginal increases were also experienced in these age groups beginning 1987 and peaking around 1997-1999. Prevalence rates for respondents aged 65 and over remained below 0.01% for the duration of the survey and as such are not included in Figure 6.2.

The comparatively high level of involvement in nightlife of young people may explain their consistently heightened levels of exposure to violence (Estrada & Nilsson, 2004; Hindelang et al., 1978). Both offending and victimisation-prone age groups within a society consist of adolescents and young adults, with risk then decreasing with age, and invariably diminishing amongst the elderly (Levitt, 2004). The drop in night-time violence appears to be driven by a decline in youth violence, which coupled with increases in the victimisation of older members of the population (35s and over), has served to narrow the gap in violent victimisation between age groups.

6.1.3. Marital Status

Marital status is also posited by Hindelang et al.'s (1978) lifestyle theory to influence an individual's exposure to risk. Specifically, un-married individuals are assumed to lead lifestyles which more frequently remove them from the safety of the home, and increase their exposure to higher risk environments (Hindelang et al., 1978). The function of night-time venues to facilitate socialisation with strangers and acquaintances - and the resulting potential for interaction with possible romantic partners (Hollands, 1995) - may also serve to increase the participation of single individuals (Hobbs et al., 2005; Scott & Dedel, 2006). As well as the anticipated effect of marital status on participation in the night-time environment, the effect of marital status on victimisation may also reflect both proximal guardianship (from partners), as well as wider community guardianship processes: for example, higher victimisation rates of single individuals may be linked to the fact that single individuals are more likely to live in communities with low guardianship and high levels of social activity than married or cohabiting couples (Sampson, 1987).

As marital status is expected to capture variations in capacity for physical guardianship against personal crimes (Hindelang et al., 1978; Cohen et al., 1981) it is theoretically desirable to include widowers within a ‘single (previously married)’ category that collapses separated, divorced, and widowed respondents. However, as informed by previous research, (Sampson & Wooldredge, 1987; Sampson & Lauritsen, 1990) widowed
respondents are extracted from a collapsed ‘single (previously married)’ category in response to literature evidencing the polarised experiences of widowed individuals, both in terms of night-time economy engagement and violent victimisation-risk (Toner & Freel, 2012). Marital status is thus categorised by the present research as either married or de facto (including spouses, civil partners, or cohabiting partners), single (that is never married), single (separated or divorced), or widowed. How risk of violent victimisation in the night-time economy is distributed along marital dimensions, as well as how assault prevalence disaggregated by marital status has fluctuated over the length of the survey, has been mapped across all available sweeps of the CSEW (Figure 6.3).

Assault prevalence is consistently higher for single (never married) individuals. The prevalence rate increases to a peak of 3.7% in 1995 – after which a 2% decrease results in a 1.7% prevalence rate for singles by 2011/12. The group with the second highest prevalence rate is single (separated and divorced) respondents. The prevalence for this group peaks in 1999 (1.4%), and falls to 0.4% by 2011/12. The married or de facto respondents are at comparatively lower risk of victimisation than single (including both never married and previously married) respondents. Assault prevalence for married or de facto respondents experiences a comparatively modest rise and fall over the span of the survey; peaking at 0.7% in 1997 and falling to 0.2% by 2011/12. Widowed respondents uniformly emerged as the lowest prevalence group – with a range of victimisation between 0 and 0.1% during the course of the CSEW.

As previous research indicated (Sampson & Lauritsen, 1990; Sampson & Wooldredge, 1987), the extraction of widowed respondents from a ‘single (previously married)’ category collapsing separated, divorced, and
widowed respondents was a necessary step: with Figure 6.3 illustrating that the two groups indeed have conflicting experiences of victimisation in the night-time economy. The crime drop occurs across all marital groups; however marriage (or cohabiting partnership) appears a protective factor throughout the survey when compared to the heightened victimisation prevalence for non-married (or de facto) cohorts. This supports existing literature positing single status as a risk factor of victimisation (Estrada & Nilsson, 2004; Brennan et al., 2010; Samspoon & Lauritsen, 1990): theorised to reflect an increased participation in the night-time economy, and comparatively decreased amount of time spent at home (Estrada & Nilsson, 2004; Hindelang et al., 1978). The findings are consistent with reported differentiation in night-time economy participation by marital status: with 30% of single individuals reporting they visited the night-time economy at least once a week, compared to 6% and 7% of married and cohabiting partners respectively (Toner & Freel, 2012).

6.2. Prevalence of Victimisation by Respondents’ Structural Constraints

Clear variation in the experience of night-time violence emerges across certain demographic parameters, however Estrada and Nilsson (2004, p. 169) propose that the relationship between respondents’ demographic characteristics and resultant victimisation can be spurious, and may be a “result of structural factors that determine where and how different groups live their lives”. Structural constraints are included as an additional element governing an individual’s routine activities, and ultimately their risk of personal victimisation, within Hindelang et al.’s (1978) lifestyle model. They denote situations that limit an individual’s behavioural options - including financial limitations (socio-economic status), familial or educational commitments, or legal constraints.

Inequalities in victimisation-risk across socioeconomic dimensions were detected during the increase of crime in the 1980s (Trickett, Ellingworth, Hope & Pease, 1995; Hope, 1996). Young and Matthews (2003) argue that a trend of heightened exposure to victimisation for individuals of lower socio-economic status has continued, despite a general decline in crime. The present analysis’ examination of victimisation prevalence by respondents’ structural constraints does not offer support for this dynamic in the case of violent stranger and acquaintance victimisation in the night-time economy.

6.2.1. Education Level

Education Level was dichotomised to distinguish between those having previously achieved (or currently achieving) a National level 3 Education or above – and those achieving National Level 2 Education or below; National level 3 Education being categorised as A-Level qualifications and above. Prevalence of Victimisation was broken down by respondents’ education level and mapped across all available cycles of the CSEW.

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57 Calculation of trends can be found in Appendix K
Across the available sweeps of the CSEW (1993 to 2011/12), Respondents with a level 3 education (or above) appear to have a consistently higher rate of assault prevalence than those without level 3 education. Assault prevalence for level 3 educated individuals increased from 1993 to 1995 (from 1.4% to 1.9%), and then fell from its peak to 0.7% by 2011/12. Assault prevalence fell for the non-level 3 educated group later than their level 3 counterparts; falling from a peak in 1997 (1%) to 0.4% by 2011/12. Whilst level 3 educated individuals have a consistently higher prevalence rate, the prevalence gap between education levels can be seen to narrow over the period of the crime drop from 1.1% in 1995 to 0.3% by 2011/12.

An increased risk for level 3-educated individuals is supported by the lifestyle/routine activity theory, in that a higher education, as an indicator of socio-economic status, may reduce structural constraints and facilitate more public activities; subsequently increasing exposure to risk (Hindelang et al., 1978). Bivariate, exploratory-level chi-square analysis of the 2011/12 CSEW sweep (Table 6.1) exposes a significant relationship between a respondents’ education level and all available measures of respondent level of night-time economy engagement in the CSEW. A contingency table between education-level and night-time engagement reveals that the direction of the relationship is of those with level 3 education (or above) engaging more frequently than those without, supportive of existing literature positing education as an indicator of means available to fund engagement in public activities - including night life (Hindelang et al., 1978; Sampson & Lauritsen, 1990).
Table 6.1. Bivariate Analysis: Association between Respondent Education and Routine Activity

<table>
<thead>
<tr>
<th>Respondent Education Level</th>
<th>*Pub/Bar Visitation Value (df)</th>
<th>*Nightclub Visitation Value (df)</th>
<th>*Hours Away from Home Value (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1761.461** (4)</td>
<td>749.747** (4)</td>
<td>3220.536** (2)</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1773.022** (4)</td>
<td>765.113** (4)</td>
<td>3292.061** (2)</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>1230.245** (1)</td>
<td>625.723** (1)</td>
<td>3162.804** (1)</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>45924</td>
<td>45927</td>
<td>45848</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05   **p < .01

An alternative explanation is that the mechanism through which education is seen to increase prevalence of personal victimisation, is through a reporting disparity (Sampson & Lauritsen, 1990). Taylor (1983) found individuals with higher academic qualifications to have a higher probability of reporting victimisation to survey interviewers.

6.2.2. Housing Tenure

Both quantitative and qualitative studies have defined social housing developments as economically marginalised urban populations (Thompson, Bucerius & Luguya, 2013). Traditionally, opportunities for crime are perceived as clustering amongst neighbourhoods characterised by economic disadvantage, residential instability, and low levels of home ownership (Nicholas et al., 2007; Browning, Feinberg & Dietz, 2004; Hannon 2005; Hipp 2007). Living in socially deprived areas with high levels of offending in the surrounding area is seen to simultaneously increase the risk of being victim to different crime types (Sampson & Lauritsen, 1990). This reflects the principle of homogamy, which dictates that individuals will be more prone to victimisation if frequently associating with, or coming into contact with, “members of demographic groups containing a disproportionate number of offenders” (Turvey & Freeman, 2014, p. 150). However, through the exposure-victimisation mechanism, a higher socio-economic status may serve to fund, and hence increase, activities away from the home, thus increasing exposure to high-risk situations (Hindelang et al., 1978).

A limitation of the current research is the absence of spatially referenced data, used to identify neighbourhood-level characteristics. However, how opportunities for violence in the night-time economy vary by respondent housing tenure can be calculated, by disaggregating the prevalence of assault by respondents’ housing classification and mapping it across all available cycles of the CSEW (Figure 6.5). Housing tenure is categorised as either home owning (including mortgage holding), private renting, or social renting (e.g. housing associations).
The prevalence of victimisation for home owners and those in social housing remained comparatively low when compared to the risk for private renters. Both categories experienced a comparatively modest, steady drop in assault prevalence: with social renters falling from their peak in 1997-1999 (1.1%) to 0.7% by 2011/12, and home owners falling from their peak in 1995 (1%) to 0.3% by 2011/12. However, home owners consistently emerge as the lowest risk group after 1983: a finding which supports existing literature positing high levels of home ownership as a protective factor against neighbourhood rates of violence (Browning et al., 2004; Hipp 2007).

Figure 6.5 appears to buck the traditional association of social housing and heightened risk; lacking support for the mechanism of homogamy and instead indicating victimisation risk by housing tenure as a function of disposable income and engagement level in the night-time economy. Toner and Freel (2012) have exposed a pattern of adults living in privately rented accommodation to be more than twice as likely than both owner-occupiers and social renters to participate in the night-time economy once a week or more. The exposure-victimisation nexus of the lifestyle/routine activity approach may thus help to explain the heightened prevalence of victimisation amongst private renters across the survey.

These results indicate an inconsistent relationship between housing tenure as an indicator of socio-economic status and victimisation-risk. The present trends are not consistent with existing research associating social housing with a heightened risk of victimisation (Estrada & Nilsson, 2004; Morenoff, Sampson & Raudenbush, 2001; Parker & Pruitt, 2000; Sampson, Raudenbush & Earls, 1997) - nor are they consistent with research...
posing a higher socio-economic status to increase exposure to high risk situations (Hindelang et al., 1978). The confounding demographic factors associated with housing tenure may be informing the presented trends, with younger individuals more likely to privately rent, and married individuals more likely to own (Toner & Freel, 2012). The victim tenure variable was able to be controlled for victim demographic characteristics (as well as other alternative explanatory factors) in more advanced, multivariate stages of analysis (see section 7.1.1).

6.2.3. Employment Status
Socio-economic markers such as employment can influence the stock of opportunities for violence (Nicholas et al., 2007). Respondent employment status was grouped in accordance with the Labour Force Survey: employed (in paid employment), unemployed, and economically inactive (unnecessary, unwilling or unable to work). Full-time students were deliberately segregated from their umbrella group ‘economically inactive’ for the purpose of the present research in response to literature identifying a unique student lifestyle – and a specific vulnerability to victimisation “beyond the well-established increased risk associated with their age bracket” (Morrall et al., 2010, p. 822).

Figure 6.6. Prevalence of Night-Time Economy Assault Victimisation (%) by Employment Status, 1981 - 2011/12

Prevalence for the high-risk student group begins to rise between 1983 and 1993 (1.1% to 3.4%), briefly drops in 1995 (to 3.1%), and then goes on to peak in 1997 – with 4.9% of students experiencing victimisation. A steep decline follows, with a 3.9% decrease to its lowest point (1% prevalence rate) in 2005/6. Assault
prevalence then experiences short periods of increase (2006/7 – 2008/9), and decline (between 2008/9 – 2010/11), before finally experiencing an increase of 1.2% between 2010/11 and 2011/12.

Assault prevalence for unemployed individuals experiences a similarly erratic trend over the course of the survey. Whilst prevalence increases between 1981 and 1993, steep incline occurs after 1993 and peaks in 1995 (with 4.6% of unemployed respondents being victimised). Prevalence fell as sharply as it increased by 1997 to 2.2% of unemployed respondents being victimised, then increases once again to 3.4% by 1999. After which, crime drops more consistently to a low point of 0.9% in 2002/3, and with more stabilisation occurring until the 2011/12 sweep. Those in paid employment are at a comparatively lower risk than those unemployed or in full-time education over the course of the survey. Assault prevalence increases between 1981 and 1997 (from 0.9% to 1.6%) and drops to 0.7% (below its original starting point) by 2011/12.

Respondents categorised as economically inactive (including retired, long or short term sick/ disabled, and home-making individuals – or those not seeking paid employment) consistently present the lowest risk of victimisation during the course of the survey. The comparatively modest rise in prevalence occurs between 1981 and 1999 (from 0% to 0.4%) and proceeds to drop to 0.2% by 2011/12. A consistently low level of victimisation experienced by economically inactive individuals is supported by evidence of significantly decreased participation in the night-time economy of individuals with a long-standing illness or disability (Toner & Freels, 2012), coupled with the reduced victimisation risk associated with individuals of retirement age (Levitt, 2004). By definition, respondents identifying as disabled, ill or retired, are likely to engage in less activities outside of the home. The exposure-victimisation nexus emphasises the protective factor of the home (Corrado, Roesch, Glackman, Evans & Leger, 1980; Gottfredson, 1984; Hindelang et al., 1978; Schreck & Fisher 2004) and contributes to our understanding of the universally low risk to economically-inactive respondents.

The polarised experience of student respondents is supported by a wealth of existing research characterising the student lifestyle as patterned by increased drug and alcohol consumption, as well as heightened exposure to high risk situations and night-time economy participation (Dowdall, 2007; Fisher & Wilkes, 2003; Gebhardt et al., 2000; Webb et al., 1996; Sloan & Fisher, 2011). Students emerge as “archetypical easy victims” owing to their low level of vigilance and relaxed attitude towards protective behaviours (Morrall et al., 2010, p. 823).

The existing literature regarding employment status and risk of victimisation is divided; with paid employment posited to increase victimisation risk due to both an increased exposure to potential offenders (owing to more time spent away from the home) (Tewksbury & Mustaine, 2010), and due to an increase in disposable income to facilitate participation in the night-time economy (Hindelang et al., 1978). Research also posits unemployment to increase victimisation risk, as “both unemployed persons and many motivated offenders lack sufficient activities to occupy their time and also lack a ready pool of financial and material resources. These facts are likely to lead them to encounter one another throughout the course of each’s daily routines of activities” (Tewksbury & Mustaine, 2010, p. 8). The present analysis indicates prevalence of victimisation is higher amongst unemployed individuals, and supports literature theorising suitable victims and motivated
offenders to share the same spaces, and share characteristics in common (Tewksbury & Mustaine, 2010). This in turn supports the principle of homogamy: which dictates that individuals will be more prone to victimisation if frequently associating with, or coming into contact with, "members of demographic groups containing a disproportionate number of offenders" (Turvey & Freeman, 2014, p. 150).

6.2.4. Parental Status

Parental status is segregated by individuals with no dependent children, individuals with dependent children, and individuals with dependent children in a lone parent household (single-parents) specifically. The present analysis specifically isolated lone-parent households in reference to research linking lone-parent status to a heightened vulnerability to burglary victimisation (Tseloni et al., 2004) and threats of physical violence (Tseloni, Osborn & Pease, 1994, p. 252; Wikstrom & Wikstrom, 2001): as well as the clustering of opportunities for violence within neighbourhoods with high proportions of single-parent families (Browning et al., 2004; Hannon 2005; Hipp 2007). Prevalence of assault victimisation was thus broken down by respondents’ parental status and plotted across the available sweeps of the CSEW (Figure 6.7).

Figure 6.7. Prevalence of Night-Time Economy Assault Victimisation (%) by Parental Status, 1993 - 2011/12

Assault prevalence for single parents increased between 1993 and 1999 (from 0.7% to 1.5%), which saw the lone parents become, and remain, the highest risk category of assault-victimisation for the duration of the crime decline. However, in 2006/7, and at its lowest point (0.4%), single parent prevalence had experienced a total

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58 Includes dependent biological, adopted, fostered, or step, children under 16 year old who predominantly reside with the respondent
1.1% decrease from its peak, and fell below the prevalence rate of both parents and those with no children. This drop reverses after 2006/7, and by 2011/12 assault prevalence for lone parents has increased to 0.9%.

Assault prevalence for those with no dependent children emerges as the second highest risk category after 1997. Prevalence for individuals with no children fell from 1.3% in its peak (1995-1997) to 0.6% by 2011/12. Assault prevalence for parents emerges as the lowest risk category during the crime drop. Prevalence for this subset peaks in 1997 at 1%, and falls to 0.4% by 2011/12.

These findings are consistent with observations that single-parenthood elevates risk of victimisation when compared to other family types (Gottfredson, 1984; Mawby & Walklate, 1994). An increased risk is linked to the activity patterns of single parents: characterised by an increase in the time spent away from the home due to the necessity of employment (Estrada & Nilsson, 2004), as well as an increased participation in the nighttime economy owing to their single status (Estrada & Nilsson, 2004). In their research on violent threats, Wikstrom and Wikstrom (2001) also link a tendency of single parents to live in socially problematic residential areas to their heightened vulnerability.

6.2.5. Area of Residence
Urban environments are known to foster a higher volume of opportunities for violence as a result of the proportion of strangers in highly populated areas (Indermaur & Ferrante, 1993; Sampson, 1987). Prevalence of Assault Victimisation by respondent area of residence, categorised as either an inner-city or non-inner-city area, was mapped across the available sweeps of the CSEW (1993 – 2011/12) (Figure 6.8).
Assault prevalence for both inner city and non-inner city residents increased between 1993 and 1997. For inner city residents, prevalence peaked in 1997 at 1.6%, followed by a period of consistent decline until reaching a 0.6% prevalence level in 2002/3. After a serious of erratic increases and decreases, the prevalence rate for those residing in inner cities in 2011/12 has returned to 0.6% - the same rate as those living outside of the cities. Non-inner city prevalence experiences minimal increase between 1993 and 1999 (1% to 1.1%) and then a consistent decline to 0.6% in 2011/12. There appears an inconsistent relationship between inner city residency and victimisation in the night-time economy.

Existing literature posits an urban environment to increase the risks of violence due to the proportion of strangers in highly populated areas (Gottfredson, 1984; Indermaur & Ferrante, 1993; Sampson, 1987). The focus of the present research on night-time economies specifically, may distort the relationship between area type and victimisation. Knowledge of licensed premise-density (unavailable in the CSEW) may prove a stronger predictor of victimisation risk (Livingston, 2008; Hope, 1985) – with increased licensed outlet-density serving to increase ‘bar hopping’ practices and alcohol consumed (Felson, 1998), as well as amplifying competition for public transportation and food services between patrons emptying multiple outlets (Marsh & Kibby, 1992; Scott & Dedel, 2006). More recent evidence suggests that, in addition to the well-studied link between licensed venue density and opportunities for crime, that the composition, or mix of venues may also be linked to area levels of crime (Newton, 2014).

6.3. Prevalence of Victimisation by Respondents’ Lifestyle

The lifestyle/ routine activity framework predicts that individuals who lead certain lifestyles will increase their exposure to risk (Hindelang et al., 1978). Whilst risk of night-time violence can be seen to vary across certain socio-demographic parameters, the lifestyle model of crime explains these observed differences through differences in routine activities. An individual’s socio-demographic characteristics are argued to put limitations on the individual’s behaviour and daily activities (Hindelang et al., 1978). These limitations adopt two forms: influencing both an individual’s role expectations (the expectations of appropriate behaviour as defined by the cultural norms of society), as well as influencing an individual’s constraints. Both role expectations and structural constraints affect an individual’s adaptations and become crucial in forming the regular patterns of activity that constitute a person’s lifestyle. It is then lifestyle that translates to risk (Hindelang et al., 1978).

The following section of analysis connects respondents’ behaviour and lifestyle with their corresponding risk of violent victimisation: an association argued by some researchers to foster victim-blaming (Hope, 2007). However, there is considerable evidence linking routine activities to the concentration of criminogenic opportunities in both space and time, and amongst suitable targets (Cohen & Felson, 1979; Kershaw et al., 2008).

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59 Calculation of trends can be found in Appendix L
6.3.1. Frequency of Pub/Bar Visitation
The number of times a respondent visited a pub or bar in the last month, and the corresponding prevalence of victimisation risk, was tracked across all of the available sweeps of the CSEW between 1997 and 2011/12. An almost linear relationship between frequency of pub visitation and prevalence of victimisation emerges from 1999 onwards – with individuals frequenting pubs or bars twelve or more times in the last month (over 3 times a week) experiencing the highest prevalence rates over course of available sweeps.

Figure 6.9. Prevalence of Night-Time Economy Assault Victimisation (%) by Pub/Bar Visitation, 1997 - 2011/12
The decline in assault was experienced across all visitation groups, although a more pronounced drop was experienced by the high-frequency groups (9 to 12+ times). The prevalence of assault for those individuals frequenting pubs/bars 12 or more times a month fell from a peak in 1999 (6.3%) to a low in 2005/6 (3%), then experiences an increase to 4.2% in 2006/7, finally, resumes a path of decline until 2011/12 – falling to its lowest prevalence level of 2.7%. Prevalence for respondents visiting pubs/bars 9 to 12 times a month fell from a 6.1% peak to 1.8% by 2011/12. Visitors to the pub/bars 4-8 times a month had a victimisation prevalence of 2.1% in 1999, which fell to 1.3% by 2011/12. For those visiting pubs/bars 1 to 3 times in the last month, a prevalence rate of 1.4% in 1997 fell to 0.6% by 2011/12. Finally, with the consistently lowest prevalence rate throughout the course of the survey, those who had not frequented a pub/bar in the previous month had a victimisation rate ranging between just 0.1 and 0.2% across the survey.

6.3.2. Frequency of Nightclub Visitation
The amount of times a respondent visited a nightclub in the last month, and the corresponding prevalence of victimisation risk was tracked across all of the available sweeps of the CSEW between 1997 and 2011/12.
Whilst decreases in nightclub visitation are associated with lower prevalence rates, the relationship between nightclub visitation and prevalence of assault appears less stable than that experienced by pub/bar visitation.

Figure 6.10. Prevalence of Night-Time Economy Assault Victimisation (%) by Nightclub Visitation, 1997 - 2011/12

Assault prevalence for individuals who report visiting a nightclub 9 or more times in the last month, peaked at 15.1% in 2001/2 and experienced erratic decline before reaching a low of 6.3% in 2009/10. A spike in victimisation for such respondents then occurred, increasing prevalence rate to 10.9% by 2011/12.

9.7% of respondents visiting nightclubs 4 to 8 times a month were victimised in 1997, which then steadily declined to 4.2% by 2006/7. A steady increase to 7.9% occurred by 2010/11, however the most recent sweep suggests the decline has resumed. Respondents visiting nightclubs 1 to 3 times a month experienced a modest, steady decline from 4.4% in 1997 to 2.8% by 2011/12. Those who reported not having visited a nightclub at all in the last month were continuously at the lowest risk of victimisation, with a victimisation rate varying between 0.3 and 0.6%.

Figure 6.9 and 6.10 illustrate simply that those who frequent public settings at night increase their likelihood of criminal victimisation (e.g., Hindelang et al., 1978; Miethe et al., 1987). A strong association between increased participation in the night-time economy, and increased exposure to victimisation in the night-time economy, is the cornerstone of a lifestyle/routine activity understanding of trends in violence (Kershaw et al., 2008; Toner and Freel, 2012). Increased participation translates to a heightened victimisation risk due to levels of target visibility and availability (Miethe et al., 1990).
6.3.3. Hours Spent Away from the Home

Respondents spending more than five hours a day away from the home are seen to consistently experience higher levels of assault victimisation throughout the available years of the CSEW (1993 – 2011/12). Those spending between 1 and 5 hours away from the home, and those spending less than 1 hour away from the home, experience comparatively similar prevalence rates (however spending between 1 and 5 hours out of the house is associated with a slightly heightened prevalence rate).

![Figure 6.11. Prevalence of Night-Time Economy Assault Victimisation (%) by Hours Spent away from the Home, 1993 - 2011/12](image)

Violent victimisation of respondents spending over 5 hours out of the house peaks between 1995-1997 (1.8%) and declines to 0.9% by 2005/6. After a minor increase, the prevalence rate then decreases to 0.9% by 2011/12. The prevalence of assault for those spending between 1 and 5 hours remains static until a drop begins after 1997 and continues until 2004/5 (from 0.5% to 0.2%). The rate then remains static until 2011/12 (0.2%). Individuals who spend less than one hour away from the home peaks between 1995-1997 at 0.4%, falling by 2004/5 to 0.1%. Despite minor shifts in prevalence, prevalence returns to 0.1% by 2011/12.

These findings support existing literature discovering that an increased amount of time spent out of the house translates to increased exposure to potential offenders (Hindelang et al., 1978; Tewksbury & Mustaine, 2010). Miethe et al. (1990, p. 367) found that “persons who maintained high levels of daytime activity outside the home had higher risks of serial victimisation than those with low levels of this activity”. The potential influence of employment status on hours spent away from the home can be controlled for during the multivariate stage of analysis (see section 7.1.2).
6.3.4. Vehicle Access

The number of cars accessible to the respondent, or respondent’s household, and its relation to the prevalence of victimisation, was calculated across the 1993-2011/12 cycles of the CSEW. In accordance with the lifestyle model (Hindelang et al., 1978) vehicle access increases respondent mobility, which may in turn, facilitate increased participation in certain activities away from the home.

Figure 6.12. Prevalence of Night-Time Economy Assault Victimisation (%) by Vehicle Access, 1993 - 2011/12

An almost linear relationship between the number of accessible cars and victimisation-risk emerges. Respondents with access to three or more cars experienced a steep increase in victimisation between 1993 and 1995-1997 (from 1.8% to 2.9%), followed by an equally sharp decline to 1.2% by 1999. An increase in prevalence to 1.9% is experienced by 2001/12, followed by a consistent decline to the lowest point in 2009/10 (0.4%). This trend then reverses, with an increase to 1.1% by 2011/12. The prevalence risk for individuals with access to no, one, or two cars, are comparatively similar and appear more stable across the survey (with the exception of an anomalous increase in prevalence for those with access to two cars in 2009/10). These results support that increased access to vehicles may be associated with an increased exposure to victimisation – through the mechanism of facilitating activity away from the safety of the home (Hindelang et al., 1978).

6.3.5. Number of Cohabiting Adults

Prevalence of assault victimisation, by the number of cohabiting adults (including the respondent) in the respondents’ household, was calculated between 1981 and 2011/12. An increase in the number of cohabiting adults appears to be associated with an increase in assault prevalence.
The prevalence rate for respondents living within households of four or more people rose from 1.3% at the beginning of the survey to a peak of 3.7% in 1995. A less stable decline to a rate of 1.6% in 2005/6-2006/7 follows, then increases once again to 2% in 2010/11.

The prevalence rate for those living in three-person households is lower still, but similarly experiences an increase from 1.1% in 1981 to 2.5% in 1997. A steady decline to 1.1% by 2011/12 then follows. The prevalence rates for respondents either living alone, or with one other individual, are consistently lower throughout the survey. However, assault prevalence for those living alone appears slightly heightened: with such groups victimised experiencing a peak of 1.3% in 1999, compared to the earlier 0.8% peak experienced by those living with one other in 1995-1997. Both experienced a modest, stable decline until 2011/12 (to 0.5% and 0.4% prevalence respectively).

The present results support the findings of Miethe et al. (1990) that as people decrease their number of household members their risk of victimisation similarly decreases. The results suggest that number of cohabiting adults has the potential to influence participation in the night-time economy and as such, corresponding exposure to violent victimisation. A confounding influence of marital status may account for the protective factor of two cohabiting individuals: the effect of household composition on victimisation risk, after controlling for socio-demographic characteristics (including marital status), is tested for in the multivariate modelling stage of analysis (section 7.1.2).
Studying the behavioural activities and characteristics of victims have been historically overlooked in favour of studying the behaviour and characteristics of offending (Loeber, 1988). Ascencio and Guerra (2008, p. 733) suggest that the explanation for this imbalance is a fear of “attributing blame to the victim”. However, the relationship between increased participation in activities away from the home and a heightened exposure to risk, is robust (Graham & Homel, 2008) and is supported by findings of the present research. Ascencio and Guerra (2008) emphasise that risk of interpersonal violence is subject to a range of individual, contextual, and behavioural factors, as well as the interaction between these constructs. The current research has thus far employed descriptive-level analysis to present overarching trends in night-time violence – and to understand how opportunities for violence have fluctuated across socio-demographic and lifestyle parameters. Inferential-level multivariate analysis is adopted as the next stage of analysis in order to rigorously test the interaction between respondents’ personal characteristics (socio-demography) and routine activities – and to identify the independent predictive power of respondents’ lifestyle/ routine activities in a controlled logistic regression model.
7. Chapter Seven Modelling Night-Time Economy Assault Victimisation and Severity: Results and Discussion

Descriptive-level analysis has thus-far been employed to present overarching trends in night-time economy violence and examine the distribution of opportunities in space and time, and across respondent characteristics. Inferential-level analysis is adopted as the next stage of research in order to rigorously test the interaction between personal characteristics and situational factors and to identify the opportunity structure of night-time economy violence: by identifying the independent explanatory power of opportunity-level characteristics when predicting the risk of night-time assault victimisation, and the subsequent risk of incurring seriously injury when assault does occur.

The current chapter uses sophisticated multivariate modelling techniques to identify which of the available personal and situational characteristics are significant, independent predictors of assault victimisation, and offence severity. Model-fit statistics will then test two central theoretical questions which examine the application of the opportunity perspective to night-time violence: (1) whether respondents’ routine activities independently influence risk of victimisation when controlled for their personal (socio-demographic) characteristics; (2) whether the situational and spatio-temporal characteristics of an offence independently influence the severity of the offence, when controlled for the personal characteristics of the actors involved (victim socio-demographic characteristics and victim-offender interaction).

Using binary logistic regression, the present chapter investigates which elements - when holding all things equal – emerge as the risk factors of, and protective factors against, respondents being victimised, and victims being seriously injured (wounded) – where traditional criminology has focused on the risk factors of violent offending (Loeber, 1988). The present research then examines how opportunity-level predictors of assault victimisation and assault severity fluctuate over the course of the survey and throughout the phenomenon of the crime drop. This chapter links the present findings to a situational understanding of interpersonal violence and identifies opportunities for intervention so as to target future preventative measures more effectively in the context of the night-time economy.

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7.1. Modelling Assault-Victimisation in the 2011/12 Sweep

The composite lifestyle/ routine activity framework predicts that individuals who possess certain traits will lead lifestyles that increase their exposure to risk (Hindelang et al., 1978). The two frameworks are similar in their predictions (Gottfredson 1981) as they both test an amalgamated ‘opportunity’ theory of crime (Tseloni & Pease, 2015). ‘Lifestyle’ is hypothesised to be influenced by several factors, principally individuals’ demographic and socio-economic [socio-demographic] characteristics (Hindelang et al., 1978). An individual’s age, marital status, education, occupation, and income, are argued to put limitations on the individual’s behaviour and daily activities (Hindelang et al., 1978) – through individuals’ role expectations and the influence
on individuals’ structural constraints (situations that limit an individual’s behavioural options including financial limitations, familial or educational commitments, or legal constraints).

In their study on interpersonal violence, Ascencio and Guerra (2008) confirmed that risk is subject to a range of individual, contextual, and behavioural factors, as well as the interaction between these constructs. With the knowledge that respondents’ demography, structural constraints, and routine activities are not independent of one another, multivariate modelling allows the present research to control for all characteristics and test whether any of the available explanatory variables are independently related to risk of assault victimisation – as well as to examine the interaction between them. As discussed in section 4.6.1, the explanatory factors are controlled for one another in the final fitted-model, and thus capture each factor’s independent contribution to the risk of victimisation. The main effect of an explanatory (independent) variable is captured by the Wald $\chi^2$ chi-square statistic. Odds ratios (ExpB) are produced for the individual parameters within each variable in the model - and represent the increased or decreased likelihood of the event (assault victimisation) occurring between values of the same variable (Menard, 2002).

This analysis broaches the fourth research question: what are the present day risk-factors of assault victimisation in the night-time economy? Analysis then moves to address another major theoretical question (research question five) of analysis: do opportunity-level variables (respondent lifestyles/routine activities) significantly and independently explain the likelihood of assault victimisation after controlling for personal-level variables. Finally, the present research examines how lifestyle predictors of victimisation fluctuate over the course of the survey, and whether a shift in aggregate patterns of activity can be attributed to the decline in the stock of opportunities for assaultive night-time violence.

The following sections present results from the final fitted model (containing, and controlling for, all personal and opportunity-level predictors) in the 2011/12 CSEW sweep. Detailed results from the base (control) model can be found in Appendix M.

7.1.1. Personal-Level Predictors of Assault Victimisation

(1) Demographic Predictors

All demographic characteristics, controlled for respondents’ structural constraints and lifestyle characteristics, emerged as significant predictors of night-time economy assault victimisation. As shown in table 7.1, age, gender, and marital status were significantly related to a respondent’s risk of being victimised. The results indicate that respondent demographic characteristics continue to have some direct effect on risk of night-time assault victimisation not mediated by routine activities/lifestyle.
Table 7.1. Demographic Predictors of Physical Assault Victimisation in the Night-Time Economy, 2011/12

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (b) (S.E)</th>
<th>Wald ($\chi^2$)</th>
<th>Adjusted Odds Ratios $\text{Exp}(B)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One (Demographics)</td>
<td>Age</td>
<td>Age</td>
<td>-.073</td>
<td>.008</td>
<td>82.058**</td>
<td>.930**</td>
</tr>
<tr>
<td></td>
<td>Gender (Female)</td>
<td>Male</td>
<td>1.028</td>
<td>.156</td>
<td>42.881**</td>
<td>2.795**</td>
</tr>
<tr>
<td></td>
<td>Marital Status</td>
<td>Single (Never Married)</td>
<td>.476</td>
<td>.213</td>
<td>4.988</td>
<td>1.609*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Widowed</td>
<td>-.245</td>
<td>1.036</td>
<td>.056</td>
<td>.783</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single (Separated/Divorced)</td>
<td>.867</td>
<td>.286</td>
<td>9.175</td>
<td>2.379**</td>
</tr>
</tbody>
</table>

* $p < .05$  **$p < .01$

The variable capturing a respondents’ age had a significant main effect (Wald $\chi^2 = 82.058, p<0.05$) on the risk of assault victimisation. Age emerges as inversely related to assault-risk, in that a unit (year) of increase in age is associated with a decrease in the odds of victimisation (OR=0.93). When expressed as percentage change (Figure 7.1), a unit increase in age is seen to decrease the odds of victimisation by 7.0%.

Model results also indicate marital status to be another significant predictor of assault victimisation: with marital status producing a significant main effect (Wald statistic) (Wald $\chi^2 = 10.538, p<.0.05$) when controlled for all other variables in the model. Whilst marital status has a significant main effect overall, there appears to be no significant difference in the risk of victimisation between widowed respondents, and married or de facto respondents, when controlled for all other variable in the model (OR=.783, $p>0.0.05$). However, this parameter is based on extremely small number of widowed respondents reporting victimisation in the night-time economy.

The odds of victimisation for single respondents (who had never been married) were 61% higher than those of married or de facto respondents (OR=1.61).

The odds of victimisation for single (divorced or separated) respondents were even higher – at 2.38 times those of married or de facto respondents – equating to a 138% increase in the odds of victimisation for previously married respondents, when compared to currently married (or de facto) respondents. This result is juxtaposed to bivariate analysis of marital status and victimisation (see Figure 6.3) which finds that when differences in lifestyle are not controlled for, single (never married) individuals are seen to experience the highest prevalence of victimisation. The multivariate model discovers that after controlling for structural constraints and lifestyle characteristics, separated and divorced individuals incur the highest odds of victimisation in the night-time economy. A similar pattern was found by Brennan et al. (2010) in their observation of demographic characteristics and violence in England and Wales between 2002/3 and 2006/7.

Whilst the lifestyle/exposure model anticipated that unmarried individuals (both never married, and previously married, individuals) would lead lifestyles that increased their exposure to higher risk environments (Hindelang

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60 ‘Married or de facto respondents’ include those married, in a civil partnership (in the 11/12 sweep), or cohabiting partners
et al., 1978), the prevailing effect of marital status, and particularly, of separated/divorced status, is identified as an area for future investigation. Conversely, the protective factor of married or cohabiting status, may be reflective of the proximal guardianship from partners (Sampson, 1987).

Respondent gender also has a significant main effect (Wald $\chi^2 = 42.881, p<0.05$) on the risk of victimisation: with the odds of victimisation for males at 2.8 times higher than those for females. Expressed as a percentage change (Figure 7.1), being male as opposed to female, is associated with a 180% increase in the odds of victimisation. The finding that males are at a significantly higher risk of physical assault than females is unsurprising owing to their comparatively higher rates of victimisation observed in the previous chapter (see Figure 6.1): however, the evidence that the effect of gender on victimisation risk prevails even when routine activity/lifestyles are controlled for, indicates that gender has a direct effect on assault-risk not mediated by lifestyle. This finding supports Felson, Savolainen, Berg and Ellonen’s (2013) hypothesis that the effects of going out will vary by gender: based upon Miethe et al.’s (1987) original findings of an active night life to be a less important risk factor for women than it was for men (observing a stronger correlation between nightlife activity levels and male victimisation than female victimisation.

Bivariate, exploratory level chi-square ($\chi^2$) analysis was harnessed using data from the 2011/12 CSEW sweep to examine whether the strength of association between routine activities (pub/bar visitation, nightclub visitation, and hours spent away from the home) and victimisation risk did indeed vary between men and women in the present research (table 7.2).61

Table 7.2. Bivariate Analysis: Association between Routine activities and Victimisation by Respondent Gender

<table>
<thead>
<tr>
<th>Respondent Gender</th>
<th>Pub/Bar Visitation * Value df</th>
<th>Nightclub Visitation * Value df</th>
<th>Hours Away * Value df</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Victimisation Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Pearson Chi-Square 138.266** 4</td>
<td>Pearson Chi-Square 453.290** 4</td>
<td>Pearson Chi-Square 58.117** 2</td>
</tr>
<tr>
<td></td>
<td>Likelihood Ratio 119.455** 4</td>
<td>Likelihood Ratio 229.260** 4</td>
<td>Likelihood Ratio 68.887** 2</td>
</tr>
<tr>
<td></td>
<td>Linear-by-Linear 132.210** 1</td>
<td>Linear-by-Linear 447.169** 1</td>
<td>Linear-by-Linear 52.255** 1</td>
</tr>
<tr>
<td></td>
<td>Association</td>
<td>Association</td>
<td>Association</td>
</tr>
<tr>
<td></td>
<td>N of Valid Cases 21014</td>
<td>N of Valid Cases 21017</td>
<td>N of Valid Cases 20979</td>
</tr>
<tr>
<td>Female</td>
<td>Pearson Chi-Square 73.956** 4</td>
<td>Pearson Chi-Square 342.874** 4</td>
<td>Pearson Chi-Square 26.063** 2</td>
</tr>
<tr>
<td></td>
<td>Likelihood Ratio 64.207** 4</td>
<td>Likelihood Ratio 112.446** 4</td>
<td>Likelihood Ratio 27.721** 2</td>
</tr>
<tr>
<td></td>
<td>Linear-by-Linear 64.383** 1</td>
<td>Linear-by-Linear 294.030** 1</td>
<td>Linear-by-Linear 24.159** 1</td>
</tr>
<tr>
<td></td>
<td>Association</td>
<td>Association</td>
<td>Association</td>
</tr>
<tr>
<td></td>
<td>N of Valid Cases 25005</td>
<td>N of Valid Cases 25005</td>
<td>N of Valid Cases 24958</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05   **p < .01

61 Achieving strength of association statistics segregated by gender involved first splitting the data file by respondent gender, followed by running a Pearson’s Chi-Square test between routine activity (pub/bar visitation, nightclub visitation, hours spent away from the home) and whether or not the respondent was victimised.
The strength of association between routine activities and victimisation risk is significant (p<0.01) for both men and women across every measure of night-time activity engagement (pub/bar visitation, nightclub visitation, hours spent away from the home). However, the consistently higher Pearson's Chi Square value for males indicates that whilst nighttime activity is significantly associated with both male and female assault, this association is stronger for males. The results support findings that an active nightlife may prove to be a more robust risk-factor amongst males than females (Felson et al., 2013; Miethe et al., 1987).

Felson et al. (2013) offer several possible explanations for a residual impact of gender on assault-risk not mediated by night-life engagement. First, females are known to more frequently travel in groups and avoid dangerous locations at night time; reflective of either a greater fear of crime, or greater risk aversion (Byrnes, Miller & Schafer, 1999). Rai et al. (2003) adds that greater risk aversion in females may result from parental influence, with parents traditionally being more protective of girls than boys. Second, extensive literature suggests that violence against, and between, females is viewed more negatively than violence against males (Felson 2002; Felson & Feld 2009): “potential offenders are [thus] likely to leave female victims alone in public setting” (Felson et al., 2013, p. 275). This fits with a rational choice model of offending (Cornish and Clarke, 1986b) and the influence of both the immediate social, as well as physical, environment in the balancing of perceived risks and rewards (Wortley, 2002). Third, men are more likely to respond aggressively to verbal provocations or conflicts that occur in public settings (Kennedy & Forde, 1996) and are therefore hypothesised to be more likely to provoke others to aggress against them (Bettencourt & Miller, 1996; Felson et al., 2013). Fourth, the principle of homogamy posits that risk of victimisation will be highest amongst members of high offending demographic groups – as a result of their increased exposure to offenders (Hindelang et al., 1978). Due to a degree of sex-segregation within social lives, boys will have increased exposure to other boys (higher offending sex) - which may then serve to increase their rates of victimisation (Jenson & Brownfield, 1986).

<table>
<thead>
<tr>
<th>Year Increase in Age</th>
<th>Male</th>
<th>Respondent Single (Never Married)</th>
<th>Widowed</th>
<th>Single (Separated/ Divorced)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><img src="image.png" alt="Graph" /></td>
<td></td>
<td><img src="image.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

*p > 0.05 (not statistically significant)*

Figure 7.1. Percentage Change in Odds of Victimisation by Demographic-Variable Parameters

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62 visual representation of every parameter in the Adjusted Odds Ratio Exp(B) column in Table 7.1 - expressed as a *percentage* change in the odds ratios
(2) Structural Constraints Predictors

When controlled for all other variables in the model (including demographic and lifestyle characteristics), the structural constraints not significantly related to a respondents’ risk of victimisation included education level, parental status, and area of residency (table 7.3). Employment status and housing tenure however, emerged significant predictors of night-time economy assault victimisation: with direct effect on victimisation-risk not mediated by lifestyle/routine activities (table 7.3): supporting the findings on risk and structural constraints by Garofalo (1987).

Table 7.3. Structural Constraint Predictors of Physical Assault Victimisation in the Night-Time Economy, 2011/12

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (S.E)</th>
<th>Wald (χ²)</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One</td>
<td>Employment (Paid Employment)</td>
<td>Unemployed</td>
<td>.468</td>
<td>.210</td>
<td>4.942</td>
<td>1.596*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student</td>
<td>.187</td>
<td>.244</td>
<td>.589</td>
<td>1.206</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economically Inactive</td>
<td>.736</td>
<td>.264</td>
<td>7.759</td>
<td>2.088**</td>
</tr>
<tr>
<td></td>
<td>Tenure (Owners)</td>
<td>Social Renters</td>
<td>.604</td>
<td>.205</td>
<td>8.575</td>
<td>1.830**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private Renters</td>
<td>.317</td>
<td>.159</td>
<td>3.967</td>
<td>1.373*</td>
</tr>
<tr>
<td></td>
<td>Education (Level 3 Qualification)</td>
<td>No Level 3 Qualification</td>
<td>-.235</td>
<td>.148</td>
<td>2.529</td>
<td>.790</td>
</tr>
<tr>
<td></td>
<td>Parental Status (Parent)</td>
<td>No Children</td>
<td>-.127</td>
<td>.281</td>
<td>.204</td>
<td>.881</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lone Parent</td>
<td>-.051</td>
<td>.348</td>
<td>.065</td>
<td>1.094</td>
</tr>
<tr>
<td></td>
<td>Area (Not Inner-City)</td>
<td>Inner-City Resident</td>
<td>.292</td>
<td>.234</td>
<td>1.562</td>
<td>1.339</td>
</tr>
</tbody>
</table>

* p < .05   **p < .01

Employment Status – segregated by those in paid employment, unemployment, full-time higher education, and those economically inactive⁶³ - proved a significant predictor of victimisation risk (Wald χ² = 9.836, p<0.05). The odds of victimisation for unemployed respondents were 60% higher (Figure 7.2) than the odds of victimisation for those in paid employment (OR=1.60). Economically inactive respondents were at an even greater comparative risk, with their odds of victimisation at 109% higher than those in paid employment (OR=2.09). The model estimates that the odds of victimisation for students in full-time education were not significantly different to those of paid employees (OR=1.21, p>0.05).

Housing tenure is an additional structural constraint that emerges a significant predictor of victimisation-risk (Wald χ² = 8.968, p<0.05). Both respondents renting in the private sector, and respondents renting in the social sector, were at a significantly higher risk of victimisation than those who own (or partially own) property. Private

⁶³ Includes retired, ill/disabled, discouraged workers, and those not seeking employment
sector renters’ odds of victimisation were 37% higher than the odds of owners (OR=1.37), and Social sector renters’ odds of victimisation were 80% higher than the odds of owners (OR=1.80). These results demonstrate that when controlled for demographic and lifestyle variables, social renters emerge at highest risk of victimisation: a juxtaposition of the increased prevalence rates of private renters when not controlled for other respondent characteristics (see Figure 6.5). These results suggest that the disproportionately high levels of assault prevalence amongst private renters (Figure 6.5) may more accurately reflect a difference in confounding demographic and routine activity variables, as opposed to being an independent causal indicator of assault-risk.

A respondents’ area of residence (whether or not the respondent lived in an inner-city area) was also estimated by the model as not significantly related to the risk of assault victimisation in the night-time economy (Wald $\chi^2$= 1.562, p>0.05). Similarly, a respondents’ education level, when controlled for all other structural constraints in the model, emerged as not significantly related to risk of victimisation (Wald $\chi^2$ = 2.529, p>0.05). The visual disparity between the victimisation experiences of level 3 and non-level educated 3 respondents (see Figure 6.4) is unstable and is eliminated when controlling for other characteristics – which lends to the evidence that the effect of education level is mediated by (a function of) education level’s effect on routine activity/ lifestyles.

Whether the respondent had a child⁶⁴ - and the family structure of those with children – did not emerge as a significant overall predictor of physical assault in the night-time economy. The main effect statistic for the parental status variable did not reach statistical significance (Wald $\chi^2$ = 0.093, p> 0.05) and as such indicates no significant influence on risk of assault victimisation.

Figures 7.2. Percentage Change in Odds of Victimisation by Structural Constraint-Variable Parameters⁶⁵

⁶⁴ Biological, step, foster or adopted child/children under the age of 16 and predominantly cohabiting with respondent
⁶⁵ visual representation of every parameter in the Adjusted Odds Ratio Exp(B) column in Table 7.3 - expressed as a percentage change in the odds ratios
7.1.2. Opportunity-Level Predictors of Assault Victimisation

To examine the relationship between lifestyle (routine activities) and victimisation-risk, it is apparent that we must also control for respondent socio-demographic factors. After being controlled for all other variables in the model (including demographic characteristics and structural constraints), frequency of visitation to pubs, bars, and nightclubs, as well the number of hours spent away from the home, were strong, significant, independent predictors of assault victimisation in the night-time economy (table 7.4). Both vehicle access and number of cohabiting adults were conversely not significantly related to a respondents’ risk of victimisation in the controlled model.

Table 7.4. Lifestyle/Routine Activity Predictors of Physical Assault Victimisation in the Night-Time Economy, 2011/12

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (S.E)</th>
<th>Wald ($\chi^2$)</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One (Routine Activities)</td>
<td>Pub/Bar Visitation</td>
<td>Frequents Pub 1-3 times</td>
<td>.654</td>
<td>.208</td>
<td>9.873</td>
<td>1.924*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Pub 4-8 times</td>
<td>1.167</td>
<td>.215</td>
<td>29.340</td>
<td>3.213**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Pub 9-12 times</td>
<td>1.174</td>
<td>.295</td>
<td>15.847</td>
<td>3.234**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Pub 12+ times</td>
<td>1.351</td>
<td>.306</td>
<td>19.434</td>
<td>3.860**</td>
</tr>
<tr>
<td></td>
<td>Club Visitation</td>
<td>Frequents Club 1-3 times</td>
<td>.808</td>
<td>.161</td>
<td>25.016</td>
<td>2.243**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Club 4-8 times</td>
<td>.760</td>
<td>.247</td>
<td>9.458</td>
<td>2.138**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Club 9-12 times</td>
<td>1.101</td>
<td>.514</td>
<td>4.595</td>
<td>3.008*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequents Club 12+ times</td>
<td>1.392</td>
<td>.484</td>
<td>8.285</td>
<td>4.025*</td>
</tr>
<tr>
<td>Block Two (Routine Activities)</td>
<td>Hours Away</td>
<td>Away 1-5 hours</td>
<td>.385</td>
<td>.609</td>
<td>.401</td>
<td>1.470</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Away 5+ hours</td>
<td>1.041</td>
<td>.604</td>
<td>2.975</td>
<td>2.833*</td>
</tr>
<tr>
<td></td>
<td>Number of Accessible Cars</td>
<td>One Car</td>
<td>-.418</td>
<td>.256</td>
<td>2.668</td>
<td>.658</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two Cars</td>
<td>-.440</td>
<td>.223</td>
<td>3.892</td>
<td>.644</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Three+ Cars</td>
<td>-.371</td>
<td>.219</td>
<td>2.876</td>
<td>.690</td>
</tr>
<tr>
<td></td>
<td>Number of Cohabiting Adults</td>
<td>Continuous</td>
<td>-.143</td>
<td>.078</td>
<td>3.321</td>
<td>.867</td>
</tr>
</tbody>
</table>

* p < .05  **p < .01

Routine activity/ lifestyle variables are included in the model and are controlled for all demographic characteristics and structural constraints. Consistent with the exposure-victimisation nexus of lifestyle/ routine activity theory (Cohen & Felson, 1979; Hindelang et al., 1978), several of the variables measuring exposure to risky situations emerged as significant predictors of violent victimisation.
The frequency of visiting pubs and/or bars emerged as a significant predictor of assault victimisation in the night-time economy\(^66\) (Wald \(\chi^2 = 34.657, p<0.05\)). Those who reported frequenting pubs or bars at least once in the last month had significantly higher odds of victimisation than those who reported never visiting a pub or bar in the last month. The risk of victimisation increased with the incremental increase in frequency of pub/bar visitation: suggesting a dose-response relationship between exposure and victimisation in the night-time economy. Those visiting pubs/bars between 1 and 3 times a month had odds of victimisation 1.92 times higher than those who had visited pubs/bars zero times in the last month: indicating a 92% increase in the odds (Figure 7.3). Those who had visited pubs/bars between 4 and 8 times in the last month had odds of victimisation 3.21 times the odds of those visiting pubs/bars zero times in the last month (a 221% increase). Similarly, those who had visited pubs/bars between 9 and 12 times in the last month had odds of victimisation 3.23 times the odds of those visiting pubs/bars zero times in the last month (a 223% increase). The highest increase in odds of victimisation emerged in respondents who had visited pubs/bars more than 12 times in the last month. This group saw odds of victimisation 3.9 times higher those of individuals visiting pubs/bars zero times in the last month: representing a 286% increase in risk.

The frequency of nightclub visitation closely mirrored the pattern of pub/bar visitation and similarly emerged as a significant predictor of assault victimisation (Wald \(\chi^2 = 29.854, p<0.05\)). The odds of victimisation increased by 124% for those who visited a nightclub between 1 and 3 times in the last month (OR= 2.24) compared to respondents who reported never visiting a nightclub in the last month. Similarly, those visiting nightclubs between 4 and 8 times a month saw their odds of victimisation increase by 114% when compared to those reporting never visiting a nightclub in the last month (OR=2.14). For individuals visiting nightclubs between 9 and 12 times last month, their odds of victimisation increased by 201% compared to individuals visiting a nightclub 0 times the last month (OR=3.01). Finally, a 302% increase in the odds of victimisation was observed when frequenting nightclubs 12 or more times in the last month, compared to the odds of those frequenting nightclubs 0 times in the last month.

The amount of hours spent away from the home was a further indicator of routine activities and lifestyle. This variable captured the amount of hours spent away from the house on weekdays which limits its discussion in relation to night-time economy assaults occurring over the weekend but is observed as a proxy for routine behaviours and hours spent in public areas. This variable proved to be a significant predictor of the risk of victimisation in the Night-Time Economy (Wald \(\chi^2 = 11.258, p<0.05\)).

Respondents spending between one and five hours out of the house per day were not at a significantly greater risk of victimisation when compared to respondents who reported spending less than an hour per day out of the house (OR=1.47, p>0.05). However, respondents who reported spending more than five hours a day away

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\(^{66}\) Night-Time Economy includes public transport and entertainment venues (e.g. cinemas, restaurants) as well as drinking establishments
from the house saw odds of victimisation at 3.0 times those who spent less than an hour away from home: representing a 183% increase in the odds of victimisation.

Respondents’ accessibility to vehicles was an additional indicator of routine activity included in the model. The number of accessible cars was estimated by the model to be a non-significant predictor of assault victimisation in the night-time economy \((\chi^2 = 4.231, p>0.05)\).

The number of cohabiting adults within the respondents’ household was a final lifestyle indicator included in the model. The number of cohabiting adults was estimated by the model to be a non-significant predictor of victimisation in the night-time economy \((\chi^2 = 3.321, p>0.05)\).

![Figure 7.3. Percentage Change in Odds of Victimisation by Lifestyle-Variable Parameters](image)

### 7.2. Testing Victimisation-Model Fit

The construction of the model itself allows the testing of a central theoretical question: do opportunity-level variables (respondent lifestyles/routine activities) significantly and independently explain the likelihood of assault victimisation after controlling for the personal-level variables (respondent socio-demographic characteristics)? This section of analysis explores whether respondents’ lifestyle (routine activity) variables independently, and significantly, improve both the strength and fit of a model containing respondents’ personal characteristics in predicting the risk of assault victimisation.

The base (or control) model is produced after the input of the first block [block 1] containing socio-demographic variables. The variables of interest are then entered into the base model in a second block [block 2] containing the lifestyle/ routine activity variables. The addition of block 2 to the base model \(A\), produces the

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67 The total number of cars the respondent and/or the respondent’s household owned or had regular access to

68 visual representation of every parameter in the Adjusted Odds Ratio \(\text{Exp}(B)\) column in Table 7.4 - expressed as a percentage change in the odds ratios
final fitted Model B – which contains all of the explanatory variables (demographic, structural constraints, and routine activities/ lifestyle). Model A thus acts as a control model against which the strength and fit of the final Model B can be quantified.

Table 7.5. Improvement to Model-Fit in 2011/12

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistical Tests</th>
<th>Model Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic/ Constraints</td>
<td>Chi-Square ($\chi^2$) df=14</td>
<td>547.150**</td>
</tr>
<tr>
<td>Routine Activity/ Lifestyle</td>
<td>Chi-Square ($\chi^2$) df=14</td>
<td>138.319**</td>
</tr>
<tr>
<td>Model A (Block One)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of Association</td>
<td>-2 Log Likelihood</td>
<td>2565.373</td>
</tr>
<tr>
<td>Goodness-of-Fit Measures</td>
<td>Nagelkerke R Square</td>
<td>.181</td>
</tr>
<tr>
<td></td>
<td>Model Chi- Square ($\chi^2$) (df=14)</td>
<td>547.150**</td>
</tr>
<tr>
<td></td>
<td>Hosmer and Lemeshow Test</td>
<td>5.333</td>
</tr>
<tr>
<td></td>
<td>Test Significance</td>
<td>.721</td>
</tr>
<tr>
<td>Model B (Block One and Two)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of Association</td>
<td>-2 Log Likelihood</td>
<td>2427.054</td>
</tr>
<tr>
<td>Goodness-of-Fit Measures</td>
<td>Nagelkerke R Square</td>
<td>.226</td>
</tr>
<tr>
<td></td>
<td>Model Chi- Square ($\chi^2$) (df=28)</td>
<td>685.469**</td>
</tr>
<tr>
<td></td>
<td>Hosmer and Lemeshow Test</td>
<td>4.680</td>
</tr>
<tr>
<td></td>
<td>Test Significance</td>
<td>.791</td>
</tr>
<tr>
<td>Change in Model (Pseudo $R^2$) A to B</td>
<td>.045</td>
<td></td>
</tr>
<tr>
<td>Change in Model ($\chi^2$) A to B</td>
<td>138.319</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05 **p < .01

When examining strength of association, Table 7.5 demonstrates that in the 2011/12 sweep of the CSEW, the percentage of assault's variance successfully explained by Model A is 18.1% ($Nagelkerke's R^2$=0.181), which is then increased to 22.6% ($Nagelkerke's R^2$=0.226) by Model B (the addition of routine activity/ lifestyle variables).

The Hosmer and Lemeshow test ($\chi^2$ distribution) provides an indication of the final fitted model B’s goodness-of-fit. Model B has a Hosmer and Lemeshow test statistic ($\chi^2$) of 4.680, with a significance value of 0.791 (p>0.05), which confirms that Model B appropriately fits the data – in turn supporting the validity of the model strength of association results.

The model chi-square ($\chi^2$) “represents the reduction (i.e. improvement in fit) in -2 log likelihood (-2LL) when the “predictor variables are added to a model containing the intercept only” (Sampson & Lauritsen, 1990, p. 137). The change in this measure of goodness-of-fit between the control model A and the final fitted model B, signifies the improvement in fit between models – providing an indication of the predictive power of the major theoretical variables of interest when controlled for socio-demographic characteristics.

The model chi-squares ($\chi^2$) are relative to degrees of freedom (weighted by the number of explanatory variable parameters (predictors) added to each model block). Model B's chi-square ($\chi^2$ =685.469, df =28) is significant
(p<0.01) and is therefore significantly improved from an automated SPSS model using the intercept (block 0). Moreover, the final model’s (Model B) chi-square ($\chi^2$) has increased by 138.139 from Model A ($\chi^2=547.140$) through the addition of Block 2. Block-level chi-square results ($\chi^2$) reveal the change to the model when that particular block of variables were entered (Devine et al., 2009). Block-level statistics in Table 7.5 confirm that Block 2 (Routine Activity/Lifestyle variables) made a significant, independent, improvement to the model ($\chi^2=138.139, p<0.01$).

The conclusion can be drawn that both personal (socio-demographic) attributes, and lifestyle, have a significant impact on the risk of victimisation. The variables of interest (lifestyle/routine activities) have significant predictive power when controlled for socio-demographic characteristics. This finding supports the main principle of lifestyle/routine activity theory – “that an active lifestyle appears to influence victimisation risk by increasing exposure to potential offenders in a context where guardianship is low” (Sampson, 1987, p. 331) – and supports its application to violent victimisation in the night-time economy. Similarly however, respondents’ socio-demographic variables also appear to have a significant influence on victimisation-risk when controlled for respondents’ routine activities. This indicates that the socio-demographic characteristics of presented targets in some way influences their target suitability (or vulnerability) to motivated offenders of the night-time economy. Identifying the strengths of certain socio-demographic variables helps to indicate where the opportunities for violence pool amongst suitable targets, but has limited implications for policy and crime reduction practice. For example, “one cannot make oneself younger or stronger” (Farrell et al., 2005, p. 8). Similarly, those with lower socioeconomic status have little choice in where and how they live, and with whom they come into contact (Hindelang et al., 1978). Whilst knowing the personal characteristics of victims is useful, a more salient measure for the prevention of violent victimisation is the knowledge of those specific lifestyle activities that serve to increase exposure to risk. From a crime prevention perspective, this information can be used to educate people about the actions and places that are more dangerous for them and why, so that they may make informed decisions regarding their routine activities (Tewksbury & Mustaine, 2010). Additionally, supplementary measures of capable guardianship can be placed at those high risk locations where the routine of activities of suitable targets, and motivated offender, interact.

7.3. Opportunity-Level Predictors of Assault Victimisation in the Crime Drop
The model was then replicated exactly across every available sweep of the CSEW spanning 1997 – 2011/12 (Appendix M) in order to discern whether the observed exposure-victimisation nexus – where increased participation in the night-time economy significantly and independently increases odds of violent victimisation (even when controlled for respondent socio-demographic characteristics) - persists over time.
Figure 7.4. Percentage Change in the Odds of Victimisation (Respondent Pub/Bar Visitation), 1997 – 2011/12 (X Axis = Base Line)

Figure 7.5. Percentage Change in the Odds of Victimisation (Respondent Club Visitation), 1997 – 2011/12 (X Axis = Base Line)
Figure 7.4 illustrates that a dose-response relationship between pub/bar visitation is a pervasive trend throughout the survey (1981 – 2011/12). Figure 7.5 shows that the dose-response relationship between nightclub visitation and victimisation exists but is less pronounced and less stable. Pub/bar visitation remains one of the strongest predictors of victimisation in the night-time economy; provoking even higher percentage changes in the odds of victimisation than of nightclub visitation.

When looking to the improvement of model fit, a consistent pattern of routine activity/ lifestyle variables serving to increase the final model’s (model B) strength of association emerged in the sweeps between 1997 and 2011/12. In every available sweep of the CSEW, a significant (p<0.05) increase in Nagelkerke’s R-Square (percentage of variance in the dependent variable (victimisation) explained by variance in the independent variables) is produced through the addition of the lifestyle/routine activity variables (Appendix N).

A pattern of routine activity/ lifestyle variables improving the final model’s (model B) goodness-of-fit also emerges in the sweeps between 1997 and 2011/12. In all available sweeps of the CSEW, a significant increase to the final model’s (Model B) chi-square ($\chi^2$) is produced through the addition of the lifestyle/routine Activity variables. The increase in model chi-square ($\chi^2$) represents a reduction in the final fitted model’s -2 log likelihood and signifies a decrease in the deviance: which translates as an improvement in how the final model fits the data (Appendix N). The Hosmer and Lemeshow test ($\chi^2$ distribution) provides an additional indication of model goodness-of-fit. A significance value ($p$) greater than 0.05, experienced across all of the final fitted B models 1997 – 2011/12, signifies the rejection of the null hypothesis that the data does not fit the model. This in turn indicates that the final model B successfully fits the data and goodness-of-fit is at a significant level (Appendix N).

The pervasive predictive powers of pub/bar and nightclub visitation (Figure 7.4 and Figure 7.5), as well as the consistent improvement to model-fit, indicate that night-time economy participation remains the strongest independent predictor of victimisation over the course of the survey after respondent age. The next logical step in understanding the drop in assault is to investigate whether a behavioural shift in the aggregate patterns of participation in the night-time economy, or a shift in the make-up (composition) of night-time participants, can explain a reduction in the overall stock of opportunities for assaultive violence.

### 7.3.1. Population Lifestyle

Whilst near impossible to capture accurately, “violence at night time should consider the number of persons present in the night-time economy” (Newton & Felson, 2015, p. 4). Newton and Felson (2015, p. 5) continue that “the denominators of crime (crime rates) are an essential component to aid or our examination of crime risk”. All respondents of the CSEW were asked to report their participation in the night-time economy (in the month prior to interview). The following section of analysis examines the aggregate activities of all respondents...

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69 In the initial non-victim form
across every available sweep of the CSEW, to gauge trends in population engagement with the drinking venues of the night-time economy over time.

Figure 7.6. Frequency of Reported Pub/Bar Visitation in Previous Month (all CSEW respondents), 1997 - 2011/12

Figure 7.6 demonstrates that over the course of the crime drop, there has been a significant 1.8% increase in the proportion of the population who reported never engaging in any night-time activity in the month prior to interview (going to a pub/bar 0 times) (trend significance testing is presented in Appendix O). A decline in suitable targets from the night-time environment may, in accordance with Cohen and Felson’s (1979) chemical equation for crime, translate to a reduction in opportunities for violence – as the possibility of convergence in space and time with a motivated offender (in the night-time economy) has been effectively removed. There has been a simultaneous significant 2% decrease in the proportion of the population engaging in the night-time economy (pubs or bars) 9 or more times in the month prior to interview (Appendix O). This may have also served to reduce the number of available targets in the night-time environment and in turn, the opportunities for violence. A lower volume of patrons may also reduce opportunities for violence through a mechanism of reducing patron-density within night-time venues (drinking establishments, food venues and public transport). High patron-density can facilitate an increase in physical opportunities for violence by increasing convergence of potential offender and target, as well as an increase in psychological opportunities for violence by increasing the frustration and stress associated with overcrowding (Shearing & Stenning, 1987) and competition for services (Marsh & Kibby, 1992; Roberts & Eldridge, 2007; Scott & Dedel, 2006).
Whilst population engagement in the night-time economy is unable to be tested within the survey prior to 1997, the downward trend in engagement with both the pubs/bars (Figure 7.6) and nightclubs (Figure 7.7) of the night-time economy is seen to emerge in 1999 – the year in which the decline in physical assault incidence became a statistically significant trend (as identified by Adjusted Wald confidence interval testing (Appendix E)).

Trends in clubbing practice are more problematic as those frequenting nightclubs four or more times a month are comparatively rare. However, Figure 7.7 demonstrates that over the course of the crime drop, there has been a significant 2.9% increase in the proportion of the population who reported never engaging in any nightclub activity in the month prior to interview (going to a nightclub 0 times) (trend significance testing is presented in Appendix P). A simultaneous 2.2% decrease in the proportion of the population frequenting nightclubs 1-3 times in the month prior to interview has also occurred.

Confidence interval testing reveals that shifts in the general population’s routine activities observed in Figure 7.6 and 7.7 - which indicate a net reduction in night-life participation over the course of the drop - are significant at the 95% level (Appendix O and P, respectively). A significant increase in respondents reportedly visiting pubs/bars 4-8 times in the last month was identified between 2004/5 and 2005/6; with significant decline resuming post 2007/8. Figures 7.6 and 7.7 both indicate a significant decrease between 1997 and 2011/12 in the proportion of respondents engaging in the night-time economy once or more (1 - 9+) in the previous month, and a significant increase between 1997 and 2011/12 in the proportion of respondents reportedly never...
engaging in the night-time economy in the previous month; indicating a significant reduction in the total volume of patrons in the night-time economy.

Tilley et al. (2015, p. 60) argue that fluctuation in the stock of opportunities for crime is governed by three principles: (1) intended effects of improvements to security and environmental design; (2) unintended effects of security in driving down opportunities for other crime types, and/or (3) ‘unintended effects of routine activities - (including changing lifestyles and technological progress)’. A potential driver in the overall stock of opportunities for night-time violence is therefore rooted in population lifestyles and routine activities. Aebi and Linde (2010; 2014) argue there to be two distinct turning points in western lifestyles: occurring first in the 1960s and again in the 1990s. The 1960s lifestyle change saw an increase, for both males and females, in the time spent in public places, especially at night (Aebi & Linde, 2014). The post Second World War rise in crime has been repeatedly linked to this change in routine activities, and the subsequent increase in the number of suitable targets and reduced levels of capable guardianship (Cohen & Felson, 1979; Ross, 2013). Aebi and Linde (2014, p. 569) then identify another major lifestyle shift in the 1990s relating “to the reunification of the European continent as well as the development of computer technologies and the Internet”. This shift equally altered the western lifestyle, by increasing the amount of time spent at home - especially salient for young people who could afford a household internet connection (Aebi & Linde, 2010; 2014).

The next step is therefore to disaggregate trends in population lifestyle by certain characteristics to explore whether a driving factor in the drop of night-time economy violence could be a significant shift in the composition of night-time economy patronage. The modelling stages of analysis indicate that routine activities can be informed by a number of important socio-demographic factors. Observing possible shifts in the make-up of night-time economy participants – achieved by disaggregating routine activities by age group and gender - may contribute to an understanding of the changing composition of night-time economy patronage over the course of the crime drop. Figure 7.8 presents the indexed trends of respondents reporting zero visitations to pubs/bars, segregated by age group. The indexed trends allow comparable analysis of shifts in trajectory between age categories over the course of the drop.

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70 Independent trend lines are set to the same starting point of 100
The proportion of 16-24 year old respondents reporting zero night-life engagement (pub/bar 0 times in previous month) has increased (by 33%) over the course of the drop. The proportion of 25-44 year old respondents reporting zero night-life engagement (Pub/Bar 0 times in previous month) has increased (by 19%) over the course of the drop. Conversely, the proportion of 45-64 year old respondents reporting zero night-life engagement (pub/bar 0 times in previous month) has decreased by 6% over the course of the drop: dropping by a greater 16% for the over 65s. A changing composition of the night-time landscape in terms of patronage emerges. With a decrease in the involvement of younger patrons (16-24s and the 24-44s) and simultaneous increase in the involvement of older patrons (45 – 64s and the over 65s), a shift in the composition of the nightscape becomes evident.

A decline in younger cohort activity and increase in diversity of age, against a decline in violence, is supported by existing literature observing violent crime to cluster amongst populations comprising of large numbers of young people (Browning et al., 2004; Hannon 2005; Hipp 2007). The continued decline in youth night-life participation support the initiatives of the Licensing Act (2003) designed to target underage patronage: including more stringent ID checks (Challenge 21, Challenge 25), ID scanning, and improved door supervision and training (Babb, 2007) as well as the findings of Aebi and Linde (2014) that the proliferation of the internet in the 1990s prompted an increase in younger cohorts spending less time away from the home.

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71 Detailed calculation is presented in Appendix Q
The proportion of male respondents reporting zero night-life engagement (pub/bar 0 times in previous month) has increased (by 18%) over the course of the drop. The proportion of female respondents reporting zero night-life engagement (Pub/Bar 0 times in previous month) has instead increased by only 2% over the course of the drop. Again, a changing composition of the patronage landscape emerges. With a dramatic decrease in the involvement of male patrons, coupled with the comparatively stable participation of females over the course of the crime drop, a shift in the gender ratio of night-time participation arises. A similar pattern is also identified amongst nightclub visitation trends (Appendix R).

Chatterton and Hollands (2001, p. 162) describe that the nightlife experience has drastically altered through the “transformation of the traditional pub into trendy style café bars and hybrid pub/clubs”. The traditional image of town centres as being “dominated by drunk youths at night” (Robert & Eldridge, 2007, p. 253) encouraged a culture of fear surrounding night-time venues – which translated to patterns of avoidance amongst older members of the population (Tiesdell & Slater, 2006). Scraton and Watson (1998) similarly found a pattern of avoidance amongst younger women ‘staying away from bright lights of the city’. As Chatterton and Hollands (2003) discovered, a major transition of the 1990’s involved the gentrification of the night-time economy, and a progressing equalisation of the gender-ratio within venues. As part of a strategy of urban regeneration (Harvey, 1989), significant parts of mainstream nightlife were gentrified across UK cities; improving the appearance of night-time venues, increasing both informal and privatised forms of policing style, and triggering

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72Detailed calculation is presented in Appendix Q
a general sanitisation of activity through increased surveillance (Christopherson, 1994; Hollands, 2002). Hollands (2002) argues these changes to have attracted a more diverse patronage: both in terms of patron gender and age group. Figures 7.8 and 7.9 indicate that over the course of the drop, the night-scape has indeed become a more inclusive space. Felson and Clarke, (1998: 10) observe that changing the composition of bystanders (patrons) – namely an increase in ‘middle-aged persons and females’ – can directly lead to less aggressive responses in interactions between young males.

Whilst a lack of knowledge regarding levels of night-time economy participation prior to 1997 (in the CSEW) precludes the analysis of routine activities during the increase of violence and crucially, at the point at which the steep incline reversed, the potential mechanism through which inclusive participation could explain the sustained decline of crime is through a reduction in the concentration of both the physical, and psychological, opportunities for violence amongst the most at-risk group - young males.

Multivariate modelling of victimisation risk reveals several personal risk-factors of assault in the night-time economy. Being single (either single never married or single previously married), male, younger, unemployed or economically inactive, and finally, socially or privately renting, all remain significantly associated with an increased risk of victimisation not mediated by routine activities (lifestyle). These findings illustrate how opportunities for violent victimisation in the night-time economy pool in certain high-risk socio-demographic characteristics.

Respondents’ routine activities (principally, level of engagement with the night-time economy) are however, seen to be the strongest predictor of victimisation risk in the night-time economy after respondent age, with the lifestyle risk-factors including an increased frequency of pub/bar or club visitation, and an increased amount of time spent away from the home. These findings are consistent with the lifestyles/routine activity theory that an increased exposure to high-risk situations will translate to increased risk of suitable target and motivated offender convergence.

The next stage of analysis involves a closer examination of the environment in which an incident occurs and whether the severity of violent victimisation can be similarly linked to victim behaviour (for example, victim engagement in risky behaviours such as excessive alcohol consumption, offender precipitation, and reduced levels of personal guardianship) - as well as considering the impact of who is involved in the violent event and where the event occurs in space and time.

7.4. Modelling Assault-Severity in the 2006/7 -2011/12 Aggregate Sweep
As interpersonal violence emerges as a public health issue, the focus on limiting the harm outcome of violence, in addition to the prevention of incidents themselves, is growing (Brennan et al., 2010). Adopting victim-injury as an indicator of ‘harm outcome’, this research identifies factors influencing the likelihood of experiencing wounding, as opposed to minor (or no) injury during assaultive violence. The current analysis presents significant predictors of incurring serious injury once assaultive violence occurs and examines whether
personal-level characteristics of assault (socio-demographic characteristics of the victim and the relationship between victim and offender) or opportunity-level characteristics (spatio-temporal/ situational dimensions of assault) can successfully explain the harm outcome of night-time economy violence.

Addressing interpersonal violence as opportunity-driven is challenged by traditional criminological interpretations of violence as ‘irrational’ and impervious to environmental cues (Felson & Clarke, 1998). Increasingly however, research has emerged to suggest that elements in both the immediate physical and social environment can dictate opportunities for the occurrence, and resulting severity, of crime (Brennan et al., 2010; Chermack & Giancola, 1997). Felson (2015) argues that ‘opportunity’ plays a direct role in moving an interaction from a verbal dispute to one involving physical contact. Marcus and Reio (2002) go on to suggest that the context of aggression influences the escalation of disputes - and the subsequent severity of interactions. The present analysis examines whether opportunities for violence escalation may be influenced - and ultimately interrupted - by cues in the immediate surroundings.

Multivariate modelling facilitates the examination of environmental characteristics of night-time venues - and social behaviors that patrons engage in whilst in this setting – and how far these factors are associated with night-time aggression independent of the personal characteristics of the actors involved. A model to capture a more recent picture of physical assault severity in the night-time economy was conducted using a dataset aggregating six sweeps of the CSEW (2006/07 – 2011/12) to yield a large enough sample of completed assaults (n=1734) for statistical modelling. Each of the available personal-level and situational-level explanatory variables - including measures of the situational characteristics, spatio-temporal dimensions, victim-offender interaction, and victim socio-demography - are controlled for one another in the final model. The following sections present results from the final severity model (containing, and controlling for, all personal-level and opportunity-level predictors) in the aggregate 2006/7 – 2011/12 CSEW sweep. Detailed results from the base (control) model can be found in Appendix S. This analysis broaches the sixth research question: what are the present day risk-factors of assault severity in the night-time economy? Using improvement to model-fit statistics, analysis then addresses another major theoretical question: do opportunity-level variables (assault’s spatial-temporal dimensions and situational characteristics) significantly and independently explain the likelihood sustaining serious injury once an assault occurs, after controlling for personal-level characteristics of the actors involved?

7.4.1. Personal-Level Predictors of Assault Severity

7.4.1.1. Victim Socio-demographic Predictors

Whilst several respondent demographic characteristics (age, gender, and marital status) emerged as significant predictors of night-time economy assault victimisation (see section 7.1.1), Table 7.6 demonstrates that variables relating to victims’ demographic characteristics are, conversely, not significantly related to the risk of being seriously injured in the course of victimisation when controlled for other explanatory variables available in the model.
Table 7.6. Demographic Predictors of Serious Injury (Wounding) in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (b) (S.E)</th>
<th>Wald</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One:</td>
<td>Age Age</td>
<td>.002</td>
<td>.008</td>
<td>.052</td>
<td>1.002</td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>Gender (Female) Male</td>
<td>.117</td>
<td>.199</td>
<td>.343</td>
<td>1.124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital Status Single (never married)</td>
<td>.227</td>
<td>.203</td>
<td>1.853</td>
<td>1.319</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single (Separated/ Divorced)</td>
<td>.303</td>
<td>.274</td>
<td>1.230</td>
<td>1.354</td>
<td></td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05   **p < .01

The Wald statistic (main effect measure) for variables capturing victims’ age, gender, and marital status, had no statistical significance (p>0.05) - reflecting no significant influence on the outcome of an assault (whether the victim was seriously injured (wounded) or not) when controlled for all variables in the model. These results support the research of Brennan et al. (2010) which identified victim demography as not significantly associated with victims’ need for medical treatment post violent incidents.

**Structural Constraint Predictors**

Victims’ structural constraints were entered into the model in the first block with victim’ demographic variables under the umbrella category of socio-demographic characteristics. Several of a respondent’s structural constraints were found to be significantly related to the risk of assault victimisation (see section 7.1.1) – namely an individual’s employment status and their housing tenure. The same picture was not reflected in the prediction of assault severity, with employment status, housing tenure, and parental status variables not reaching statistical significance in relation to the risk of being seriously injured in the course of a victimisation. Table 7.7 presents the effects of structural constraint variables when controlled for all other explanatory variables in the model.
Table 7.7. Structural Constraint Predictors of Serious Injury (Wounding) in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (b) (S.E)</th>
<th>Wald</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>(Paid Employment)</td>
<td>Unemployed</td>
<td>.179</td>
<td>.202</td>
<td>2.316</td>
<td>1.196</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student</td>
<td>-.113</td>
<td>.259</td>
<td>.780</td>
<td>.893</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economically Inactive</td>
<td>.310</td>
<td>.246</td>
<td>1.592</td>
<td>1.364</td>
</tr>
<tr>
<td>Tenure</td>
<td>(Owners)</td>
<td>Social Renters</td>
<td>.051</td>
<td>.188</td>
<td>.073</td>
<td>1.052</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private Renters</td>
<td>-.040</td>
<td>.145</td>
<td>.074</td>
<td>.961</td>
</tr>
<tr>
<td>Parental Status</td>
<td>(Parent)</td>
<td>No Children</td>
<td>-.199</td>
<td>.314</td>
<td>.401</td>
<td>.820</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lone Parent</td>
<td>.182</td>
<td>.232</td>
<td>.614</td>
<td>1.199</td>
</tr>
<tr>
<td>Education Level</td>
<td>(No Level 3 Education)</td>
<td>Level 3 Education</td>
<td>-.415</td>
<td>.137</td>
<td>9.115**</td>
<td>.660**</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05  **p < .01

The Wald $\chi^2$ statistic for the following measures of constraint - employment status, housing tenure, and parental status - were not statistically significant (p>0.05) and therefore represent no significant influence on the outcome of an assault when controlled for all other variables in the model. Education level however, a variable which did not demonstrate a significant influence on the risk of being a victim of night-time economy assault in the second stage of analysis (see section 7.1.1), did produce a significant main effect (Wald statistic) (Wald $\chi^2 = 9.115$) when controlled for other variables in the model. This suggests that an individual’s education level is a significant predictor of the outcome of an assault, but not of the initial victimisation. The odds of serious injury for level 3 educated victims (those who have previously acquired, or are currently studying at, national level 3 level) were 0.66 times the odds of those victims who had not reached a level 3 education. Level 3 education (or above) is therefore associated with a significant decrease in the odds of incurring serious injury and emerges a protective factor against injury. Brennan et al. (2010), similarly highlight education as a protective factor against injury in their study of the factors influencing medical treatment of violent injuries. Moreover, education was posited to be the only socio-economic indicator with a significant association with injury risk (Brennan et al., 2010): a finding mirrored by the present analysis. The synergy of findings suggests that education is a pervasive protective factor against injury across different variations of assault and across different periods of time.

7.4.1.2. Victim-Offender Interaction Predictors

Variables which capture victim-offender interaction are also included in the model as a separate model block, and are similarly controlled for all other explanatory variables. They do not align with the socio-demographic
characteristics of victims, but fit under an umbrella of ‘personal characteristics’; held apart from those situational and environmental characteristics of an offence.

Table 7.8. Victim-Offender Predictors of Serious Injury (Wounding) in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable (Reference Group)</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (S.E)</th>
<th>Wald</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One: Victim-Offender Interaction</td>
<td>Relationship (Acquaintance)</td>
<td>Stranger Assault</td>
<td>-.041</td>
<td>.135</td>
<td>.093</td>
<td>.960</td>
</tr>
<tr>
<td></td>
<td>Offender Sex (Female Offender(s))</td>
<td>Male Offender(s)</td>
<td>.200</td>
<td>.234</td>
<td>.732</td>
<td>1.221</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mixed Gender Offender(s)</td>
<td>.550</td>
<td>.208</td>
<td>.409</td>
<td>1.232</td>
</tr>
<tr>
<td>Block Two: Victim-Offender Interaction</td>
<td>Victim Use of Force (No force used)</td>
<td>Victim Precipitation</td>
<td>-.951</td>
<td>.488</td>
<td>3.803</td>
<td>.386~</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Victim Retaliation</td>
<td>-.280</td>
<td>.128</td>
<td>4.762</td>
<td>.756*</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05   **p < .01 ~ p < .05 (borderline non-significance)

The victim-offender relationship variable did not reach statistical significance in relation to the risk of being seriously injured in the course of a victimisation. The Wald statistic (Wald $\chi^2 = 0.093$) was not statistically significant ($p>0.05$). Therefore, whether an assault is perpetrated by a stranger, or an acquaintance in the night-time economy appears to have no significant association with the severity of assault when controlled for other explanatory factors.

The sex of offender(s) included male offender(s), female offender(s), and groups of mixed-gender offenders. This variable is importantly controlled for the number of offenders involved in the assault, along with all other variables in the model. The offender gender or gender composition, did not emerge as a significant predictor of resultant assault severity. The corresponding offender sex variable did not reach statistical significance in relation to the risk of being seriously injured in the course of a victimisation. The Wald statistic (Wald $\chi^2 = 0.766$) was not statistically significant ($p>0.05$) and therefore represents no significant independent influence on the outcome of an assault despite a wealth of research examining the influence of gender on levels of aggression (Agnew, 1990; Bettencourt & Miller, 1996; Fitzpatrick, 1999; Kennedy & Forde, 1996; Marcus & Reio, 2002).

An interaction between victim and offender that proved to be a significant predictor of assault severity was the way in which the victim themselves used force. The force typology included victim precipitation (using force before offenders’ use of force), victim retaliation (using force after offenders’ use of force), or no force, whereby the victim harness no force during the course of the incident. Force-type produced a significant main effect (Wald statistic) (Wald $\chi^2 = 7.584$) when controlled for other variables in the model, suggesting that the force typology is a significant predictor of the outcome of an assault. Victims using force in either precipitation, or
retaliation, were at a significantly lower risk of injury than those who used no force at all during the interaction. The odds of incurring injury for those victims using force in retaliation were 0.756 times the odds of victims using no force at all, whilst the odds of injury for those victims using force first were even lower; with odds of victimisation at 0.368 times the odds of victims who had used no force.

7.4.2. Opportunity-Level Predictors of Assault Severity

7.4.2.1. Situational Predictors

The variables capturing the situational context of the offence, and their influence on the severity of offence are presented in Table 7.9, and are controlled for the personal characteristics of assault, as well as all other explanatory variables in the model.

Table 7.9. Situational Predictors of Serious Injury (Wounding) in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (b) Standard Error</th>
<th>Wald</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Three: Situational Characteristics</td>
<td>Number of Offenders (Single Offender)</td>
<td>Two Offenders</td>
<td>.526</td>
<td>.199</td>
<td>6.978</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Three Plus Offenders</td>
<td>.401</td>
<td>.150</td>
<td>7.119</td>
</tr>
<tr>
<td></td>
<td>Offender(s) Influence: Alcohol (No Alcohol Influence)</td>
<td>Under Influence Alcohol</td>
<td>-.779</td>
<td>.224</td>
<td>12.067</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cannot Say</td>
<td>-.275</td>
<td>.375</td>
<td>.538</td>
</tr>
<tr>
<td></td>
<td>Offender(s) Influence: Drugs (No Drugs Influence)</td>
<td>Under Influence Drugs</td>
<td>.817</td>
<td>.175</td>
<td>21.748</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cannot Say</td>
<td>.191</td>
<td>.145</td>
<td>1.737</td>
</tr>
<tr>
<td></td>
<td>Weapon Offender(s) no Weapon</td>
<td>Offender(s) had a Weapon</td>
<td>.895</td>
<td>.198</td>
<td>20.453**</td>
</tr>
<tr>
<td></td>
<td>Victim Guardianship (Victim Alone)</td>
<td>Victim with One Person</td>
<td>-.014</td>
<td>.190</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Victim with Two+ People</td>
<td>-.446</td>
<td>.185</td>
<td>5.762</td>
</tr>
<tr>
<td></td>
<td>Bystander Awareness (Bystanders Aware)</td>
<td>Bystanders Not Aware</td>
<td>-.071</td>
<td>.136</td>
<td>.271</td>
</tr>
<tr>
<td></td>
<td>Victim Alcohol (consumed no alcohol)</td>
<td>Victim Consumed Alcohol prior to victimisation</td>
<td>.602</td>
<td>.166</td>
<td>13.093**</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05 **p < .01

73 This parameter achieved borderline non-significance (0.051) and so its findings are discussed
The number of offenders involved in an assault emerged as a significant predictor of resultant assault severity. The main effect measure (Wald $\chi^2 = 11.039$) was statistically significant in relation to the risk of being seriously injured in the course of a victimisation (when controlled for all other variables in the model). The odds of a victim incurring injury when assaulted by two offenders were 1.692 times the odds of a victim assaulted by a single offender. The odds of injury for a victim assaulted by three plus offenders are 1.494 times the odds of a victim assaulted by a lone offender. Whilst the risk of injury is seen to consistently increase where the assault involves more than one offender, the assumption of a linear relationship between the number of offenders and risk of injury is challenged by the finding that the odds of incurring serious injury when three or more perpetrators are involved is comparatively lower than the risk attributed to an assault involving two perpetrators.

Whilst caution must be exercised in drawing comparisons between parameters due to the odds ratio’s sensitivity to differences in the data (Garson, 2013), similar findings were detected by Brennan et al. (2010). This offender-number paradox is hypothesised to be a product of a larger offender group’s increased visibility to potential guardians- triggering a corresponding increase in offence-intervention (Sivarajasingam & Shepherd, 1999).

The perception of whether the offender was under the influence of alcohol proved a significant predictor of assault severity (Wald $\chi^2 = 13.897$). The odds of incurring injury during an assault where offender(s) are perceived to be intoxicated are significantly lower (0.459 times) than an assault where the offender(s) are perceived as not being under the influence of alcohol. The odds of incurring injury during an assault where the influence of alcohol on the offender is unknown are, however, not significantly different (p>0.05) to the reference category (offender(s) perceived as not under the influence of alcohol).

Whilst there appears to be no significant difference in the outcome of an assault between cases where an offender is not intoxicated and where offender intoxication is unknown, it appears that offender(s) (reportedly) under the influence of alcohol may act as a protective factor against serious injury in victims. This supports existing literature theorising the intoxication of offenders to have a suppressive effect on the injuries sustained by their victims (Allen, Nicholas, Salisbury, Wood & 2003; Shepherd, Sutherland & Newcombe, 2006).

The perception of whether the offender was under the influence of drugs also proved to be a significant predictor of assault severity (Wald $\chi^2 = 21.891$). The odds of incurring injury during an assault where offender(s) are perceived to be the under the influence of drugs are significantly higher (2.263 times) than an assault where the offender(s) are perceived as not being under the influence of drugs. The odds of incurring injury during an assault where the influence of drugs on the offender is unknown are, however, not significantly different (p>0.05) to the base category (offender(s) perceived as not under the influence of drugs). Whilst again there appears no significant difference in the outcome of an assault between cases where an offender is not under the influence of drugs and where offender drug-intake is unknown, offender(s) (reportedly) under the influence of drugs are significantly associated with an increased threat of sustaining serious injury. An
interesting disparity between drugs and alcohol and their influence on assault severity is observed: with alcohol emerging a significant *protective* factor against serious injury to victims, and drugs emerging a significant *risk*-factor of serious injury to victims.

A further disparity exists between offender and victim consumption of alcohol, and the resulting influence of assault severity. A victim’s consumption of alcohol prior to their victimisation proved a significant predictor of resultant injury (Wald $\chi^2 = 13.093$). The odds of incurring injury during an assault where the victim had reportedly consumed alcohol were significantly higher (1.826 times) than the odds of a victim who had reportedly not. Therefore a paradox of alcohol consumption and assault severity emerges between the *risk*-factor of victim consumption, and the *protective*-factor of offender consumption.

Offender weapon-possession emerged a significant predictor of resultant assault severity. The main effect measure (Wald $\chi^2 = 20.453$) was statistically significant in relation to the risk of being seriously injured in the course of a victimisation. The odds of a victim sustaining serious injury in cases where offender(s) *had* a weapon were 2.447 times the odds of victims in cases where offender(s) *did not* have a weapon. The size of the main effect (Wald Chi-Square) statistic and the corresponding odds ratio suggest that, of the explanatory variables available in the model, offender weapon-possession had the greatest impact on assault severity.

Whether or not the victim was accompanied by people they knew at the time of the incident did emerge as a significant predictor of resultant assault severity (Wald $\chi^2 = 10.522$, $p<0.05$). The odds of a victim sustaining serious injuries during an assault where the victim was accompanied by one person they knew, were not significantly different ($p>0.05$) to the odds of injury for a victim who was *alone*. However, the odds of sustaining such injury were significantly lowered (0.640 times) when victims were accompanied by two or more people they knew, when compared to the base category of the victim being alone. These findings suggest that whilst no significant difference in the outcome of assault exists between incidents where the victim was alone or accompanied by one person, personal guardianship does become a protective factor against injury when two or more people the victim knows are present.

Bystander awareness - defined as whether anyone other than those involved in the incident were aware of the assault at the time of its execution – was estimated by the model to be a non-significant predictor of assault severity (Wald $\chi^2 = 0.271$, $p>0.05$). These findings confirm that awareness of others is less influential on the severity of an assault than when a victim is accompanied by people that they knew (see above). This in turn implies that social guardianship is more efficient as a situational tool for the prevention of assault injury when guardians are known to victims.
### 7.4.2.2. Spatio-Temporal Predictors

#### Table 7.10. Spatio-Temporal Predictors of Serious Injury (Wounding) in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Model Block</th>
<th>Variable</th>
<th>Variable Covariates</th>
<th>Co-efficient (b)</th>
<th>Co-efficient (b) (S.E)</th>
<th>Wald</th>
<th>Adjusted Odds Ratios Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Four: Spatio-Temporal Characteristics</td>
<td>Assault Location (Drinking Establishments)</td>
<td>In/around Public Entertainment Venues</td>
<td>-.446</td>
<td>.191</td>
<td>5.487</td>
<td>.640*</td>
</tr>
<tr>
<td></td>
<td>On/ around Public Transport (inc transport facilities)</td>
<td>- .905</td>
<td>.334</td>
<td>7.332</td>
<td>.405**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Location Position (Inside (or on) location)</td>
<td>Outside of Location (car park/ street outside)</td>
<td>.106</td>
<td>.132</td>
<td>.640</td>
<td>1.111</td>
</tr>
<tr>
<td></td>
<td>Time of Assault (Weekday)</td>
<td>Evening (6pm-midnight)</td>
<td>Night (midnight to 6am)</td>
<td>.258</td>
<td>.137</td>
<td>3.536~</td>
</tr>
<tr>
<td></td>
<td>Time of Week</td>
<td>Weekend</td>
<td>.181</td>
<td>.152</td>
<td>1.431</td>
<td>.834</td>
</tr>
</tbody>
</table>

(Asymp sig 2-tailed) *p < .05  **p < .01 ~ p <.06 (borderline non-significance)

The location of an assault in the night-time economy is a significant predictor of its resultant severity. The main effect measure (Wald $\chi^2 = 11.280$) is statistically significant in relation to the risk of being seriously injured in the course of a victimisation (when controlled for all other variables in the model). A pattern of violent incidents occurring away from the drinking establishments and instead occurring in the surrounding businesses and services of the night-time economy (including food establishments and public transportation) as reducing risk of serious injury emerges in the recent picture of assault.

The odds of victim(s) sustaining serious injury in entertainment venue-assaults were 0.640 times the odds of victims involved in drinking establishment-assaults. The odds of sustaining injury were reduced further for public transportation-assaults; with the odds 0.405 times those of assaults occurring in and around bars, pubs, and clubs. The exact position of the assault in the Night-Time Economy location (whether the offence occurred inside private establishments or in the public spaces of the night-time economy (car parks and streets outside of establishments) did not however emerge a significant predictor of assault severity (Wald $\chi^2 = .640$, p>0.05).

The time of assaults occurring in the night-time economy was a borderline significant predictor of assault severity. The main effect measure (Wald $\chi^2 = 3.536$) was of borderline statistical significance ($p<0.06$) in relation to the risk of being seriously injured in the course of a victimisation. The odds of victim injury during an assault occurring at night time (between 12am and 6am) were 1.295 times the odds of victim injury during an evening-time assault (between 6pm and 12am).
The day of the week on which an assault occurred, segregated into assaults during the week (Monday 6am – Friday 6pm) and assaults during the weekend (Friday 6pm – Monday 6am) emerged as a non-significant predictor of the outcome of assault (Wald $\chi^2 = 1.431$, $p>0.05$).

7.5. Testing Severity-Model Fit
The construction of the model allows the testing of the central theoretical question: do the situational characteristics of an offence independently influence the harm outcome of the offence, when controlled for the personal characteristics of the actors involved. This section of analysis explores whether variables capturing opportunity-level characteristics (situational and spatio-temporal) of an assault can independently, and significantly, improve both the strength and fit of a model containing the personal characteristics (victims’ socio-demographic characteristics and victim-offender interaction) when predicting the harm severity of assault. Severity of assault is operationalised by completed night-time assaults resulting in either a serious injury (wounding), or no/negligible injury.

Model A is produced after the input of the first block [block 1] containing victims’ socio-demographic variables. Block 2, containing victim-offender interaction variables, were added to model A to produce a base (or control) model [model B] containing the personal characteristics. The variables of interest are then entered into the control model in two proceeding blocks: Block 3, containing the variables capturing the situational characteristics of assaults, is added to the control model B to produce a model C. Finally, Block 4, containing the spatio-temporal dimensions of assaults, is added to model C, producing a final fitted Model D - which contains all of the explanatory variables (victim socio-demographic, victim-offender interaction, situational, and spatio-temporal). Model B thus acts as a control model (containing personal characteristics) against which the strength and fit of the final fitted Model D (now containing situation/ spatio-temporal characteristics) can be quantified.
Table 7.11. Improvement to Model-Fit in the 2006/7 - 2011/12 Aggregate Sweep

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistical Tests</th>
<th>Model Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block One</td>
<td>Chi-Square ($\chi^2$) (df=12)</td>
<td>38.134**</td>
</tr>
<tr>
<td>Block Two</td>
<td>Chi-Square ($\chi^2$) (df=5)</td>
<td>12.580*</td>
</tr>
<tr>
<td>Block Three</td>
<td>Chi-Square ($\chi^2$) (df=11)</td>
<td>103.392**</td>
</tr>
<tr>
<td>Block Four</td>
<td>Chi-Square ($\chi^2$) (df=5)</td>
<td>17.106**</td>
</tr>
</tbody>
</table>

Table 7.11. demonstrates that in the most recent clustered CSEW sweep (2006/7-2011/12), the percentage of assault's variance successfully explained by Model B (containing victim socio-demographic and victim-offender characteristics) is 5.1% ($Nagelkerke's R^2=0.051$), which is then increased to 16.4% ($Nagelkerke's R^2=0.164$) by Model D (the addition of situational characteristics and spatio-temporal dimensions).

The Hosmer and Lemeshow (1989) test ($\chi^2$ distribution) provides an indication of the final fitted model D's goodness-of-fit. Model D has a Hosmer and Lemeshow test statistic ($\chi^2$) of 5.910, with a significance value of 0.657.
0.657 (p>0.05), which confirms that Model D appropriately fits the data – in turn supporting the validity of the model strength-of-association results.

The model chi-square ($\chi^2$) “represents the reduction (i.e. improvement in fit) in -2 log likelihood when the “predictor variables are added to a model containing the intercept only” (Sampson & Lauritsen, 1990, p. 137). The change in this measure of goodness-of-fit between the control model B and the final fitted model D, signifies the improvement in fit between models – providing an indication of the predictive power of the major theoretical variables of interest when controlled for the personal characteristics of an offence.

The model chi-squares ($\chi^2$) are relative to degrees of freedom (which reflect the number of predictors entered into each model). Model D’s chi-square ($\chi^2$=171.221, df =33) is significant (p<0.01) and is therefore significantly improved from an automated SPSS model using the intercept (block 0). Moreover, the final model’s (Model D) chi-square ($\chi^2$) has increased by 120.498 from Model B ($\chi^2$=50.723) through the addition of Blocks 3 and 4; with block-level statistics proving Block 3 (situational variables) and Block 4 (Spatio-temporal dimensions) to have both made significant, independent, improvements to the model: Block 3 $\chi^2$= 103.392, p<0.01 and Block 4 $\chi^2$= 17.106, p<0.01, respectively.

The direct comparison of model contribution between individual blocks is possible through examination of the block chi-squares ($\chi^2$) (weighted by the number of predictors entered into the model). When comparing the block-level statistics, both the victims’ socio-demographic characteristics and the situational characteristics of offence, are seen to significantly contribute to the fit of the final model as both block $\chi^2$ coefficients had corresponding significance values lower than .05. Comparing the size of the chi-square distribution indicates that block one (socio-demography) reduced model -2 log likelihood by ($\chi^2$= 38.134, p<0.05). The corresponding chi-square distribution size for block three (situational characteristics) is seen to reduce model -2 log likelihood by ($\chi^2$ = 103.392, p<0.05). Situational Characteristics therefore substantially contribute to the model’s successful prediction of assault severity, and are associated with a larger contribution to the harm outcome than that of personal socio-demographic characteristics of the victim: a reversal of the dynamic observed when predicting assault victimisation (see section 7.2).

The conclusion can be drawn that both personal (socio-demographic, victim-offender), and environmental (situational, spatio-temporal) characteristics, have an independent and significant impact on the severity of victimisation. However, the environmental variables of interest are associated with strong predictive power when controlled for personal characteristics. This suggests cues in the immediate environment to have a significant influence on the severity of night-time assaults.

Appendix T presents results examining the addition of environmental characteristics on model success between the 2001/2 and 2011/12 CSEW sweeps. When looking to the improvement of model fit, a consistent

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74 The reduction -2 log likelihood represents the improvement to model goodness-of-fit
pattern of the context of assault (spatio-temporal dimensions and situational characteristics of the offence) increasing both the strength and fit of the final model emerged. Both available aggregated sweeps of the CSEW produced a significant \((p<0.05)\) increase in Nagelkerke’s R-Square from the base model (B) to the final model (D), as well as a significant \((p<0.05)\) increase in the Model Chi-Square \((\chi^2)\) between model B to D. It can be concluded that uniformly, the environment of assaults significantly improve both the strength, and fit, of models predicting risk of serious injury in the night-time economy. The impact of socio-demographic variables appears limited, and a consistent pattern emerges of the environment of the assault, as opposed to the people involved in assault, having a comparatively greater impact on offence severity (Appendix T).

### 7.6. Opportunity-Level Predictors of Assault Severity in the Crime Drop

The model was then replicated across the clustered CSEW dataset capturing the years of steep crime decline (2001 – 2005/06) (Appendix S) to observe any changes during the drop.\(^{75}\)

![Figure 7.10. Percentage Change in the Odds of Incurring Serious Injury in 2001/02 – 2005/06 CSEW Dataset (X Axis = Base Line)](image)

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\(^{75}\) Multivariate inferential-level analysis was not able to be conducted on clustered CSEW cycles capturing assaults increase (1981 – 1993) and assaults peak (1995-1999) prior to 2001/2 due to insufficient sample size and absence of key theoretical variables.
Both clustered sweeps found the presence of weapons to be the strongest risk-factor of injury-risk; with odds of injury increasing by 223% in the 2001/2-2005/6 sweep and 245% in the 2006/7-2011/12 compared to the odds of assaults involving no weapons.

The protective factor of (perceived) offender intoxication was found by both the 2001/2–2005/6 and 2001/12 sweeps; decreasing odds of injury by 45% and 54% respectively compared to assaults where the offender(s) were perceived as not under the influence of alcohol. The risk-factor of (perceived) offender drug-intake was only found in the 2006/7-2011/12 sweep. The paradox of an increased injury-risk associated with victim consumption of alcohol, was also identified across both aggregated sweeps. Victim consumption is seen to increase the odds by 93% in 2001/2 – 2005/6 and 83% in 2006/7 – 2011/12 compared to victims who had not consumed alcohol immediately prior to victimisation.

A difference between the two clusters is the significant protective value of victim guardianship (accompanied by two or more people they knew) discovered in the 2006/7 – 2011/12 sweep, but absent from the earlier cluster. The risk-factor of injury for victims assaulted by three or more offenders, compared to those assaulted by a single offender, was a consistent finding between the two survey clusters. However, the heightened risk of injury for victims assaulted by two, as opposed to one, offender, was only present in the 2006/7-2011/12 survey.

Where the 2006/7-2011/12 sweep found significant difference in injury risk between the broad locations of the night-time economy, the 2001/2 – 2005/6 sweep found a significant difference in injury instead by the positioning of assault: with the odds of victims assaulted outside venues experiencing a 48% increase compared to those assaulted inside night-time economy locations.
Respondents’ routine activities – principally, their levels of participation in the night-time environment - are revealed to be strong predictors of violent victimisation. Whilst this finding lends to a situational understanding of interpersonal violence, in the same way that one “cannot make [themselves] younger or stronger” (Farrell et al., 2005, p. 8), proscribing respondents’ lifestyles, including encouraging a reduction in night-time economy engagement, has limited implications for tertiary (immediate) crime prevention, or policy and crime reduction practices. The present findings do however indicate that in conjunction with a growing public health incentive to limit harm from violence (Brennan et al., 2010; Mair and Mair, 2003) attention can be focused on the propensity of the immediate environment to limit the harm associated with assaults of the night-time economy. Whilst victim characteristics remain strong predictors of assault victimisation, they are weaker when predicting the severity of the offence. Where socio-demographic characteristics of victims, and victims’ relationships to the offender, have minor influences on the risk of sustaining serious injury (namely the victim’s education level and their use of retaliatory force), the characteristics of the environment, both in the situational context and the spatio-temporal dimensions, more successfully predict the escalation of assaults, and whether serious injury will be sustained.

These findings suggest that the harm outcome of assaults can be reduced by targeting factors external to the offender’s motivation(s) and intention to injure. Specifically, results suggest that future preventative techniques should be concentrated in the hours between 12am and 6am and in the areas immediately outside of night-time economy establishments, with a particular focus on drinking venues within the myriad of businesses and services operating in the night-time economy. Such techniques should target the control of weapons (specifically continuing improvements in glassware design) and the control of drugs (which serve to increase risk of victim injury when consumed by offenders). Techniques should also continue to focus on the control of alcohol (which serves to increase risk of victim injury when consumed by victims) – as well as including the related risk of violent victimisation and injury in public health campaigns presenting the dangers of excessive alcohol consumption.
Examining interpersonal violence as opportunity-driven is challenged by traditional criminological interpretations of violence. The present research set out to explore the opportunistic nature of interpersonal stranger and acquaintance violence in the night-time economy by (1) identifying the opportunity structure of such incidents: how the personal and situational-level characteristics interact to predict the occurrence, and escalation, of assaults in this context and (2) evidencing the importance of a situational/opportunity understanding of violence without financial or sexual motive. The present research examines the stock and distribution of opportunities over time to determine whether the rate of night-time economy violence experienced a dramatic decline akin to the crime drop phenomenon experienced across other crime types in England and Wales, and more widely across other westernised countries.

8.1. Key Findings
The main findings were summarised within the respective empirical chapters: offence characteristics of night-time economy assault, victim characteristics of night-time economy assault, and modelling assault victimisation and severity. This section synthesises findings that address the study’s two overarching research aims, with key observations and recommendations emphasised in bold.

8.1.1. The Opportunity Structure of Night-Time Economy Violence
The opportunistic nature and make-up of violence in the night-time economy, and whether an opportunity framework can be empirically applied to such incidents, was examined by the present research. How confidently we can attribute opportunity-level factors to the risk of assault victimisation and assault escalation were tested: first by testing whether lifestyle/routine activities significantly and independently influenced victimisation risk; second, by testing whether the situational and spatio-temporal characteristics of assaults were significantly linked to the harm outcome of the incident. Opportunity-level variables are hypothesised to interact with personal-level characteristics to predict risk of assault in the night-time economy (Hindelang et al., 1978). The present research isolated the role of opportunity in the occurrence and severity of night-time assault from the role of the personal socio-demographic characteristics of the actors involved in assault (elements that we cannot control). The main findings are as follows:

a) Personal characteristics predict assault victimisation, but not the severity of assault victimisation, in the night-time economy.

After controlling for opportunity-level variables, several personal (socio-demographic) characteristics remained strong, independent predictors of victimisation in the night-time economy. Holding all else equal, age, gender, marital status, employment status and housing tenure emerged as independent predictors of victimisation risk. In relation to the harm outcome once an assault does occur, the majority of the personal characteristics of the
actors involved in an assault are not significantly linked to the risk of incurring serious injury (wounding) during an offence (with the exception of victim education level, and victim precipitation), and as such, personal characteristics are less able to predict the severity of an assault.

Figure 8.1 collates the significant predictors from personal-level, and opportunity-level characteristics, so as to provide a single snapshot of the significant, present risk factors of violent victimisation identified within the CSEW, and to address a central theoretical research question: what are the present day risk-factors of assault victimisation in the night-time economy?

![Figure 8.1. Significant Predictors of Victimisation Risk: Percentage Change in the Odds of Assault Victimisation in the Night-Time Economy in the 2011/12 Sweep (X Axis =Base Line)](image)

The present study finds that prevailing personal-level risk factors of assault victimisation include being male, younger, single (never married or previously married), not in paid employment, and socially or privately renting. Conversely, being female, older, married or de facto, employed, and owning a home, are seen to be protective factors against assault victimisation (Figure 8.1).

b) There is a dose response relationship between level of engagement in the night-time economy and assault victimisation.

Opportunity-level variables capturing respondent lifestyles/ routine activities consistently emerged as significant, independent predictors of assault victimisation in the night-time economy across analysis of all available CSEW sweeps. Active engagement with pubs/bars and clubs of the night-time economy are amongst

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76 Calculating ORs as percentage change in odds of victimisation are available in Appendix U
the strongest risk-factors of violent victimisation, whilst a less active nightlife emerged as a protective factor against violence. Respondents spending five or more hours away from the home per day were also at a significantly higher risk of victimisation than respondents who spent an hour or less a day away from the home (Figure 8.1). This finding is intuitive, but corroborates existing research (Brennan et al., 2010; Felson et al., 2013; Miethe et al., 1987) in relation to present-day night-time economy assault within England and Wales. It also emphasises the role of victim behaviour and the importance of suitable targets in the chemistry for crime, and contributes to the validity of a victim perspective when examining night-time economy violence.

**c) Situational and spatio-temporal characteristics predict the severity of an assault in the night-time economy.**

The present study finds that on the whole, personal-level characteristics are not linked to the severity of assault. Of the victim and offender-level personal characteristics entered into the model, there remain two characteristics significantly linked to assault severity: victim education level, and victim precipitation. Instead, the context of assault, including several situational and spatio-temporal characteristics, emerged as significant, independent predictors of the harm outcome. Holding all else equal, the number of offenders, offender weapon-possession, (perceived) offender consumption of alcohol or drugs, victim guardianship, victim alcohol consumption emerged as significant situational predictors of victim injury-risk. Similarly, the location, positioning, and timing of assault in the night-time economy, also emerge as significant predictors of assault severity.

Broaching another central theoretical research question - what are the present day risk-factors of assault severity in the night-time economy? - Figure 8.2 collates the significant predictors from personal-level, and opportunity-level characteristics, in order to provide a single snapshot of the significant, risk factors of violence escalation identified within the CSEW.
Figure 8.2. Significant Predictors of Victim-Injury Risk: Percentage Change in the Odds of Incurring Serious Injury (Wounding) during Night-Time Economy Assault in the 2006/7 - 2011/12 Aggregate Sweep (X Axis = Base Line)

The present study finds contextual risk factors of assault escalation to include an increased number of offenders, offender(s) weapon possession, (perceived) offender drug consumption, reduced level of victim-guardianship, incidents occurring around the drinking venues of the night-time economy, and incidents occurring later (between 12am and 6am). Conversely, protective factors against the victim incurring serious injury include single-offenders, offenders without weapons, victims being accompanied by people they know (the greater number of people accompanying the victim translates to greater protection against injury), assaults occurring around public transportation, and those occurring earlier in the evening (between 6pm and 12am) (Figure 8.2). Residual personal-level protective factors against incurring serious injury include where the victim has achieved a higher level of education, and where the victim uses force during the course of the incident (either in precipitation or retaliation)

d) The role of alcohol in interpersonal violence is complex.

Boden et al. (2013) argue that to date there is limited knowledge surrounding the nature of alcohol-related violence. The consumption of alcohol is a controversial parameter in the current research as it is seen to be both a protective factor against victim-injury when (perceived to be) consumed by the offender, and a risk-factor of victim-injury when consumed by the victim. Furthermore, whether victims report having consumed alcohol immediately prior to the incident or not emerges as one of the strongest independent predictors of

77 Calculating ORs as percentage change in odds of serious injury are available in Appendix V
serious injury to the victim. Whilst existing research identifies that victim alcohol intoxication may impact more on the severity of victim injury than the intoxication of the offender (Brennan et al., 2010; Shepherd et al., 2006), the present research builds on the importance of victim alcohol-intake, and finds even greater disparity between the role of alcohol consumption by victim and offender.

e) An opportunity framework can be empirically applied to night-time economy violence.

Opportunity-level variables are found to significantly influence both the risk of assault victimisation and assault escalation. Opportunity theory at the macro level (routine activity theory (Cohen & Felson, 1979)) explains how opportunities for crime come together, and can be successfully applied to the distribution of night-time economy violence in space and time, as well as the distribution of violent victimisation amongst certain members of the population (lifestyle/exposure model (Hindelang et al., 1978)). Opportunity theory at the micro level (both rational choice theory (Cornish and Clarke, 1986b) and situational action theory (Wikström, 2004)) explains whether opportunities for crime are exploited by motivated offenders once an opportunity is presented, and can be successfully applied to offenders’ choice of target (for example the tendency for offender(s) to aggress against inferior forces (offending in groups against a lone victim, offending against victims who do not retaliate), offenders’ choice of weaponry, and the ability of situational factors to predict the concentration and escalation of violent incidents in the night-time economy.

8.1.2. Opportunities for Night-Time Economy Violence over Time

This research sought to illuminate the behaviour of night-time economy assault during the 1990s phenomenon of the crime drop. The detailed examination of the overarching trends and sub-trends of the specific offence ‘night-time economy physical assault’ between 1981 and 2011/12 is an original contribution to existing crime drop literature. Analysis of the distribution of night-time economy violence over the course of the survey is used to identify the main drivers of the downward trend, in an effort to increase our understanding of the potential causes of the drop.

a) Where violence occurs in space and time, who will be targeted, and how severe an offence will be, are predictable.

Opportunities for night-time economy violence are seen to cluster along certain spatio-temporal, situational, and personal, dimensions. These findings evidence the opportunistic nature of assaultive violence and identify areas for targeted allocation of situational prevention measures in future. Supplementary indicators of capable guardianship, through environmental design and formal/informal measures of security, can be placed at those high risk locations where the routine of activities of suitable targets and motivated offenders most frequently interact.

b) Rates of physical assault in the night-time economy halved between 1995 and 2011/12.

This finding confirms that assaultive violence without financial motive, in the high-risk context of the night-time economy, experienced similarly dramatic declines to those observed in other crime types during the crime drop.
phenomenon. Mirroring the trends witnessed across England and Wales, both the incidence and prevalence of violence in the night-time economy context experienced significant decline (see Figure 5.1). The present research also supports that, despite international evidence of a delay in the drop of violence (Tonry, 2014), England and Wales experienced more parallel declines in violent and property crime.

c) The drop in night-time economy assault was driven by a reduction in alcohol-fuelled common assaults between young males, occurring in and around the drinking venues, during weekends.

Certain high-risk dimensions are seen to have driven the drop in assault, and the rate of decline was not uniform across the various offence and victim characteristics. Furthermore, there is temporal variation within night-time economy assault’s decline, with for example violence occurring around public transportation peaking several years prior to the peak in violence occurring around drinking establishments - and with violence around public entertainment venues peaking several years after the peak of drinking-venue violence.

d) The drop in night-time economy assaults involving weapons was driven by a reduction in the use of glassware.

The current research identifies that the use of glassware as weaponry has fallen by over a third (36.3%) between the peak of night-time economy violence and the present day. Previous research has similarly found a reduction in glassware-related violence and credits the decline to the introduction of toughened, ‘tempered’ glass and plastic alternatives to the traditional (annealed) glassware (Warburton & Shepherd, 2000).

e) There is a predominant use of opportunistic weapons at an offender’s immediate disposal during night-time economy violence.

The use of tools at an offenders’ immediate disposal, such as bottles and glasses (as opposed to firearms and knives) (seen in Figure 5.14) are argued to evidence the opportunistic nature of violence (Farrell, 2010). Despite the dramatic declines in glassware use, glassware remains the most prevalent weapon-type, followed by the similarly opportunistic category of ‘hitting implements’. The prevalence of glassware-use alone during assaults in the night-time economy remains three times higher than the prevalence of knife/stabbing implements and twenty-two times the prevalence of firearms (see Figure 5.14); both identifiable tools suggestive of premeditated offending.

f) An aggregate shift in population lifestyle over the course of the survey was found to co-vary with the trend in crime decline.

The present research found that (1) respondents who regularly involve themselves in night-time recreational activities outside of the home were significantly more likely to experience violent victimisation across every available sweep of the CSEW between 1997 and 2011/12, and (2) that a significant reduction in the aggregate level of population engagement in the night-time economy occurred in tandem with the dramatic decline in night-time economy violence. The population’s engagement in nightlife is measured by respondents’ self-
reported frequency of pub/bar and club visitation in the month prior to interview. Ranging from having gone out 0 times in the last month (never having engaged in the pubs/bars/clubs of the night-time economy) to having gone out 12+ times in the last month, the present research finds significant increases in respondents reportedly never having engaged in the drinking venues of the night-time economy (0 times last month) between 1997 and 2011/12, and significant decreases in respondents actively engaging in the drinking venues 1-3 times, 4-8 times, 9-12 times and 12+ times between 1997 and 2011/12.

The aggregate decline in population engagement was then broken down by two important characteristics of night-time economy patron-composition in relation to the impact on violence as outlined by Felson and Clarke (1998): patron gender and age. The present research suggests that whilst the net volume of active patrons in the drinking venues of the night-time economy is in decline, the decline in engagement is falling more acutely for younger, male, cohorts (see Figures 7.8 and 7.9). This suggests a more inclusive night space - in terms of a more equal gender and age distribution of patrons – has emerged over the course of the crime drop.

8.2. Theoretical Implications

This section outlines the contribution of the present research in relation to existing theory: specifically the contribution to a situational interpretation of violence, and an understanding of opportunity theory as a driver of the crime drop phenomenon. Tilley et al. (2015, p. 60) credit the downward trend in crime to three possible mechanisms: (1) intended effects of improvements to security and environmental design; (2) unintended effects of security in driving down opportunities for other crime types, and/or (3) unintended effects of routine activities - (including changing lifestyles and technological progress). The security hypothesis argues that crime is a product of opportunity and that an increase in security diminished the stock of such opportunities (Farrell et al., 2011a). The hypothesis argues that an increase in both the quantity and quality of security measures drove down the stock of criminogenic opportunities by making offences, namely vehicle theft, harder to commit, which in turn reduced opportunities to commit ‘debut’ or ‘entry-level’ vehicle crime: thus preventing the start of offenders’ criminal careers, whilst also preventing the commission of other crime types by reducing access to stolen vehicles and restricting offenders’ mobility (Farrell et al., 2011a). The security hypothesis, and more specifically the effects of intended improvements to security and environmental design, have been rigorously tested in relation to the drops in vehicle crime (Farrell et al., 2011a), burglary (Tseloni et al., 2014), and most recently, robbery (Thompson, 2014). The next logical step is the application of the security hypothesis to retrospective trends in violence, as outlined by Tseloni et al. (2012).

The present research occurred in the context of the security hypothesis, and the opportunity theories on which it is based. Due to limitations of the data available, it proved impossible to rigorously test the security hypothesis in relation to securitisation of the night-time economy venues, public transportation and public spaces - and the subsequent impact on trends in violence. An absence of location (venue)-level data capturing formal and informal security measures, and changes to environmental design, limits the ability to test the absorption of security and situational prevention measures over time. It is therefore not possible to test the ‘intended improvements to the quality and quantity of security’ as a driver of the 1990s crime drop in relation to night-
time economy violence using the victim survey data available. Whilst newer sweeps of the CSEW conducted since 2010/11 capture improved personal guardianship measures, a recommendation of the present research is to introduce a module to the CSEW with measures capturing venue-level (location-level) indicators of capable guardianship, including for example: (1) formal security measures, for example presence/ intervention of security personnel (2) environmental design, for example lighting, seating areas, area size (capacity) (3) other situational precipitators, for example gender-ratio, age composition, ventilation, noise level, overcrowding, physical appearance/condition, and, specific to drinking venues of the night-time economy, type and quality of entertainment. Whilst interviewee fatigue can be managed through the use of a rotational module system, potential difficulties exist around respondent recall. It is therefore also recommended that different data are triangulated to achieve such analysis - for example victim survey, police recorded, points of interest (Ordnance Survey), footfall, and licensing data - in order to study assaults within licensed premises of the night-time economy at venue-level. Similarly, case study research capturing venue-level detail within specific geographic locations could be used to successfully model situational facilitators and precipitators of night-time economy violence.

The present research does however draw on the theoretical framework of the security hypothesis: ‘crime as opportunity’. Tilley et al. (2015, p. 60) propose that another possible mechanism of crime decline includes the unintended effects of routine activities (such as changing lifestyles and technological progress). The current study found respondent lifestyle and routine activity to be the strongest independent predictor of assault victimisation in the night-time economy across each available sweep of the CSEW. An aggregate shift in population lifestyle over the course of the CSEW was found to co-vary with the trend in crime decline: with significant reductions in the population’s engagement in the bars, pubs and clubs of the night-time economy across the available CSEW sweeps between 1997 and 2011/12. Respondents reduced their aggregate level of engagement with the drinking venues of the night-time economy over the period of the crime decline, which served to reduce the net volume of suitable targets and motivated offenders available in the night-time economy environment. The steeper decline in the engagement of young males also serves to disrupt the gender and age distribution of night-time economy patronage. Where a more balanced patron composition in terms of gender and age has been shown to influence crime rates at venue-level (Felson & Clarke, 1998; Homel & Tomsen, 1993; Scott & Dedel, 2006), this thesis takes a tentative look at disaggregating trends in population lifestyle by gender and age over time, and the potential impact on aggregate rates of violence between the most at risk group – young males.

The present study finds that drinking venue patron composition is now more diverse than at the start of the drop, and supports evidence of a move towards a Europeanisation of the night-time economy within England and Wales, and a move towards more inclusive nightscapes (Chatterton & Hollands, 2001; 2002; 2003); arguably stimulated by the Licensing Act 2003 through the proliferation of drinking venues not exclusively directed towards younger drinkers, increased variation in live music, and continental style restaurant/ café-bar concentration within areas of the night-time economy (Tierney, 2006). The findings also support the initiatives
of the Licensing Act (2003) designed to target underage patronage: including more stringent ID checks (Challenge 21, Challenge 25), ID scanning, and improved door supervision and training (Babb, 2007).

These initial findings lend support to a theory of crime decline proposed by Aebi and Linde (2014) which hypothesises a shift in lifestyles and routine activities to be a potential driver in the downward trend in crime across westernised countries. Aebi and Linde (2014, p. 569) identify a major lifestyle shift in the 1990s relating “to the reunification of the European continent as well as the development of computer technologies and the Internet”. This shift is argued to have dramatically altered the western lifestyle, by increasing the amount of time spent at home - especially salient for young people, and for those who could afford a household internet connection (Aebi & Linde, 2010; 2014). A limitation of the present research however is an absence of comparable lifestyle/ routine activity data prior to 1997 during the rise in night-time economy violence. However, population lifestyle is cited as an area for further, more in-depth investigation within England and Wales.

The finding of the present research that lifestyles/routine activities interact with personal (socio-demographic) characteristics to predict the risk of assault victimisation in the night-time economy support Hindelang et al.’s (1978) lifestyle model of personal victimisation (see Figure 3.2). Hindelang et al.’s model proposes that individuals’ personal socio-demographic characteristics will directly inform the lifestyle/ routine activities they engage in - through the ‘role expectations’ or ‘structural constraints’ associated with those characteristics (Hindelang et al., 1978). The finding of a dose-response relationship between respondents’ participation in the night-time economy and their victimisation risk support the lifestyle model’s exposure/victimisation nexus. The exposure/victimisation nexus proposes that lifestyles which increase exposure to risk translate to a heightened risk of personal victimisation. Together, these findings support the successful application of the lifestyle/routine activities model to present day violent victimisation in the context of the night-time economy.

Whilst the present study finds measures of lifestyle/routine activities to be strong independent predictors of victimisation-risk, the study also finds that after controlling for lifestyle/routine activity, several personal socio-demographic characteristics remain independently related to the risk of violent victimisation in the night-time economy. This implies that certain personal attributes are seen to have a direct effect on victimisation-risk not mediated by lifestyle/routine activity. This indicates that Hindelang et al.’s (1978) lifestyle model is not all-encompassing and should adapt to incorporate the independent influence of age, gender, marital status, employment status and housing tenure. Existing research has proposed that residual differences in victimisation risk between socio-demographic groups may manifest through the behaviour of individuals when out (Felson et al., 2013). The present study highlights that residual differences between socio-demographic groups (not mediated by opportunity-level characteristics) are an important area for future research.

The present research finds that the context of violence, namely the situation and spatio-temporal characteristics of an incident, directly influences the severity of violent incidents: whilst personal...
characteristics of the actors involved in assault are seen to have no independent effect on the escalation of violence. This finding supports a situational understanding of night-time economy violence, and a situational approach to the prevention of such incidents in future. It supports existing research which frames violence as a 'situated transaction', whereby the context of the offence and surrounding situational cues influence the escalation from a verbal dispute to a physical attack (Felson, 2015; Luckenbill, 1977; Marcus & Reio, 2002).

8.3. Policy Implications
Identifying the contribution of personal (socio-demographic) characteristics lends to our understanding of violent victimisation in the night-time economy. However, these are elements that cannot be controlled: “one cannot make oneself younger or stronger” (Farrell et al., 2005, p. 8), and those with lower socioeconomic status have little choice in where and how they live, and with whom they come into contact (Hindelang et al., 1978). Isolating the contribution of opportunity in the occurrence and severity of night-time assault identifies areas for tertiary-level situational intervention and prevention.

In terms of assault victimisation, the present research identifies the role of lifestyle/routine activities and frequency of exposure to risk. From a crime prevention perspective, this information may be used to educate people about the actions and places that are more dangerous for them and why, so that they may make informed decisions regarding their routine activities (Tewksbury & Mustaine, 2010). However, these findings provide limited tertiary prevention and policy implications. Practical implications for policy emerge when looking at the significant role of situational and spatio-temporal dimensions in the distribution and escalation of violence. Interventions to reduce the severity of violence contribute to the growing public health incentive to reduce the harm outcome of violence, in addition to reductions in net volume (Brennan et al., 2010; Mair & Mair, 2003).

The present study supports the findings of Brennan et al. (2010) by confirming the limited role sociodemographic factors play in predicting harm from violence, and extends this notion to the structure of stranger and acquaintance assaults in the night-time economy. Instead, opportunity-level variables such as an increased number of offenders, offender(s) weapon possession, (perceived) offender drug consumption, reduced level of victim-guardianship, victim alcohol consumption, incidents occurring around the drinking venues of the night-time, and incidents occurring later (between 12am and 6am), are the significant predictors of serious injury to the victim. Changes to the immediate environment can reduce harm from violence, and as such policy implications include the targeted allocation of prevention measures towards the high-risk situational factors identified. Such measures could involve the encouragement of increased personal guardianship (staying in groups of three plus) whilst engaging in the night-time economy: with victims being accompanied by two or more people found to trigger a 43% reduction in the odds of being seriously injured compared to victims who were alone at the time of the assault (Figure 8.2). Such measures could also involve increasing the concentration of security and secured-by-design measures within the public areas (streets) of the night-time economy, and between the hours of 12am and 6am.
This study has demonstrated that offender weapon-use is a significant predictor of injury to the victim, and that there remains a predominant use of opportunistic weapons at an offender’s immediate disposal. Despite dramatic declines, the overwhelming majority of weapon-related assaults continues to involve opportunistic weapons available in the immediate environment (glasses, bottles and hitting implements).

To sustain further reductions in the occurrence and severity of night-time violence, the disproportionate focus of existing policy on the carrying of identifiable weapons (knives and firearms) should be redirected towards opportunistic weapons available in the night-time environment. For example, the enforcement of an all-plastic or polycarbonate policy in the drinking venues of the night-time economy (supporting the recommendations of Winder and Wesson, 2006). Resistance to a blanket plastic/polycarbonate policy by organisations such as CAMRA can be accommodated by enforcing a blanket glassware ban between 12 and 6am, in the drinking venues (with a particular focus on areas immediately outside, e.g. smoking areas, terraces): shown by the present research to be the times most at risk of violence escalation. Whilst hitting implements are less explicitly described by the CSEW, a net reduction in both the occurrence and severity of night-time economy violence could also result from the removal of potential weapons available in the drinking venue environment (for example by securing bar stools, furnishings, bins, pool cues, ashtrays (BBPA, n.d; Graham & Homel, 2008)).

The present study supports existing research (Homel & Tomsen, 1993; Scott & Dedel, 2006; Tomsen et al., 1989) that mixed gender groups are significantly less likely to enter conflicts (Figure 5.18) - and proceeds to explore the role of mixed patronage in aggregate levels of night-time economy violence. Whilst the present research is not able to assess whether changes within England and Wales relating to patron age and gender composition, and a corresponding ‘gentrification’ of the barroom environment (Chatterton & Hollands, 2001; 2002; 2003), are causally linked to a drop in opportunities for night-time economy violence, a recommendation of the current study includes an increased responsibility of drinking establishments to balance the gender and age ratio of night-time economy patronage: through, for example, the promotion of mixed group socialisation, and the targeting of night-time economy venues and events towards a more varied and inclusive demographic.

8.4. Future Research
A recommendation for the next stage of research involves triangulation of different data in order to study assaults within licensed premises of the night-time economy at venue-level, through methods such as case study research to capture venue-level detail within specific geographic locations. Identification of broader venue-level characteristics, such as outlet closing hours (Rossow & Norström, 2012), surrounding outlet-density (Livingston, 2008; Scott & Dedel, 2006) and surrounding venue composition (Newton, 2014), can be recorded simultaneously, in order to model situational facilitators and precipitators of night-time economy violence, and to identify characteristics of ‘risky facilities’ for violence (specific venues or services attracting greater levels of repeat violence). This analysis will also enable the testing of the security hypothesis.
in relation to the future reduction of opportunities for stranger and acquaintance violence in the night-time economy.

The present study highlighted significant differences in victimisation-risk between socio-demographic groups not mediated by lifestyle. Greater understanding of the prevailing personal-level risk factors of victimisation, as well as the specific influence of victim education level on risk of incurring serious injury, may arise through qualitative research into differences in venue selection, and behaviour whilst out, between cohorts.

The present research examines the risk of stranger and acquaintance violence as a product of ‘risky lifestyles’; characterised by time spent away from the safety of the home. A future step is to examine the trajectory and structure of violence occurring within the home over the course of the survey. Felson (1997, p. 210) observes that “the specific routine activities usually associated with domestic violence are not likely to be the same as those associated with street crime”. Staying at home decreases the risk of victimisation in public spaces (Felson, 1997), and a net increase in the amount of time spent at home, in response to the growth of the internet, informs Aebi and Linde’s (2014) theory of western crime decline. As such, the anticipated inverse effect on opportunities for violence within the home must be examined: specifically, how the changes in western lifestyles have served to influence rates of domestic violence, as well as internet-based crimes, between the mid-1990s and the present day.

An absence of spatially-referenced data prohibited more detailed analysis of the spatial variation of assault in the night-time economy context, and how this may have changed over time. Future research should access geocoded data from the CSEW to examine the role of place in violent victimisation in the night-time economy over time. Different geographical areas of England and Wales could be meaningfully identified and utilised as a higher (second) level in multi-level (hierarchical) modelling to control for differences between geographic areas (and similarities within geographic areas) within England and Wales - which are not accounted for by the non-hierarchical modelling techniques used by the present research. This would facilitate a greater understanding of the role of place, and identify area characteristics (relating to the wider context of violence) which are shown by existing research to be integral in predicting personal victimisation (Tseloni & Pease, 2015; Weisburd, Groff & Yang, 2012). This analysis could enable the integration, and exploration, of social disorganisation theory in relation to night-time economy violence at area-level. Analysis of special-license access self-reported offending behaviour modules, available in certain sweeps of the CSEW, would also serve to improve our understanding of the role of victim-offender homogeneity, and the links between victimisation and offending behaviour - in the context of night-time economy violence.
This thesis drew on a collection of theories that explained ‘crime as opportunity’ on a micro, macro and meso level, and emphasised the role of the immediate environment in determining criminal behaviour (Wortley & Mazerolle, 2008). Framing interpersonal violence as opportunity-driven is challenged by traditional criminological interpretations of violence as expressive and impervious to environmental cues (Hayward, 2007). The present research framed stranger and acquaintance violence in the night-time economy as opportunistic, predictable and decisional. Furthermore, it identified the distinct opportunity structure of such incidents, as well as the interaction between personal and situational-level characteristics when predicting the occurrence, and severity, of assaults in this context.

The findings reaffirm the importance of a situational/opportunity approach to the prevention of violent incidents characterised by increased alcohol consumption, without clear financial or sexual motive, and within the high-risk environment of the night-time economy. Whilst results may be unsurprising to those who already work in the field, the present research builds on existing literature and presents a foray into a changing engagement with the night-time economy, and the potential influence on violence in England and Wales during the crime drop: which to date remains an under-acknowledged, and under-researched, phenomenon (Farrell et al., 2015; Morgan, 2014). It is hoped that the findings of the present research serve as a stepping stone from which future research can be informed, and from which policy makers and crime reduction agencies can be guided.
The Appendices for the thesis are presented on an accompanying disk.

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### Modelling Assault

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respondents' lifestyle/ routine activity indicators (pub/bar visitation, nightclub visitation, hours spent away from the home, access to vehicles, number of cohabiting adults)


