

CRIME REDUCING ENTERTAINMENT: THE CONTRIBUTION OF MEDIA ENTERTAINMENT AND COMMUNICATION TECHNOLOGIES TO THE UK'S VICTIMISATION DROP

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Abstract

The crime drop of the western industrialised world has baffled criminologists of late, defying all predictions. Despite numerous attempts to explain it, no consensus has arisen as to the cause. Therefore, incorporating numerous hypotheses may be the way forward in order to formulate a more comprehensive understanding of the reasons for the decline in crime. The hypothesis presented by this dissertation aims to contribute to that, examining whether improvements to and widespread availability of media entertainment and communication devices have caused the crime drop, specifically in the UK.

When comparing statistics from the British Crime Survey regarding victimisation in England and Wales with independent research into ownership and use of leisure and communication technologies, strong visible relationships were found. Routine Activity Theory is used to examine the possible effect that ownership and usage trends of these technologies has on crime victimisation. Since Routine Activity Theory could not explicate the reasons for these potential effects, the dissertation speculates various possible explanations for the effect. It is found that the hypothesis is plausible and can be applied to many victimisation crimes, though it is only a partial explanation and must work in conjunction with other hypotheses in order to mutually improve their effectiveness in explaining and continuing the crime drop.

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Chapter 1 | Introduction

In 2004, Young (2004:35) stated that, as criminologists, ‘we find ourselves in the infuriating position of the crime rate in very many industrial countries (including the US and the UK) [beginning] to go down, against all predictions’, with no conclusive consensus as to why. The ‘unfathomable’ crime drop (Sutton, 2010) has been the subject of much criminological musing in recent years, as prior predictions would have had us believe it unlikely. Field (1990; 1999) suggested that increased consumption of electronic goods and vehicles would cause escalations in acquisitive offences, yet, according to the British Crime Survey, these crime types have decreased alongside increases in household ownership of electronic goods (see figure 7). DiIulio (1995), and later Bennet *et al.* (1996), prophesied a generation of prolific ‘super-predators’ – ‘radically impulsive, brutally remorseless youngsters’ (*ibid*: 27) – that would cause a huge increase in crime, yet this has not occurred. As Gardner explains, since it involves the study of people, ‘much of what [social science] would like to predict will forever be unpredictable’ (2010:42). The question remains then: why, since the mid-1990s, has the western industrialised world experienced an international cross-crime drop despite predictions suggesting it to be an unlikely and unexpected eventuality?

Felson and Boba state that ‘everyday crime is generated by everyday routines, which result from everyday technology...inventions that alter the daily routines and affect who does what, when, where, and how, alter crime involvement’ (2010:203). Therefore, in hypothesising an answer to the crime drop, it would be logical to look to such inventions and technologies first. The explosive popularity of the internet and the increased entertainment value of leisure technologies have arguably met the routine altering requirements of Routine Activity Theory (RAT). Indeed, Jewkes and Yar state that ‘it is well-nigh impossible to deny that the development of networked computer technologies has transformed how we communicate and consume, work and play, and engage with others across the spheres of economic, political, cultural and social life’ (2010:1), outlining the immeasurable differences to modern society made by devices and technologies that had, before the 1990s, been restricted to few other than scientists and academics (Miller, 2010).

Surprisingly, despite their clearly dramatic effect on routine patterns of activity, communication and entertainment media have received little attention as potential contributors to the international crime drop. With recent attempts only beginning to explore the potentially crime-reducing effects of these technologies (e.g. Ward, 2010; Sutton, 2010; 2011; Cunningham *et al.*, 2011; Sutton *et al.*, 2012), further development is required. This dissertation seeks to bring criminology a small step closer to fully examining the possibility of positive, crime-preventing effects of home-based entertainment and communications technologies.

RAT is used as a vehicle to examine and interpret the effect that these technologies may have had on crime rates, specifically in the UK. RAT would suggest that increased use of these indoor technologies for more hours of the day (Sutton *et al.*, 2012) may reduce the on-street availability of the three components necessary for crime to occur: (1) suitable targets; (2) capable and motivated offenders; and (3) the absence of guardians capable of preventing criminal incidents (Cohen and Felson, 1979).

In addition, this dissertation suggests possible reasons why these technologies may have such an effect, which RAT and opportunity theory do not explain (Sutton, 2012). While the

possible reasons for the effect extend beyond those explored here, this dissertation examines five possibilities:

- The substitution effect of video gaming; replacing real-world crime for a safer method of satisfying illicit desires.
- Increased entertainment value of modern television, with digital television providing hundreds of additional channels to those available before the crime drop.
- The online community and social networking's substitution potential to satisfy desires for subcultural acceptance, meaning people no longer need to pursue peer status in the physical world.
- The increase of 'teleworking'; specifically working from home, in modern businesses and self-employment.
- The fear of crime cycle, which suggests crime media amplified peoples' fear by over-representing serious but rare offending, encouraging people to remain indoors and watch more of this media.

The issues with and resulting from the hypothesis are also potentially non-exhaustive. With the increasing use of mobile technologies and 'Smartphones' allowing portable internet access and mobile communication, the number of people using indoor devices may be decreasing. Also, while the positive effect of leisure technologies on crime is a relatively new idea, a multitude of existing sources comment on the damaging effects of violent media, implicating them as a cause of aggressive behaviour (e.g. Anderson and Bushman, 2001; Thompson, 2005; Adachi and Willoughby, 2011). The possible effect of entertainment technologies on aggression, as well as the facilitation of 'cybercrimes' increasingly seen in communication technologies, present major challenges to the hypothesis and must be considered in order to provide a sound conclusion as to its plausibility.

This dissertation therefore explores the question of whether, through decreasing the availability of potential targets and offenders on-street and increasing the presence of capable guardians in the home, electronic entertainment media and communication technologies are (at least partially) responsible for the UK's fall in offline victimisation (hereby referred to as *Hypothesis 1*), a largely under-researched and possibly under-appreciated possibility.

Chapter 2 | Methodology

This dissertation uses published sources and is, to a large extent, based on further analysis of data published by others (Bryman, 2008). The use of these sources is intended develop understanding of the ‘unfathomable’ crime drop (Sutton, 2010) and reveal areas that require development to justify the necessity of this research (Murray, 2006).

Newton (Dale *et al.*, 1988:44) stated that ‘if I have seen further, it is by standing on the shoulders of giants’, thus outlining the main advantage of using published sources: building upon existing work by using it to conduct further analysis of the physical world. The internet makes accessing these sources easier, with extensive libraries of documented sources being widely available, including electronic copies of journal articles, government statistics, newspaper reports and many books. Furthermore, academic journals and official publishers often have materials peer reviewed, giving some assurance of quality (Denscombe, 2007).

Dale *et al.* (1988:51) say that ‘time series data are almost impossible for academic researchers to collect’ without external funding and time to collect the data, meaning that statistics gathered by funded researching bodies must be utilised for longitudinal analyses in an undergraduate dissertation. Published statistics must be used on crime and internet usage, for example, whose high-quality data and sampling are beyond the capacity of students (Bryman, 2008). These statistics, often government supported, give impressions of authority, objectivity and factuality (Denscombe, 2007); however, the extent to which this is true should not be taken as given.

A widely acknowledged drawback of official crime statistics is under-reporting, especially of theft and victimless crime (Denscombe, 2007). While one would expect this level of under-reporting to be relatively consistent year on year, Jansson *et al.* (2006) state that the proportion of violent crimes estimated to be reported had increased since the late 1990s. Also, the change in the recording of violent offences in 2002 (Povey and Allen, 2002) makes using official crime statistics unreliable and problematic.

This dissertation uses the British Crime Survey (BCS); a victimisation survey claimed to be representative of England and Wales that (presumably) bears less potential for under-reporting than official statistics (Gomm, 2008). Post-2001, the BCS published figures on the financial, rather than calendar, year (Home Office, 2011). For this dissertation, figures for each financial year are represented by the end of each collection (i.e. data collected from 2001/2002 is displayed as 2002). Published statistics for the BCS are calculated by the number of victimisation incidents – the number of crimes experienced (multiple victimisation is recorded) multiplied by the number of households (for household crime) and adults over the age of 16 (for personal crime) in England and Wales. The sampling does not incorporate every individual (interviewing approximately 46,000 adults over 16) and, therefore, is potentially unrepresentative of England and Wales as a whole. Being acclaimed as ‘one of the best national crime datasets’ (Farrell *et al.*, 2008:18), the potential unreliability is overlooked for the purpose of this dissertation.

Other reports are used in order to approximate trends in the use and ownership of various media and communication technologies in the UK for comparison with victimisation in the BCS. The reliability of these sources requires confirmation, as the authenticity of websites is often questionable (Fink, 2005). While little information is provided as to how information is gathered, the sources of the World Bank Report (research governed by approximately 200

member countries), Ofcom Report (the UK's communications regulator), and BARB figures (approximate estimates of the viewing habits of 5,000 homes in the UK) are deemed suitably reliable for the purpose of this dissertation. University and government-supported websites – such as the Home Office Report of the BCS and Office for National Statistics (ONS) data – give added credibility (Denscombe, 2007); however these still require authenticity checks. There is also the problem of differences in representation. While the BCS only records victimisation of adults over 16 years in England and Wales, media usage figures taken from these websites is calculated for the entire UK without age discrimination, therefore the quality of the comparisons shown in the figures is limited. These statistics have, however, been deemed appropriate for use in an undergraduate dissertation, as it would be difficult to obtain figures of specific demographics for internet use and ownership of household entertainment devices.

Despite the shortcomings of using published literature and statistics, they remain the most suitable tools to explore the hypothesis presented, with appropriate sources of data and varied theoretical insights being required and easily available.

Chapter 3 | The Problem of Explaining the Crime Drop

In recent years, papers have commented on the embarrassment of criminology's failure to provide consensus on a compelling justification for the crime drop experienced by most industrialised countries, including the UK, since the mid-1990s (Young, 2004; Farrell *et al.*, 2008; 2010; Tseloni *et al.*, 2010; Tilley *et al.*, 2011). Logic would dictate that, in a time of economic recession, acquisitive crimes should increase (Rosenfeld and Messner, 2009), yet, during the global recession, crime rates in many industrialised nations have defied such predictions.

This dissertation focuses on victimisation in England and Wales. Figure 1 illustrates the defined drop in total victimisation from 1995 (Home Office, 2011). Despite the declining trend, the fall in crime victimisation recorded by the BCS has recently become far less defined, and even subject to minor increases. Therefore, it is imperative that the reasons for the initial decreases are found in order to replicate and further capitalise on their effect.



Alongside the decline in victimisation, the UK has seen a simultaneous increase in the availability of and access to electronic entertainment and communication systems, yet, beyond speculative comments made by Sutton (2010; 2011) and a draft academic paper (Sutton *et al.*, 2012), this has been relatively ignored in terms of veracious empirical research. While papers by Dahl and DellaVigna (2009), Ward (2010) and Cunningham *et al.* (2011) argue that violent entertainment forms may have a crime-reducing effect, they do not explore the possibility of a practical link to the international crime drop.

Figures 2-4 show the relationship between total victimisation in England and Wales recorded by the BCS since 1991 and the availability of various entertainment and communications media. When these trends are presented together, the figures make a strong case for further investigation. Have these developments in technology had unintended benefits that provide a valid explanation for the crime drop? And, if so, why is it only now being explored?

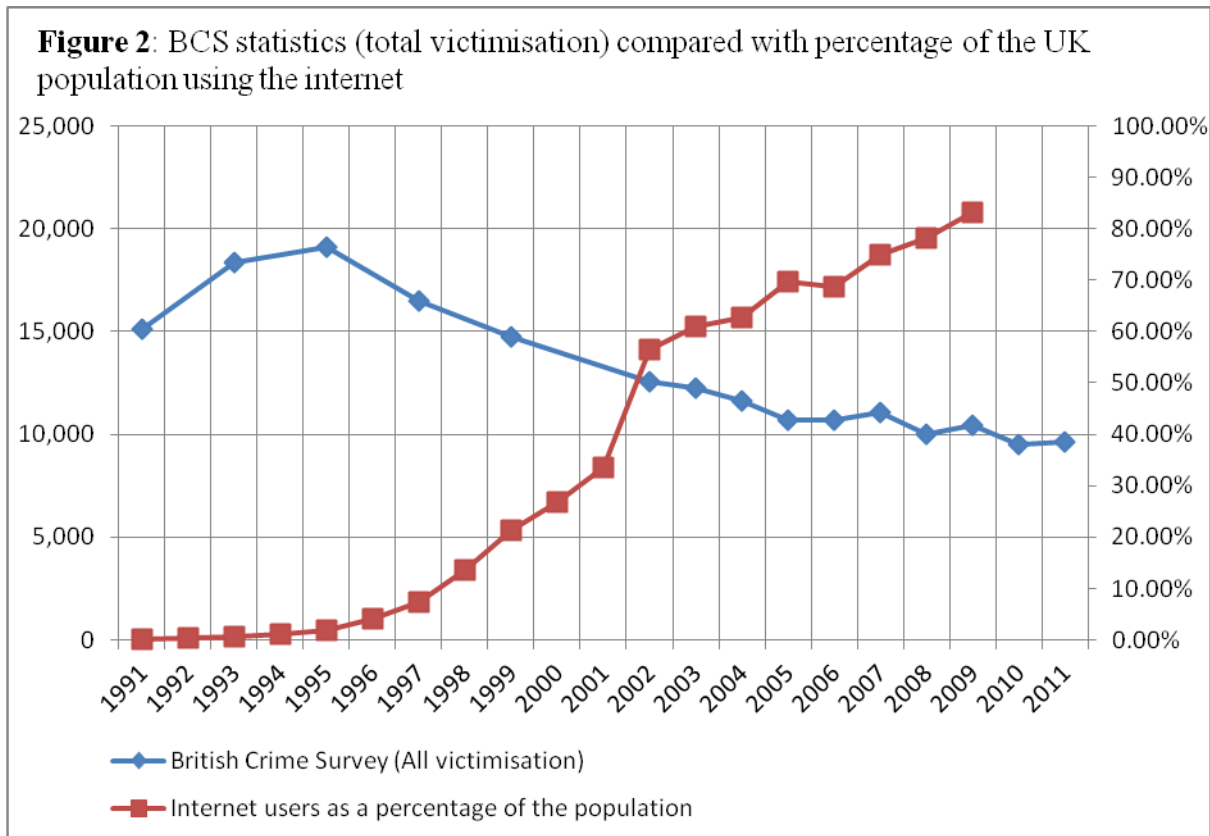
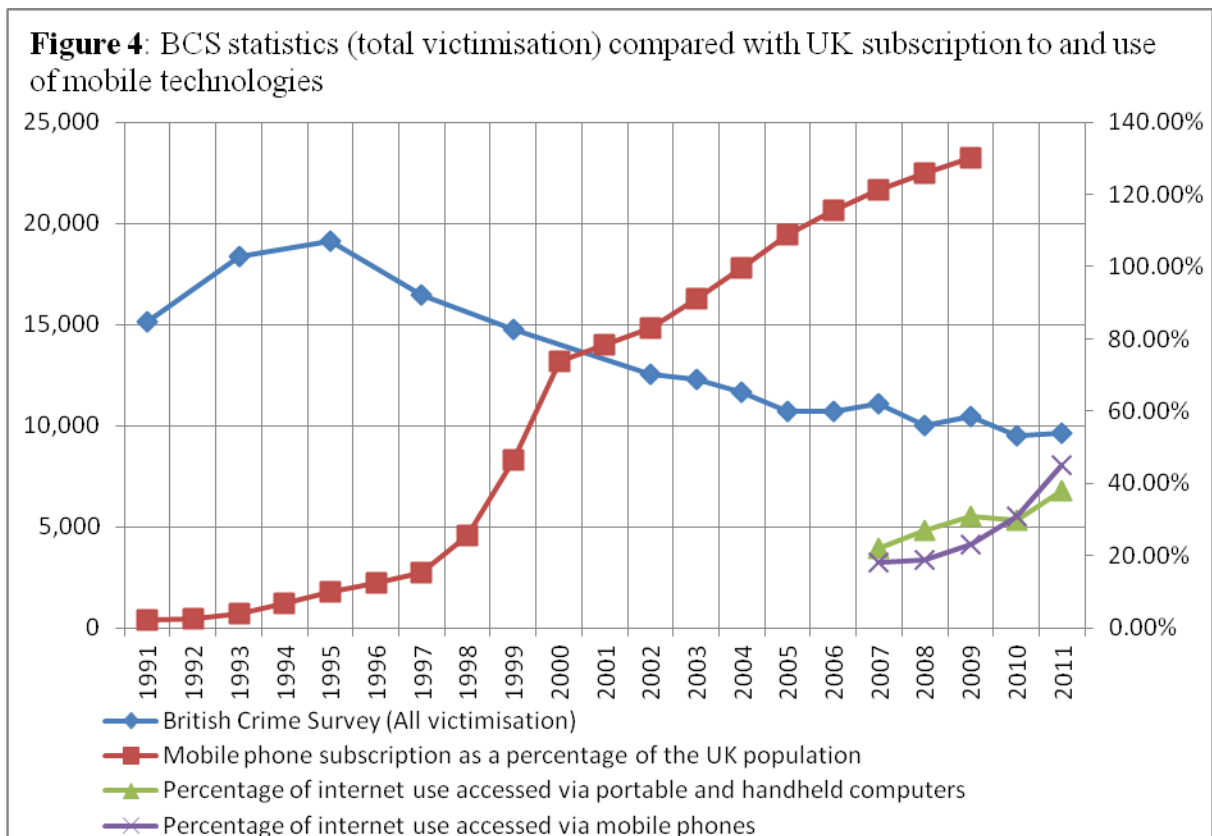
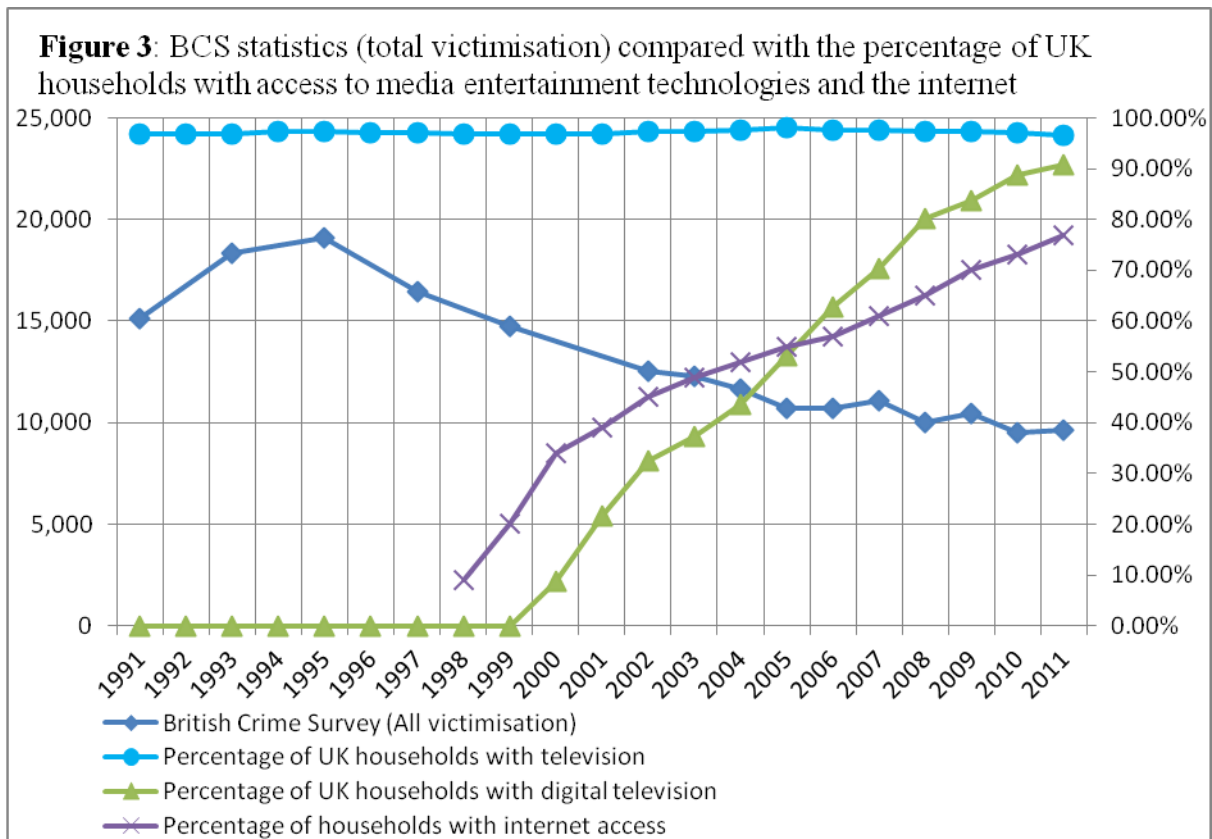


Figure 2 shows a relationship between the crime drop and a rise in the percentage of the UK population using the internet. The relationship between the two variables is visibly apparent, and analysis of statistics shows a significant inverse correlation (Williams, 2012, see Appendix 1). Currently, however, there are too few data points to infer causality, meaning that continued annual recording must occur in order to establish a more accurate accounting of the likelihood of a causal relationship between the trends. The graph does not, however, give longitudinal data for the average user’s browsing frequency or amount of time spent browsing. Recent figures (which are likely higher than they have previously been) suggest that nearly 75% of internet users access it every day (ONS, 2010) for an average of 1 hour 40 minutes (Ofcom, 2011). There is also no accounting of the location of peoples’ internet access. For the purpose of this dissertation, it is assumed that the majority of people who access the internet via various sources also use it at home, supported by ONS (2010) findings that 95% of users access the internet at home. Though this may not be their only access location, the idea that home-based electronic devices keep more people indoors for more time would thus far appear compelling. In order to establish how plausible it is, however, future recording of home use of the internet will be required.

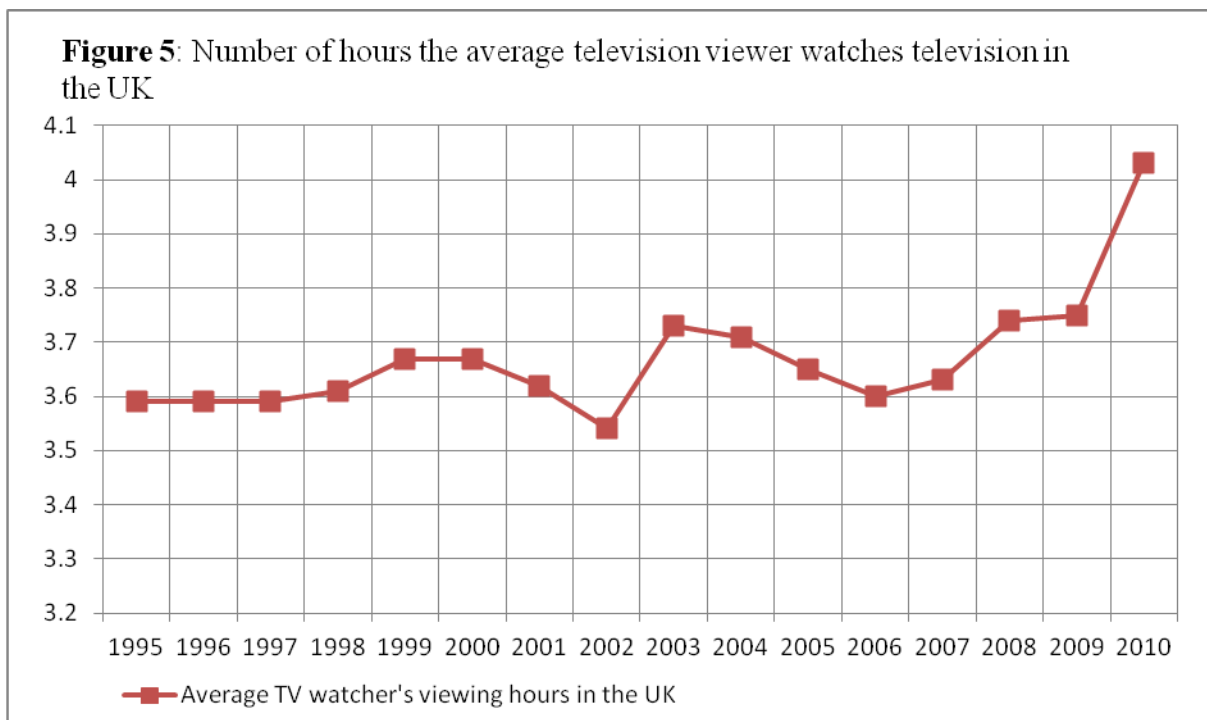


Figures 3 and 4 show the relationship between BCS total victimisation and ownership of various media entertainment and communications devices. While no data could be found to

establish trends of game console ownership, the figures show consistent increases in the ownership of most of these devices. These graphs are limited, lacking trends to display:

- The percentage of the population who use the devices
- How often, on average, users use the devices and
- How long the average user spends using these devices in a day.

Data could not be found in order to plot trends on these factors (other than shown in figure 5), and these drawbacks severely limit the usefulness of the trends in determining whether people are remaining indoors and using these technologies to a larger extent than they did prior to the crime drop. Also, in order to more effectively establish the effect that these variables have on one another, continued recording these figures is recommended in order to allow for the application of statistical significance tests that improve the quality of research into the plausibility of the hypothesis. Nonetheless, the visual relationships shown in figures 2-4 do not disprove the hypothesis, and make a compelling argument for further development.



At first glance, figure 5 would immediately serve to refute *Hypothesis 1*. The figure shows that the average UK TV watcher's viewing hours have fluctuated in the time of the crime drop and even experienced periods of decline, suggesting that people are not watching TV for consistently more hours of the day each year since 1995. Nevertheless, no statistics were found for the number of hours spent using other devices (e.g. DVDs and games consoles) during the time of the crime drop. Indeed, declining viewing hours from 2000 to 2002 coincided with the release of the Playstation 2 (2000) and Xbox (2001), which may have encouraged some TV viewers to use these machines instead. While this is by no means a certainty, it exposes a limitation in using figure 5 to refute the hypothesis. Longitudinal accounting for hours spent using other entertainment and communication technologies would be required in order to establish whether or not similar patterns to TV emerge. If other devices experienced similar fluctuations at similar times, this would almost certainly serve to

refute the hypothesis that they are responsible for the crime drop by keeping people indoors more frequently.

Figures of ownership would, however, suggest otherwise. While the limitations of using these have been identified, Sutton *et al.*'s (2012) adaptation of the 2009 Nielson Report suggests that owners of these technologies are likely to use them frequently. While this is a measure of American teenage usage, it would be reasonable to assume that similar levels of use would be true in the UK. Reports of UK usage suggest, for instance, that 75% of UK internet users browse daily (ONS, 2010). Therefore, it would be logical to suggest that most owners of media entertainment and communications devices use them frequently. While these obvious visual relationships provide no proof of causality, they do provoke speculation and warrant greater focus than they are currently afforded in order to prove or disprove the validity of *Hypothesis 1* and establish whether it can be considered alongside the numerous existing explanations for the crime drop.

Chapter 4 | Existing Explanations for the Crime Drop

Despite numerous hypotheses and ‘imaginative scholarship’ dedicated to the issue of the crime drop (Farrell *et al.*, 2008), few truly compelling arguments have come to light, and those that make a potentially viable contribution to explaining the crime drop often fail when applied to an international trans-crime context.

Levitt (2004) hypothesised four main contributing factors to the crime drop based on policies and markets specific to the US that were not applicable on an international scale (Zimring, 2007). It is often apparent that theorists propose all-encompassing explanations as ‘we treasure stories that replace the complexity and uncertainty of reality with simple narratives about what’s happening and what will happen’ (Gardner 2011:15). However, with the failure of previous hypotheses to give an internationally valid theory for the crime drop (most research focusing on the decrease in violence in the US), Farrell *et al.* (2008) state that, to provide an answer, crime types must be examined individually and numerous hypotheses incorporated to formulate a comprehensive explanation for this complex phenomenon.

In 1974, the Presidential Commission on Obscenity and Pornography found no evidence suggesting that watching pornography influenced levels of sexual offending. Later papers (e.g. D’Amato, 2006; Kendall, 2007) even suggested that easily accessible pornography substitutes impulses to commit sexual offences, potentially reducing sex crimes. Despite being a crime-specific explanation, this also fails when applied on an international scale. In England and Wales, for example, there was no consistent decline recorded in sex crimes from 1997 to 2005, which would suggest this hypothesis to be an incomplete explanation (at best); pornography being similarly available in most industrialised nations via the internet.

4.1 | Response to poor economic circumstances

Logic would support the hypothesis that levels of consumer confidence determine rates of acquisitive crimes (Field, 1990; 1999; Rosenfeld and Messner, 2009). A good economic climate means that people can afford good quality, new goods rather than using second-hand stores. Reduced demand for second-hand goods potentially leads to less demand for stolen items, which (at least partially) supply these markets (Sutton, 1995). Conversely, a decline in the state of the economy would theoretically result in an increase in acquisitive crime, as the demand for cheaper, second-hand goods is high. Contrary to this hypothesis, British (and, indeed, western) society has experienced the economic crisis of global recession; yet, as seen by figure 1, the crime drop has been occurring for more than 15 years. Even when looking specifically at acquisitive crime rates, for example burglary (see figure 7), it is apparent that, despite economic recession, crime has decreased dramatically since 1995 (Home Office, 2011). Nevertheless, it is also apparent from figure 3 that the number of households with access to electronic entertainment devices has increased; thus, the emergence of global recession alongside the crime drop may not immediately refute the validity of Field’s (1990; 1999) and Rosenfeld’s and Messner’s (2009) hypothesis.

There has been a recent shift in the focus of hypotheses to explain the crime drop from economic, social and legal premises to opportunity-based theories, utilising RAT and Rational Choice Theory.

4.2 | The security hypothesis

In their forthcoming book, Van Dijk, Tseloni and Farrell consolidate work by theorists attempting to explain the international crime drop. An hypothesis that may feature in this book is the security hypothesis, which proposes that widespread use of personal security devices is the key to the crime drop. Derived from Van Dijk's (2006; *et al.*, 2007) suggestion that private security measures are more widely used in households and businesses for target hardening property, Farrell *et al.* (2011) hypothesise that security has been central to international declines in auto theft.

Farrell *et al.*'s research (2008; 2011), focusing on security measures in automobiles, observes the relationship between levels of auto theft and advancements in alarms, central locking and electronic and mechanical immobilisers. When considered alongside Felson's and Clarke's (2010) 'routine precautions' – that people automatically take precautions such as locking doors, investing in security systems and parking in safe locations to reduce the risk of victimisation – a strong case can be made for the security hypothesis as a compelling argument for the drop in this crime type.

Farrell *et al.* (2011) acknowledge, however, that while security improvements may explain the reduction of auto theft, further research must be conducted into other crimes. They suggest that the security hypothesis may explain the fall in crimes such as burglary, with improvements to locks and increased use of double glazing and alarms in homes. Blumstein's and Rosenfeld's (2008, in Farrell *et al.*, 2011) findings, however, show that that trends in burglary and vehicle theft diverge through the past three decades. Despite the need for individual research, preliminary understanding of the security hypothesis would suggest that burglary and auto theft *should* have similar trends, both with improvements in locking, windows and alarm systems. Further research is advisable (Farrell *et al.*, 2011) as burglary has experienced a decrease (on a differing trend to vehicle theft), however, basic analysis of this issue would suggest that the hypothesis may be an incomplete explanation.

Also, evident in their own graph of BCS figures, while the increase in alarms and central locking predates 1991, the use of electronic immobilisers did not begin in the UK until 1999. Not until post-1993 was the first recording of a drop in auto theft observed in England and Wales (Home Office, 2011), so it may be argued that the security hypothesis is only a partial explanation even for the vehicle-based crime it focuses on.

4.3 | Crime substitution hypothesis

A draft of Sutton's, Griffiths' and Wall's forthcoming paper also emphasises the importance of personal devices over policy and law enforcement methods in reducing crime. Strongly influencing this dissertation, Sutton *et al.* (2012) examine the possibility that the increased use and distribution of media entertainment and communication technologies has increasingly become a viable answer to the crime drop, arguing that 'the longer a person stays legally entertained, the less time they have for crime' (*ibid*:17). Through the increase of violent video games and films, they argue that media entertainment has presented an alternative method of attaining peer status, as well as entertainment and immersion. Sutton *et al.*'s adaptation of a table by the Nielson Media Company (2009) depicts a large amount of media consumption by teenagers in the US, showing that average teenagers spend considerable amounts of time using these media technologies (e.g. over three hours daily watching television), supporting their hypothesis that media technologies may keep people in homes for longer.

Sutton and his colleagues focus heavily on the idea that RAT and Opportunity Theory do not provide an explanation for the cause of crime; instead, opportunity is argued as an irrefutable truism after any criminal event and that RAT's three requirements can always be seen post-hoc. Predictions can, therefore, not be made using Opportunity Theory as it does not explain criminal motivation, which makes it difficult to determine whether an offender is sufficiently motivated to commit a crime, the targets sufficiently vulnerable and the guardians sufficiently capable of preventing an offence (Sutton, 2012). Despite their attempt to refute Opportunity Theory as a *cause* of crime, their substitution hypothesis does not conflict with the RAT component of opportunity in explaining the effect of increased media entertainment usage. Instead, their focus is on *why* there was a reduction in crime opportunities, and why entertainment media may have seen an increase in popularity.

Applying the increased use of electronic devices in the home to the possible drop in crime opportunity is not restricted to online alternatives to peer status acquisition and excitement. An overlooked concept in Sutton *et al.*'s draft is that the internet has also allowed many people to work from home (Miller, 2010), suggesting that more homes are occupied for more hours of the day. As argued by Sutton *et al.* (2012), it is important to consider motivational factors to explain the (possible) increase in people's tendency to remain in the home, which may include crime substitution, fear of crime, and the online community.

Because of these numerous problems with existing hypotheses for the crime drop, further speculation and exploration is required in order to uncover why it has occurred. Regardless, the flaws presented with each hypothesis do not make them devoid of value. The security hypothesis and crime substitution hypothesis, for instance, are both entirely plausible; however, neither gives a full accounting of the crime drop alone. It is therefore necessary for numerous hypotheses to fit together when formulating an explanation (Farrell *et al.*, 2011; Sutton *et al.*, 2012). Clarke would appear to support the idea of a 'metatheory': to utilise many theories in order to give more complete explanations, despite insistence from some that this is futile (Clarke and Felson, 1993). *Hypothesis 1* is intended to contribute to this development of a metatheory to more effectively explain the crime drop and establish how to proceed to further reduce crime.

Chapter 5 | The Effect of Entertainment and Communications Technologies on the Crime Drop

The so-called ‘Social Media Revolution’ has caused an explosion in the popularity of modern personal entertainment technologies. The average young person may find it difficult to recall a time without televisions, video games and personal computers (Haenfler, 2010). To reach an audience of 50 million people, radio took 38 years, television took 13 years and the internet only four (Qualman, 2009). These technologies also have a durable longevity; over 90% of adults in the UK still listening to the radio and watching television increasing between 2000 and 2010 (Ofcom, 2011). This increasing popularity of entertainment technologies would suggest that they are becoming more widely used. While the reasons for this increase are debatable (e.g. it could be hypothesised that technologies are becoming more affordable), the fact that more people have these technologies would lead to the assumption that more time is being spent with them in the home.

In 1994, Hagell and Newburn (summarised in Newburn, 2007) found that prolific young school-going offenders’ television-viewing patterns did not greatly differ from those of non-offending schoolchildren. They did, however, find that those who did not offend had more access to television than those who did. Puzzlingly, they failed to expand their research to consider that the reason other schoolchildren did not offend may have been *because* they had access to television.

Landsburg (2006), in reference to the pornography substitution hypothesis, flippantly suggested that potential sex offenders could instead be spending their time ‘vandalising Wikipedia’. The suggestion that applications other than pornography could have a positive effect on crime may be plausible, and though Kendall argues that ‘the internet has no apparent substitution effect on any...other measured crimes’ (2007:2), further research is warranted in order to establish whether the substitution effect of online activities may be applied to a wider variety of crime types.

If people are spending more time indoors because of communication and leisure technologies, it would be plausible to apply a RAT approach to establish a link to the victimisation decline. RAT goes beyond this dictionary definition, however, to describe opportunity as the *cause* of crime. While RAT suggests that a reduction in people’s on-street convergence would likely result in fewer ‘favourable, appropriate or advantageous juncture[s] of circumstances’, it gives no indication of why this would happen (Sutton, 2012). RAT can therefore be described as a perfect explanation of a successful incident, but the capability of offenders, guardians and suitability of targets can only be established after the offence has taken place (*ibid*). Therefore, this dissertation uses RAT as a framework to illustrate the relationship between – and explore the incapacitating effect of – technologies on crime to determine if it is plausible that they keep people indoors for longer, before later offering possible reasons for this effect (see chapter 6).

5.1 | Voluntary incapacitation

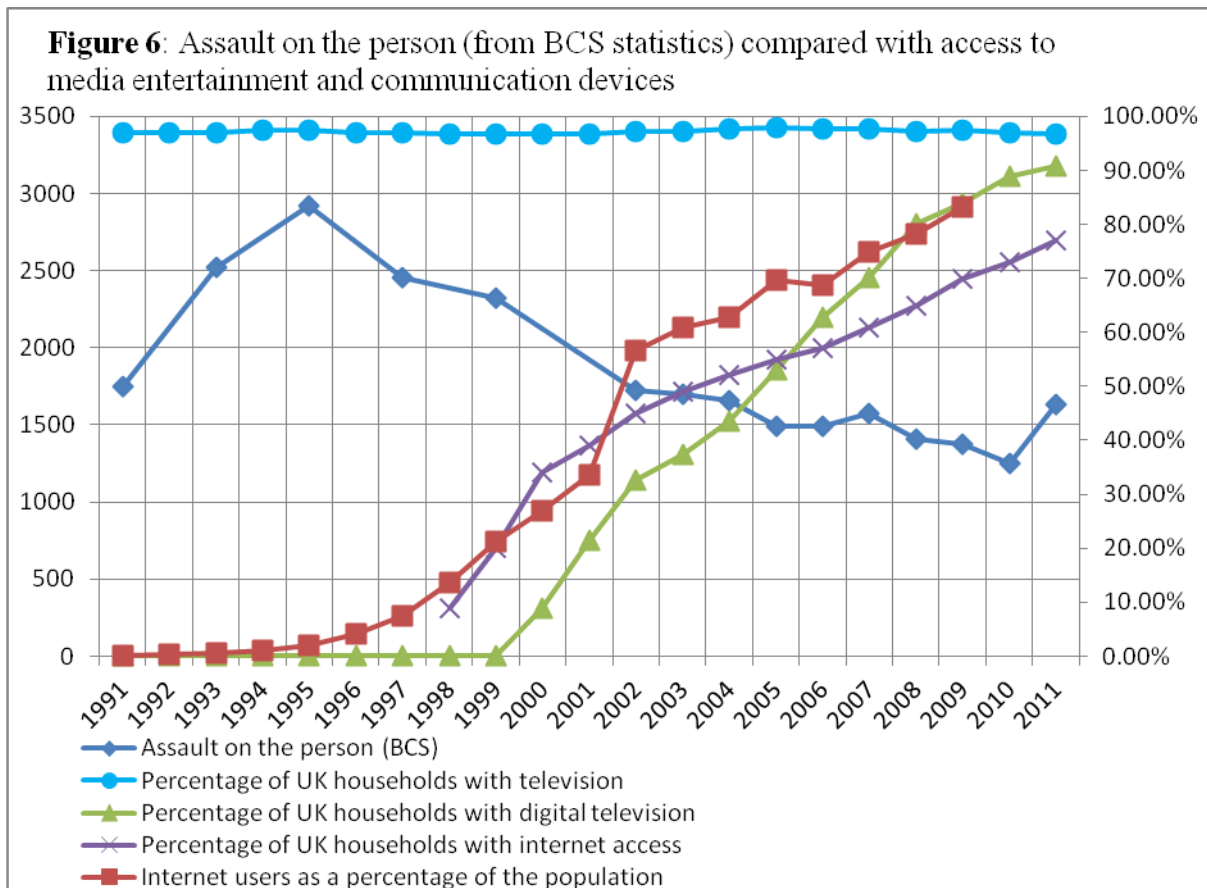
In order for crime to occur, suitable targets and motivated and capable offenders must converge in the absence of guardians capable of preventing a violation (Cohen and Felson, 1979). Technologies that change everyday routines alter crime involvement (Felson and Boba, 2010). Therefore, if indoor entertainment and communication technologies are

occupying people for more hours of the day than they would have spent indoors otherwise, these technologies are likely to reduce on-street convergence (Sutton *et al.*, 2012), which would reduce crime.

This 'voluntary incapacitation' has become a focal point for some theorists. Dahl and DellaVigna (2009) explore the relationship between violent movie attendance and reductions in violent crimes as, while people are in the cinema, it is more difficult to commit violent crimes. They also explain that 'violent video games may...incapacitate potential offenders for a substantial period of time' within the home (*ibid*:727). This is supported by Ward (2010) and Cunningham *et al.* (2011), who argue that voluntary incapacitation can apply to long hours spent playing video games as 'time spent gaming cannot be spent on other activities...if time use is rival in consumption' (Cunningham *et al.*, 2011:9), meaning they cannot commit offline victimisation crime while they are fixed to gaming machines. The peak time for popular video game *World of Warcraft* is 10pm to midnight, with an increase beginning at 6pm (Tarng *et al.*, 2008), when many people might otherwise socialise after work or school; instead remaining in their homes and incapacitating themselves from other, perhaps criminal, activities. While this dissertation examines declines in assault and burglary, future developments should apply the hypothesis to other (especially victim-based) crime types to establish the wide applicability of the hypothesis.

Assault on the person

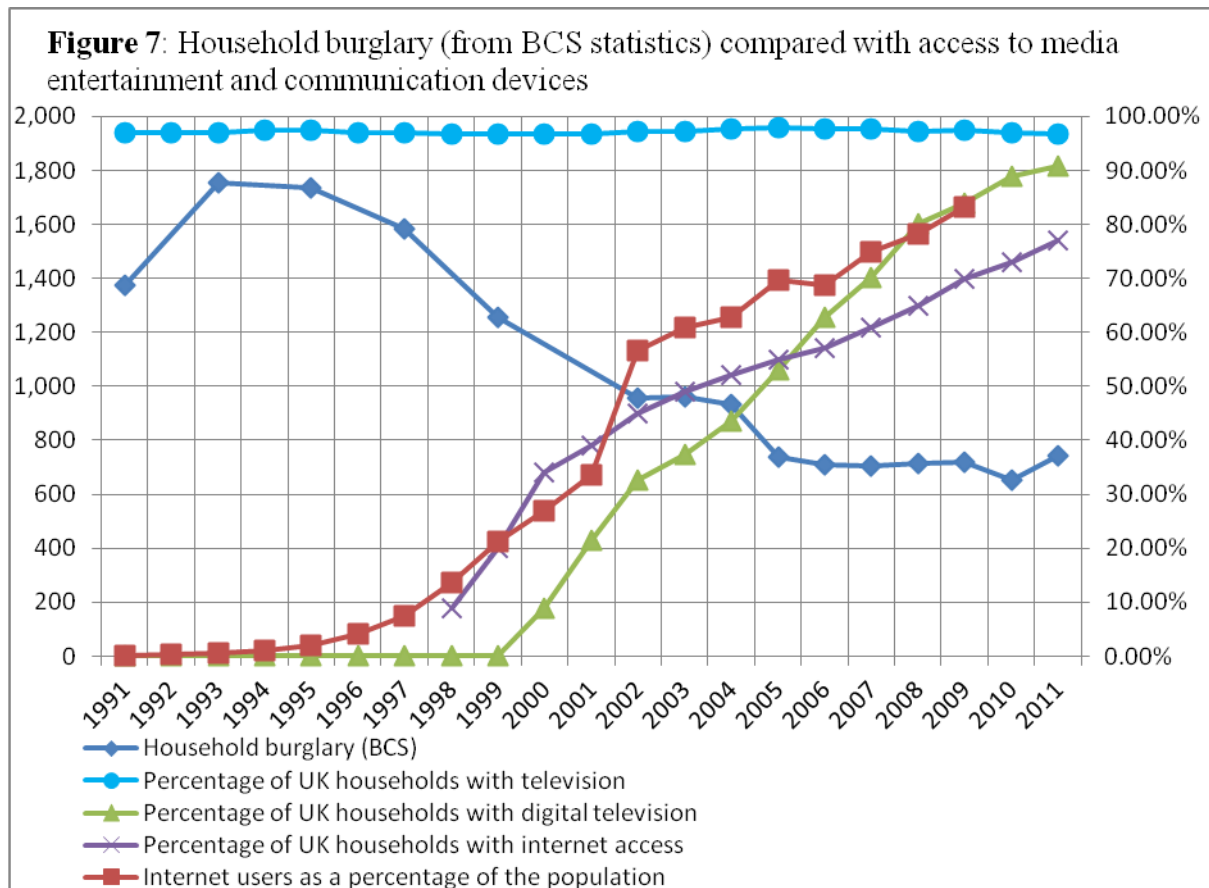
Figure 6 shows that assault on the person has seen an overall decline since 1995 (Home Office, 2011). The ownership of household entertainment and communications devices has increased over this time period (BARB, 2012). The availability of digital television covers almost 91% of households – the peak of an ever rising trend (Ofcom, 2011) – and the number of households with access to the internet has also increased, reaching 77% of all households in 2011 (ONS, 2011). 95% of internet users are also said to access it – not necessarily exclusively – within their home in 2010 (ONS, 2010). As already stated, it is assumed for the purposes of these relationship graphs that internet access occurs mostly via home use. The average UK television viewer is reported to spend over four hours a day watching television (BARB, 2012, see figure 5), and the average internet user browsing for 1 hour and 40 minutes (Ofcom, 2011). When all of these figures are considered together, the potential deficit of offender and victim availability on the street is staggering.



The possible effect of these technologies on the incidence of personal assault does not need to affect the routine availability of everyone. If only one category were deterred from going outside (either suitable victims or capable offenders), *Hypothesis 1* would still be valid. For example, if there were fewer potential victims on the streets, there would be fewer targets of assault to victimise (Fattah, 1993). Behavioural studies would suggest, however, that (especially violent) media entertainment is more likely to appeal to and incapacitate potential offenders, claiming that violent people are more attracted to violent media such as movies and video games (Dahl and DellaVigna, 2009). If perpetrators of assault are more likely to be incapacitated by this entertainment, their on-street availability would presumably be reduced, and they would therefore have less capacity to commit assault.

Burglary

While falls in burglary rates have also become less defined in recent years and have experienced minor increases (figure 7), there has been an overall fall in this crime type since 1993 (Home Office, 2011). Cohen and Felson (1979) attribute the rise in US burglary rates post-1960 to more homes being unoccupied during the day due to an increased number of women in the labour force and increases in college enrolment. As such, it would be sensible to return to the occupation of homes to explain the fall in burglary.



Hypothesis 1 explores the effect that the availability and use of technology has on how much time people spend in their homes. It is widely acknowledged that burglaries are ordinarily committed when the house is unoccupied during the day (Scarr *et al.*, 1973; Maguire, 1982; Wright and Decker, 1994) by perpetrators often unwilling to commit more serious offences (Brantingham and Brantingham, 1993; Wright and Decker, 1994). Felson and Boba (2010:28) explain that ‘a guardian is not usually someone who brandishes a gun or threatens an offender with quick punishment, but rather someone whose mere presence serves as a gentle reminder that someone is looking’, meaning that the presence of someone in the home during the day (as well as night) as a result of better home entertainment and communication systems may theoretically result in a decrease in burglary.

Hypothesis 1 may also support Farrell *et al.*’s (2011) security hypothesis. If vehicles are locked in a garage for more time during the day with the presence of a capable guardian in the home or nearby, it may reinforce the security measures already built into the vehicle, potentially raising risk and deterring rational offenders from committing auto theft.

As can be seen in figures 6 and 7, the decrease in crime preceded the increase in the ownership of household technologies. Much as Farrell *et al.*’s (2011) graphs showed the crime drop occurring after the increase of central locking and alarms and before immobilisers, these graphs show that the hypothesis may be an incomplete explanation for the drops experienced by assault and burglary, and must work in conjunction with other theoretical explanations.

There is also a limitation in the explanations given thus far. Since RAT cannot, in itself, explain the reasons *why* people may be occupied with entertainment and communication

technologies for more time (Sutton, 2012), other explanations are required to understand this possibility. While RAT provides a compelling link between staying-in behaviour and the crime drop, Cohen and Felson (1979) acknowledge that it takes motivation for granted in crime. Therefore, *Hypothesis 1* must also suggest why fewer people may be available on-street, and why some offenders may have less motivation to commit crime if it is to have the potential for practical application.

Chapter 6 | Why People may Remain in the Home with These Technologies

While the reasons that leisure and communication technologies may contribute to people staying indoors for more time in the day may span beyond those examined here, this dissertation explores five possible reasons that these technologies may increase tendencies to remain indoors.

6.1 | A 'Second Life' to *Second Life*

Cultural criminologists attribute much criminal activity to the boredom of daily life. Ferrell (2004) explains that the repetitive and unvaried nature of modern work and home life mean that people often turn to crime to provide illicit excitement, arguing that many crimes are not for the purpose of victimisation or material gain, but to combat boredom itself. As Katz states, 'a common thread running through vandalism, joy riding, and shoplifting is that all are sneaky crimes that frequently thrill their practitioners' (1988:53), and those who think excitement justifies committing crimes are most likely to be high-rate offenders (Freeman, 1996). This is often described by cultural criminologists as the 'second life of the people' (Bakhtin, 1984). The 'central core' of society, with stable livelihood and demands for protection from criminality, simultaneously experience desires for the pleasure and activity provided by deviant behaviour (Hopkins Burke, 2009) and, as Presdee (2000: preface) argues, 'This desire has resulted in a cathartic 'second life' of illicit pleasures often deemed criminal by those in power.'

If many crimes are committed because of boredom, reducing boredom should theoretically have crime-reducing effects. Sutton *et al.* (2012) state that, since people may be using communication and media technologies as opposed to crime to gain entertainment, they may contribute to crime reduction. Presdee (2000) explains that the internet is becoming a safer environment in which people can have a second life without criminally victimising others. Video games give players the ability to play out second lives in this relatively safe and anonymous online environment.

The popularity of online gaming is clear from subscription to Massive Multi-Player Online Role Playing Games (MMORPGs) such as *World of Warcraft*, with approximately 10.3 million subscribers (Holisky, 2011). MMORPGs give players the opportunity to customise the appearance and characteristics of personalised 'avatars' to perform activities (such as questing and swordplay) in fantasy environments, giving potentially unlimited freedom that would be almost impossible in the offline world (Haenfler, 2010). The main appeal of these games is arguably not fighting, but immersion and social interaction with fellow characters (*ibid*). The game *Second Life* encourages this interaction and sees players perform everyday tasks in an online, social environment. Bakhtin explains that the 'second life of the people' is about 'freedom, equality and abundance' (1984:9), which people can experience in spontaneous, exciting yet (relatively) safe online realms.

Immersion is not the only way video games may fulfil the desires of players. Crime-based game franchises (e.g. *Grand Theft Auto*) allow people to explore realistic virtual representations of the real world while communicating with other players and performing illicit activities that they could not, should not or would not perform in the offline world, such as stealing cars and killing civilians. The experience of high-profile offending through online personas in these games – where acts deemed criminal are encouraged – may potentially

substitute for the excitement that offenders attempt to gain from offline criminality, meaning that players may be less motivated to commit on-street delinquency (Graybill *et al.*, 1985, in Griffiths, 1999; Ward, 2010; Sutton *et al.*, 2012). This possible displacement may also allow young people in particular to gain status through impressive activity in games, rather than criminality on-street, which may further induce falls in on-street, subcultural deviance (Sutton *et al.*, 2012).

6.2 | Entertainment of modern television

Advances in video game technologies are not the only entertainment media improvements during the period of the crime drop. While television arguably lacks the potential crime substitution of violent and crime-based video games, the entertainment value of modern television has improved substantially, reducing the level of boredom experienced by those who may otherwise commit crime in the pursuit of excitement. Unlike in earlier years, when British citizens had only the choice of two television systems – the BBC and the ITA (Halloran and Croll, 1972) – almost 91% of modern UK households have digital television (Ofcom, 2012), including Freeview (with up to 50 channels), Virgin Media (160 channels) and Sky (over 600 channels). With many of these channels dedicated to specific audiences, such as children and adolescents, the range and entertainment value undeniably improves on that of the five channels available in the UK pre-2000. Zillmann explains that ‘leisure time is spent watching television as the primary source of entertainment’ (2000:15). With vast improvements to this form of entertainment, it is likely that boredom within the home has been reduced, suggesting that entertaining television has contributed to keeping more people occupied indoors for more hours of the day.

6.3 | The fear of crime cycle

The fear of crime is a well-known criminological phenomenon and the media are, arguably, the most culpable perpetrator of its amplification as ‘the media are... guilty of manipulation and fuelling public fears’ (Jewkes, 2011:155). Represented in almost all types of entertainment media, crime is over-sensationalised, thereby over-sensitising people to their risk of victimisation (*ibid*). *Crimewatch UK*, for example, is criticised for over-representing serious but rare offence types, amplifying public perceptions about their risk of being victimised by these crime types (*ibid*).

The fear of crime causes people to alter their activities to avoid victimisation (Garofalo, 1981; Goodstein and Shotland, 1982; Jewkes, 2011). Garofalo (1981) identified five measures that people routinely take to avoid being victimised or mitigate the cost of crime committed against them, such as avoiding situations with a high risk of victimisation. Age NI also explains (2011) that fear of crime causes a ‘locked in, locked out’ cycle, whereby elderly people lock themselves in their homes in an attempt to reduce their risk of victimisation. This could be true of more than only the elderly. Goodstein and Shotland (1982) support this, claiming that amplification of fear of crime leads to people remaining in the home and refraining from venturing to public places. While their argument focuses on the resulting lack of public surveillance (and lack of capable guardians on-street) leading to a rise in crime, they fail to consider the possibility that potential victims and offenders may also remain in the home for more hours of the day, which would reduce their on-street convergence. This would likely result in a reduction of crime opportunities and, therefore, reduce crime (Felson and Boba, 2010).

If it is true that fear of crime is keeping people in the home and that crime media has an impact on this fear, it may result in a ‘fear of crime cycle’ (figure 8). Put simply, the model suggests that people watch crime media such as *Crimewatch UK*, which often over-represent serious but rare crimes and contribute to peoples’ belief that their risk of victimisation is higher than it actually is (Jewkes, 2011). As a result of this added fear, people may remain indoors for more time, which would presumably lead them to watch more of these shows, restarting the cycle.

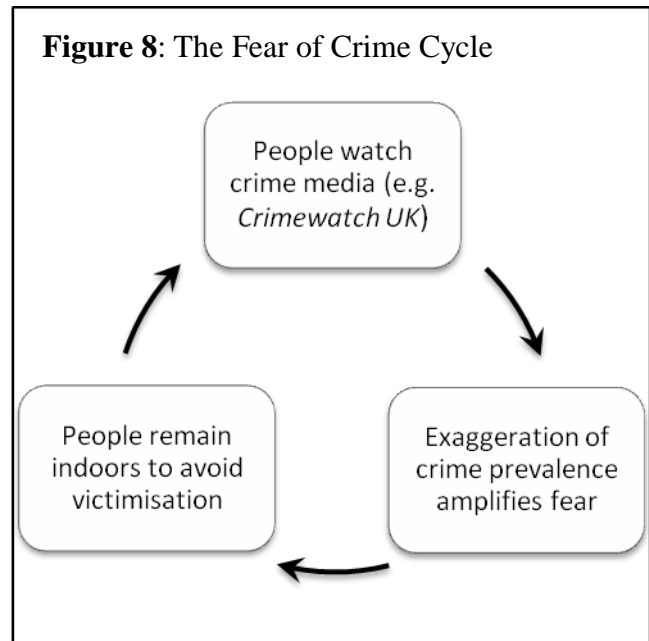
While there are potential risks that the fear of crime cycle poses, such as lower street-level surveillance (Goodstein and Shotland, 1982) and lower communitarianism (Box *et al.*, 1988), the possible effect it has in decreasing the on-street convergence of potential victims and offenders is a largely under-researched and potentially crime-reducing concept.

6.4 | Online community

The fact that ‘we consume humiliation shows, watch real death and destruction and converse daily through the Internet with others who share our felt oppression, our hates, our excitement or our revulsion’ (Presdee, 2000:73) means that subcultural theorists (e.g. Bennett, 2004; Haenfler, 2010) have also become particularly attentive to the internet’s facilitation of gathering likeminded people virtually without geographical restrictions. Dedicated chatrooms and websites for ‘every possible interest’ (Haenfler, 2010:95) allow people to find others with similar interests online, no longer requiring public convergence in order to feel a sense of community and belonging, meaning that they may potentially be spending less time on the street. Social networking has become extremely popular, with 48% of adults in the UK using social networks (Ofcom, 2011), allowing people to communicate with friends without physical convergence in public places. The most noticeable effect of this would (theoretically) occur in young people, being the group most exposed to new media (Bennett, 2004); 69% of 15-24 year olds using social networking sites at the beginning of 2011 (Ofcom, 2011), as well as being the group most likely to form offline subcultures (Mays, 1954; Hopkins Burke, 2007).

6.5 | ‘Teleworking’

Miller (2010) explains that improvements to communication technologies, especially in terms of the widespread use of the internet, have allowed mundane work, such as administration tasks, to be done from almost anywhere. While he uses the example of call centres operating abroad, the principle can be applied to working from remote locations, such as home, cafés, and on the move (‘teleworking’), rather than in an office environment. Since its emergence in the 1980s, teleworking has expanded exponentially, especially with advancements in portable technologies (Ruiz and Walling, 2005). While not the only form of teleworking, working from home remains an important component in teleworking and, therefore, people may be remaining indoors for more time in the day. In 2008, the Trades Union Congress (in Kobie,



2008) found that over 12% of working adults worked from home, almost a 600% increase since 1997. Lister and Harnish (2011) identified numerous advantages of teleworking to employers, employees and the community, including improvements to productivity, expense savings, and reducing greenhouse emissions. Indeed, encouragement from organisations such as 'Flexibility' and 'Work Wise UK' may have contributed to the increase in teleworking since 1997, reaching almost 13% of the UK's labour force by 2009, two thirds of that 13% being self-employed (Flexibility, 2010).

All of these concepts would suggest that there is a strong possibility *Hypothesis 1* remains plausible. There are, however, arguments that may contribute to disproving the hypothesis that should be considered when examining its usefulness as an explanation for the fall in victimisation.

Chapter 7 | An Imperfect Hypothesis

There are issues both with and resulting from *Hypothesis 1* that must be explored to establish whether it is (1) feasible as a cause of the crime drop and, if so, (2) worth the risk of emerging dangers in order to reduce physical crime.

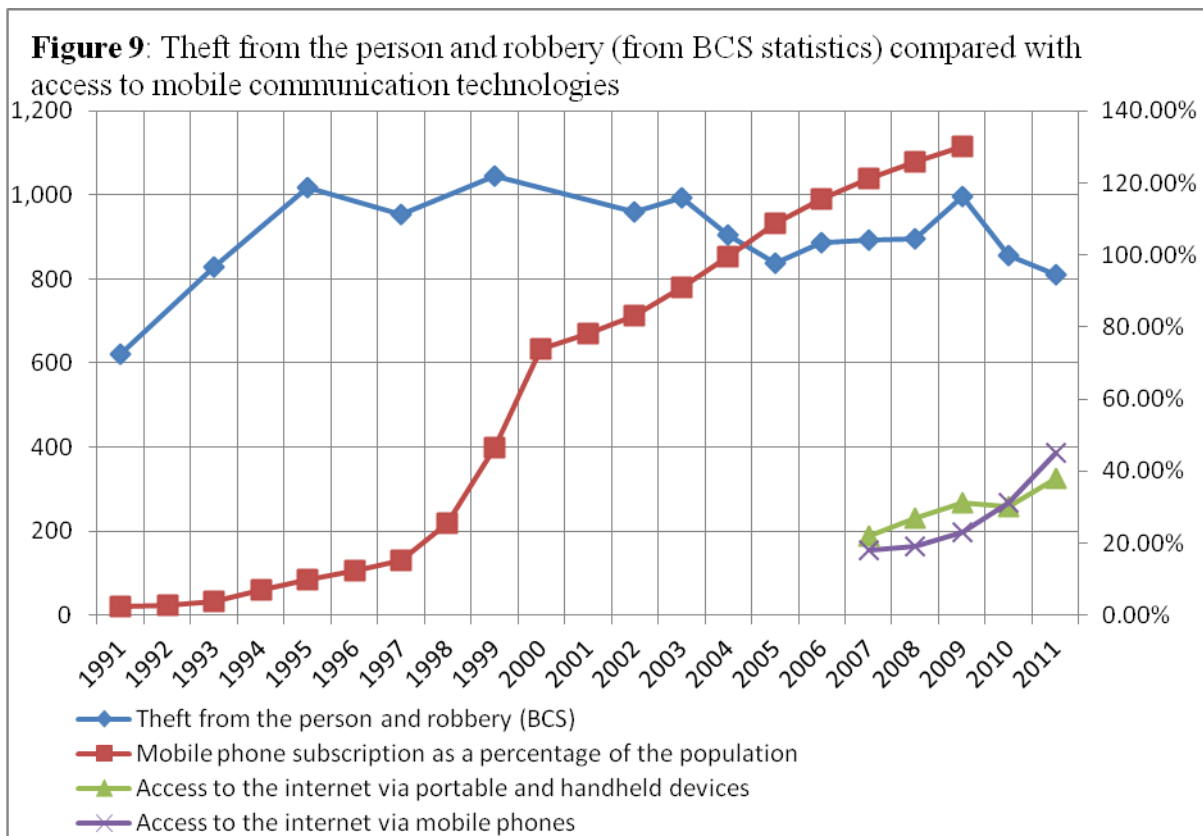
7.1 | The mobility of the internet

In contemporary society, it is not necessary to remain in the home or even own a computer to access the internet. Despite the dwindling popularity of internet cafés (Duffy, 2004), the availability of public Wi-Fi networks and ‘3G’ – allowing internet access via personal technologies almost anywhere – has increased, with almost 17 million fixed residential broadband transmitters in the UK (Ofcom, 2011). This dissertation has thus far assumed that the majority of internet access occurs indoors. However, only 70% of UK homes were connected to the internet in 2009 (ONS, 2009), whereas 83% of the population used the internet (World Bank, 2011). With the massive use of the internet and ‘low cost’ of technologies required for connectivity (Intel, 2003), it can be assumed that much online activity is performed in workplaces, cybercafés and mobile networking. It is claimed, however, that 95% of internet users access the web (at least) in the home in 2010, a 5% increase from 2008 (ONS, 2010).

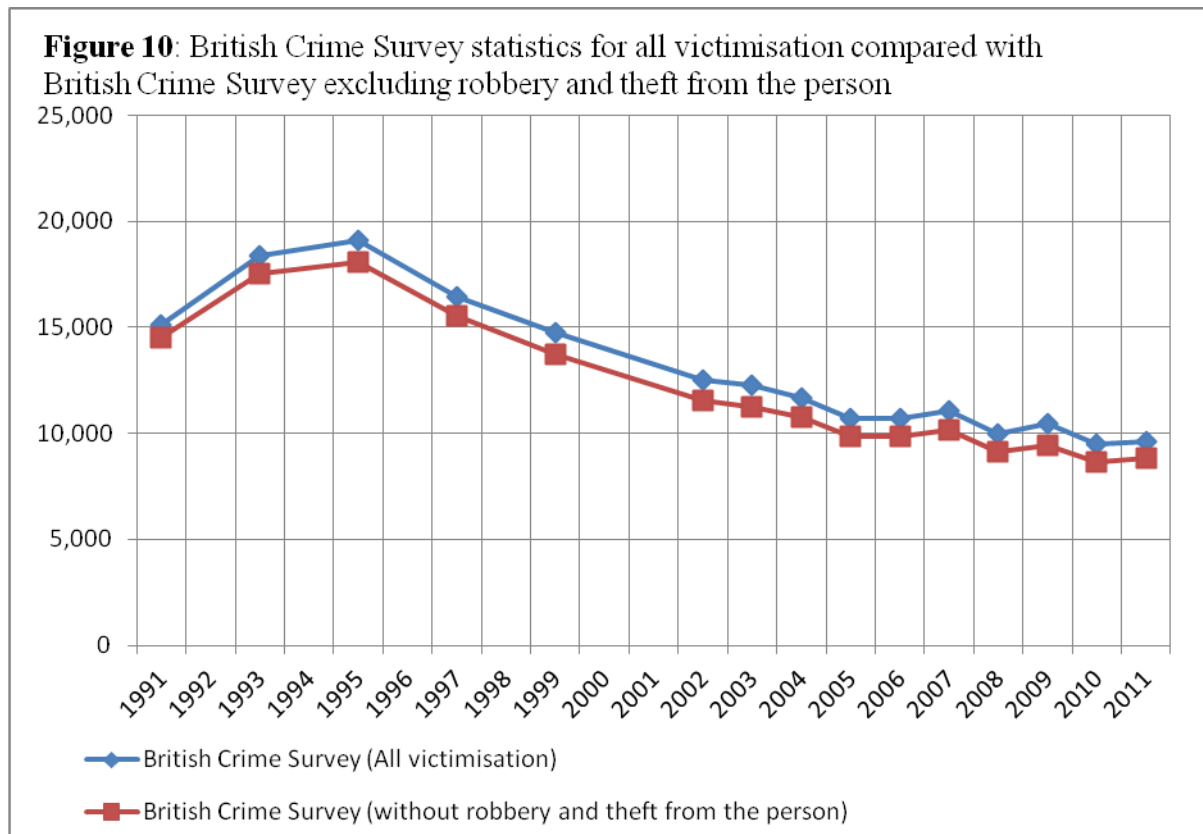
The emergence of ‘Smartphones’ has brought a huge increase in mobile internet usage. With approximately 20% of mobile phone tariffs costing less than £15 (Ofcom, 2011), as well as mobile internet being portable and usable from almost anywhere through 3G and Wi-Fi, and 4G boasting ‘faster than broadband connectivity’, telephone tariffs may even rival home broadband packages for value for money. Ofcom (2011) found that 27% of adults and 47% of teenagers own a Smartphone, over half of whom acquired them in 2010-2011. The volume of internet data transfer rose on these devices by a factor of forty between 2007 and 2010, with 28% of adults in the UK claiming to have accessed the internet via mobile phones. This mobility of modern communication technologies may mean that people are outdoors more, perhaps contributing to recent increases in burglary and assault (see figures 6 and 7). With the increased portable connectivity of mobile phone technology to the internet, and around 27% of adults claiming to watch catch-up television using the internet (Ofcom, 2011), some of the people who would otherwise be watching television programmes indoors on their TVs may now use mobile technology to do this, which means they are no longer necessarily confined to the home to watch TV shows and connect to the internet. This is not necessarily true; however, as mobile technologies can also be used within the home, leaving the question of where mobile internet is being used most, though the potential for portable entertainment has increased with higher use of mobile internet.

The increasing demand for this Smartphone technology may have also led to an increase in mobile phone theft. The Metropolitan Police (2012) stated that 50% of their reported street crime involved mobile phones, and 30% were solely for the purpose of mobile phone theft. While this may be an over-represented crime type (crime incident numbers are required to claim insurance; people perhaps being more likely to report phone theft than some other crimes), the demand for these products may have encouraged offenders to steal these valuable commodities to sell them to second-hand stores (Sutton, 1995), online shopping markets, or for personal consumption. Unfortunately, there is no published longitudinal research concerning mobile phone theft and, therefore, no trend can be displayed between the rise of

their ownership and use and a possible increase in theft. Instead, figure 9 illustrates robbery and personal theft as measured by the BCS against the increased subscription to mobile phones and the percentage of internet access being through mobile technologies.



As can be seen, BCS reporting of personal theft and robbery fluctuate to a far greater degree than assault and burglary (see figures 6 and 7 respectively). While there is little consistency to draw the conclusion that increased use of mobile technologies cause (or at least provoke) a rise in on-street theft and robbery, it may be a partial explanation. Nonetheless, figure 10 shows the difference made to the crime drop by the fluctuations of robbery and theft. It would appear that the effect of these crime types on total victimisation is relatively benign, barely altering the visual trend in victimisation, and is unsupportive of the Metropolitan Police’s statistics (2012) that suggest 30% of street crime consists solely of mobile phone theft.



Farrell *et al.* (2011:150) comment that many existing hypotheses used to explain the crime drop fail the ‘phone theft test’; failing to explain why many crimes decreased and yet mobile phone theft and e-crime experienced inclines. Conversely, *Hypothesis 1* would explain this rise, with these crimes possibly being encouraged by the increased use, availability of and demand for mobile phones and devices necessary for e-crimes. Additionally, it is also probable that the portability of these devices has led them to be unintentionally advertised by owners on the street, when potential offenders can witness owners using them, unlike wallets or purses, which are not taken out of pockets or bags as regularly. Before mobile phones were so popular, devices such as iPods and walkmans may have been taken out in public; however, it is arguable that, with the higher demand and value of mobile phones (doubling as internet connection devices), phones may be a more attractive commodity for theft. While the idea that increases in going-out activity that mobile technologies allow (while still enjoying the entertainment and connectivity of indoor devices) leading to higher victimisation (especially in regard to mobile phone theft) remains supportive of *Hypothesis 1*, it does prove problematic for future attempts at crime reduction using this hypothesis. Ofcom (2011) reports that ‘research into the use of Smartphones, in particular, reveals how quickly people become reliant on new technology’, and people are unlikely to remain in the home with obsolete technologies. The transition to mobile devices may therefore be unavoidable.

7.2 | Entertainment media causes crime

Media entertainment has often been held accountable for high-profile crimes committed by young people in modern societies. Jack Thompson, the figurehead of the ‘crusade to...save your kids from video game madness’ (Thompson, 2005:cover), attributes numerous school killings to the violent nature of video games. Examples include blaming the game *Doom* for the high school ‘massacres’ of Paducah and Columbine, as well as the game *Counterstrike*

for the Virginia Tech killings, claiming that they were responsible for ‘training’ the perpetrators (Thompson, 2005; MSNBC, 2007). Thompson has, however, been criticised for ‘ambulance chasing’; linking violent games and crime without solid evidence (Jason Della Rocca interviewed by Benedetti, 2007). While this is true, Walid Phares also claimed that ‘those who have been radicalised already...say these games will serve them to train’ (Mackey, 2011), blaming the level ‘No Russian’ in *Call of Duty: Modern Warfare 2*, in which the player kills civilians in a fictitious Russian airport, for the bombings of Domodedovo Airport in Moscow. Anders Behring Breivik (Andrew Berwick), the man who carried out the 2011 terrorist attack in Norway, also admitted to using the same video game to ‘train himself’, proclaiming it as ‘the best military simulator out there’ where players can ‘simulate actual operations’ (Berwick, 2011:1,418).

Many psychological studies have also ‘proved’ a causal relationship between aggression and violent television shows and violent films (e.g. Anderson and Bushman, 2002; Bushman and Anderson, 2001) and video games (e.g. Anderson and Bushman, 2001; Anderson, 2004; Uhlmann and Swanson, 2004; Adachi and Willoughby, 2011).

While Anderson and Bushman (2002; Bushman and Anderson, 2001) explain that watching violent television and films increases aggression, video games arguably have a more substantial effect, seeing passive viewers become active players (Williams and Clippinger, 2002). While this dissertation would argue that this makes them better outlets for illicit desires, psychological theorists (e.g. Anderson and Bushman, 2001; Anderson, 2004) claim that violent video game exposure leads to elevated aggression. Uhlmann and Swanson (2004) found a higher level of aggression in players playing violent video games than non-violent ones, possibly in response to their competitiveness, difficulty and pace of action (Adachi and Willoughby, 2011). Research into the ‘desensitizing effect’ of violent media also claims that, after exposure to gruesome images, people may become less responsive to real-world violence and suffering (Carnagey, Anderson and Bushman, 2007; Bushman and Anderson, 2009).

Conversely, Ferguson argues that:

‘Historically, new media have endured periods of reactionary alarm from politicians, activists, and scientists alike until youth themselves age into the elders of society and acceptance becomes commonplace. In that time, opportunities for the positive use of a new medium may be delayed.’ (Ferguson, 2010:66)

Some psychological theorists, such as Ferguson, have begun to debate the benefits of video games against the arguments of heightened aggression. Adachi and Willoughby (2011) state that laboratory experiments may not reflect real-world effects. Indeed, if violent video games were the primary cause of certain crime types, millions of people would commit them (Pagano, 2007). Therefore, for violent games to have a significant effect on aggressive or violent behaviour, players must have a pre-existing disposition toward violence (Markey and Markey, 2010), as violent media is neither a necessary nor sufficient variable of criminal activity or of aggressive behaviour. Griffiths (1999) argues that increases in aggression are only short term; a statement supported by Sestir and Bartholow’s (2010) findings that the effect dissipated after only 15 minutes. From this contrary evidence and a lack of conclusive proof of a causal link between violent media and crime, Thompson’s war on video games appears unfounded.

7.3 | A new generation of criminality

According to Pease (2001:18), 'innovation changes crime'. Felson and Boba (2010) explain that technologies that change the everyday routines of regular people will affect crime. While this has been used as an argument that people staying indoors contributes to a decrease in on-street convergence, Phillips (2011) found that displacement is likely to occur in certain offenders. As seen, however, many commit crime as an answer to boredom or in the pursuit of a second life. With a new offending medium, it is likely that at least some crime may be displaced to this new plane. This is especially true if the opportunity for traditional physical crime is reduced or removed.

While displacement is a possible outcome of the increased use of the internet, it may also have eliminated some potential physical offenders who haven't the skills to carry out cybercriminal activities. Conversely, there may also be a new cohort of online offenders who, unwilling to commit physical crimes, are more comfortable violating the law in a less directly threatening, anonymous online environment. This cohort may even exceed the number of those unwilling or unable to carry out cybercrime, especially with the ease of such illegal online activities as piracy. Though Sutton *et al.* (2012) argue that alleged increases in bullying and harassment online are not supported by research, there remains enormous scope for other crime that the internet has made easier, facilitating activities such as:

- Hacking.
- Fraud.
- Distributing and consuming child pornography.
- Pirate copying films, music, video games and software.
- Distributing and buying stolen goods online.
- Phishing scandals.

With such a rich potential for online crime, it would be difficult to claim that the decline in physical crime outweighs the rise in online offending. Not only are these crimes made easier by the accessibility of the internet, they also provide anonymity and decrease the likelihood of perpetrators being caught (Zheng *et al.*, 2003). Wall (1998), taking a similar standpoint, stated that it may never be possible to fully measure the extent of cybervictimisation. Levi (2001) makes a similar claim, explaining that 'our understanding of when and where "it" occurs is very limited' and there remains to be no official accounting of the amount of online crime (Wall, 2001). For example, the internet has received much criminological attention in its facilitation of child pornography distribution (Wortley and Smallbone, 2006; Jewkes and Andrews, 2007). Over a million pornographic images involving children are said to be currently online, with two hundred more posted each day (Wortley and Smallbone, 2006). It was also claimed that sites dedicated to this may see a million hits each month. Piracy is also a major issue: 63% of British consumers say that they would be likely to illegally download media entertainment using broadband (Ofcom, 2011), with millions of illegal film, game, music and software downloads each year (TorrentFreak, 2011). However, the fact that this pirated entertainment may keep people indoors for more time could have a potentially positive effect.

Hacking, however, has become arguably the largest threat facing the internet, with much publicity about the 'Anonymous' 'hacktivist' group's activities (Levine, 2011). Despite negatively publicised hacks, Anonymous also targeted over forty child pornography websites (Schwartz, 2011), which may lead to the belief that their motive is not malicious. Instead, it

could be speculated that groups like this feel that they are ‘hacking from the moral high ground’ (Furnell, 2010:176), believing in ‘freedom of access to information for all’ on the internet (Jewkes, 2011:251). They may also argue that, by publically exposing weaknesses in companies’ online security, they are helping to improve it. While Furnell (2010) argues that this is not a responsible way to expose weaknesses, companies such as IBM have even employed hackers to test firewalls since the 1990s (Jordan and Taylor, 1998). While some argue that issues of trust make this problematic (e.g. Haeni, 1997), it may present a genuine method of utilising their skills and providing a legitimate substitute for hacking illegally.

Displacement of crime onto the online domain may not be the only form of crime displacement. Despite voluntary incapacitation supposedly reducing on-street offending, people may be committing other crimes to fund their technological desires, much like crime committed to fund, for example, drug habits (Coid *et al.*, 2000). While there may be less crime in the actual activity than taking drugs (watching television or playing video games is legal, whereas buying, distributing and taking drugs is not), people may be committing other crimes such as shoplifting and software piracy – crimes not reliably recorded by official statistics and not recorded at all by the BCS – or may even robbery and theft (contributing to fluctuating trends in these victimisation types, see figure 9). Being difficult to trace in themselves, this possibility may present further problems with the hypothesis and returns the discussion to the question of whether improvements to and increased availability of media entertainment and communication technologies have reduced victimisation in the UK since 1995.

Chapter 8 | Conclusions, discussion and recommendations

8.1 | Conclusion

Felson and Boba (2010:203) explain that ‘Inventions that alter the daily routines and affect who does what, when, where, and how, alter crime involvement’. Advancements in and availability of media entertainment and communication technologies have undeniably altered routines. While no data was found for hourly usage of these technologies, recent statistics of household ownership – over 90% with digital television and 77% with internet (ONS, 2011) – and average user’s time spent daily on them – over four hours watching television and 1 hour 40 minutes using the internet (Ofcom, 2011) – would suggest that these technologies are (collectively) being used for more hours than before the crime drop. If this is true, RAT would suggest that reduced on-street availability of potential victims and offenders, as well as the increase of capable guardians in the home, should reduce crime (Cohen and Felson, 1979).

Having said this, without appropriate figures to support this hypothesis (see chapter 3 and recommendations), *Hypothesis 1*’s convincingness is arguably limited. It may be that the possible increased use of these technologies has not resulted in an increase in the time people spend in the home. Other activities – such as sleeping longer, gardening or reading books – may have previously kept people indoors before the rise in technologies and this activity may have been supplanted by the increased use of entertainment and communications devices, potentially displacing some of the time spent doing other activities to these relatively new technologies. Therefore, it is possible that people are not staying in the home more at all; a possibility that requires further analysis to evaluate *Hypothesis 1*. Also, until figures for frequency and length of time using technologies are recorded (or found), the hypothesis can be no more than a compelling, nevertheless unproven, possibility. Indeed, a worry of any researcher who wishes to ‘make a causal statement is that some other variable would, in fact, account for the effect apparently demonstrated’ (Doob and Macdonald, 1979). While this is true, the hypothesis that improvements to and widespread availability of media entertainment and communications technologies has, at least partially, caused the fall in physical victimisation crime in the UK since 1995 (Home Office, 2011) provides a plausible contribution and should be further explored and applied to the international crime drop.

With the increased use of the internet, however, the scope for internet-facilitated crimes has grown hugely. While there is no reliable method of measuring internet crime (Wall, 1998; 2001), it can be speculated that, with arguments claiming that there are millions of pornographic images of children (Wortley and Smallbone, 2006) and millions of pounds lost through online piracy (TorrentFreak, 2011), the rise in cybercrime far outweighs the fall in the offline offending recorded in surveys such as the BCS. Taking this into consideration, while the hypothesis that entertainment and communication technologies have reduced offline victimisation crime remains to be disproved, they may have instead displaced much crime to cybervictimisation.

8.2 | Discussion

The question therefore stands: is the massive scope for online crime a worthy price to pay for the decrease in offline victimisation? Avoiding assault or burglary in favour of having money stolen through hacking or fraud is arguably a preferable idea. With the increase in ability to

regulate the internet, tracking online fraud and theft is potentially easier than tracking physical and property crimes. Piracy also sees money stolen from entertainment corporations, as opposed to crimes committed against individual citizens (as well as potentially contributing to keeping people indoors for more hours); and these losses can often be covered via the profits of their product sales.

Nevertheless, the internet has also increased the accessibility of illegal child pornography, meaning more people access the illegal material, and this possible increase in demand has led to an increase in supply. With millions of these images online (Wortley and Smallbone, 2006), is the reduction of assault and burglary worth the innocence of children? Few would say yes. Therefore, further discussion is needed as to whether the consequences of *Hypothesis 1* are worth the benefits, and whether potentially controversial controls should be exerted on the freedoms enjoyed by internet users to prevent these consequences.

8.3 | Recommendations

In order to establish the plausibility of the hypothesis more effectively, this dissertation recommends annual recording and analysis of:

- The frequency and daily length of time the average media entertainment and internet user uses these devices.
- The relationship between use of indoor technologies and physical crime victimisation.
- The relationship between mobile phone subscription and use and its effect on the use of indoor devices.
- The relationship between mobile phone subscription and use and trends of mobile phone theft.

If keeping people indoors using these technologies does influence crime rates, a second recommendation would be to keep people indoors by, for example, increasing the number of people working from home with the internet (Miller, 2010). Despite dangers of ‘cyberslacking’ (Garrett and Danziger, 2008), advantages outlined by Lister and Harnish (2011) may outweigh these risks, and controls may be emplaced to prevent cyberslacking during work times. While posing ethical issues, the potential crime-reducing effects may make it worthy of consideration. Universities could also employ live online video-audio lectures directly to students’ computers, potentially allowing both lecturers and students to remain in the home for more time during the day.

A method must also be devised to counter the massive problem of internet crime. Some accounts claim that it may now be possible to regulate the internet (Lessig, 1999; Aas, 2007). Governing bodies are suggesting highly controversial, aggressive measures, such as the ‘Stop Online Piracy Act’ and ‘Protect IP Act’ in the US and the ‘Anti-Counterfeiting Trade Agreement’, negotiated internationally by countries in North America, Europe and Asia (Foreign Affairs and International Trade Canada, 2012), which give the entertainment industry the power to censor websites that ‘engage in, enable or facilitate’ infringement of copyright laws (Shontell, 2011). While these laws would be a step towards reducing cybercrime, issues of fraud, child pornography and hacking remain highly unregulated. In order to have a full crime drop, this problem will need to be addressed, otherwise the problem of crime may not be reduced at all; instead, it is merely displaced onto a new plane.

Appendix 1

Personal disclaimer: In analysing the statistics published by various sources, I requested assistance from Daniel Williams (2012) in performing statistical tests. I sent him the statistics for both the BCS total offences and internet use as a percentage of the population (for relationship graph, see figure 2). He performed a statistical test on these figures to establish the significance of the relationship between them.

Williams found that there was strong evidence of correlation despite use of linear interpolated values for those missing in the BCS (statistics only published every 2 years pre-2001/02) in the statistics.

Despite attempting to perform a Granger causality test on the two sets of statistics, too little data was available to effectively test for the possibility of a causal relationship. These results are published on Daniel Williams' blog site² (2012).

² [http://badassdatascience.com/2012/03/05/british-crime-vs-internet-use/
www.internetjournalofcriminology.com](http://badassdatascience.com/2012/03/05/british-crime-vs-internet-use/www.internetjournalofcriminology.com)

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