

THE ROLE OF (UN)REALISTIC EXPECTATIONS  
ABOUT FORENSIC SCIENCE IN UNDERSTANDING  
VICTIM SATISFACTION WITH BURGLARY  
INVESTIGATIONS

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by

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## **Abstract**

### **The role of (un)realistic expectations about forensic science in understanding victim satisfaction with burglary investigations**

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This thesis explores burglary victims' perceptions about forensic evidence and specifically whether they hold unrealistic expectations which can influence their satisfaction with the burglary investigation. The public can hold distorted perceptions of forensic science due to the popularity of forensic fiction, according to the CSI effect literature. Although this literature has neglected victims of crime, it has examined the perceptions of the general public (mainly jurors) about forensic evidence in order to determine whether the CSI effect exists, suggesting that jurors hold unrealistic expectations of forensic evidence. This thesis adopts a novel approach, using expectancy disconfirmation theory to explain the impact of such unrealistic expectations on burglary victims' satisfaction. Based on this theory, it is hypothesized that victims who hold unrealistic expectations of forensic evidence are likely to feel dissatisfied, as the police and crime scene investigators will not be able to meet such expectations.

To address this topic, this thesis utilised a mixed method approach. Quantitative data was gathered from a survey of burglary victims (N=100) in order to examine the effect of victims' unrealistic expectations of forensic evidence on satisfaction. To complement these findings, qualitative data was generated from a two-part study involving interviews (N=6) and an online survey (N=24) with Crime Scene Investigators (CSIs). The results demonstrate that burglary victims can hold unrealistic expectations of forensic evidence in line with the CSI effect literature, which have a negative impact on satisfaction with the crime scene investigation. This thesis makes a unique contribution to victim satisfaction and the CSI effect research, by examining a novel topic using an innovative research design.

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## **Introduction**

The aim of this thesis is to explore burglary victims' perceptions about forensic evidence and specifically whether they hold unrealistic expectations which can influence their satisfaction with the burglary investigation. Research on this topic is important for several reasons. Firstly, there is a gap in knowledge about this topic, as previous literature has neglected victims' perceptions of forensic evidence and their impact on satisfaction with the investigation of their crime. Forensic evidence is increasingly used during criminal investigations while society's awareness of the use of forensic evidence for the detection of criminals has been raised mainly by the popularity of forensic fiction. Although, portrayals of forensic science are frequently used in the media and it is a popular topic, research has demonstrated that such portrayals are inaccurate and in many cases the science in popular fiction does not exist (Houck, 2006). The assumption that the popularity of forensic fiction can create distorted perceptions of forensic science for the public is referred to as the CSI effect. Although CSI effect literature has neglected victims of crime, it has examined the perceptions of the general public, and mainly potential jurors, about forensic evidence in order to determine whether the CSI effect exists, suggesting that jurors hold unrealistic expectations of forensic evidence. However, victims as members of the public, may hold similar attitudes to jurors.

Expectancy disconfirmation theory suggests that if the performance of a product or service is lower than consumers' initial expectations, then they are more likely to report dissatisfaction (Oliver, 2010). Applying this theory to victim satisfaction within the burglary investigation context, one could reasonably assume that victims who hold very high or unrealistic expectations of forensic evidence are, likely to feel dissatisfied with the burglary investigation, as the police will not be able to meet such expectations. The application of the expectancy disconfirmation theory to explain the effect of victims' very high or unrealistic expectations on their satisfaction is novel, and represents an original contribution to the literature by this thesis. The novelty of the topic and the contributions of this thesis will be further explained in the next paragraphs.

Secondly, it is important to examine this topic since if the police cannot meet victims' expectations about forensic evidence because they are unrealistic, victims are more

likely to feel dissatisfied. This can have negative implications for the relationship between the public and the police. Police effectiveness in solving crimes depends on the public, mainly victims, who bring crimes to police attention by reporting their crime incidents. As a result, victims who believe that police cannot respond appropriately, will be unwilling to report their incident or engage in investigations or attempt to take vigilante actions (Mawby, 2007; Brandl and Horvarth, 1991). Moreover, the findings of this thesis have policy implications for the police, and especially Crime Scene Investigators (CSIs), in terms of the management of victims' expectations during burglary investigations.

Finally, it is worth mentioning that burglary was selected as the appropriate crime to investigate in this research for three reasons. Firstly burglary is a common type of crime encountered by the police (Fisher and Fisher, 2012) in which forensic investigation plays an important role as forensic evidence may lead to the detection of the offender or corroborate other evidence by linking the burglary with other offences (NPIA, 2011; Bradbury and Feist, 2005). Secondly, burglary has a serious psychological impact on victims which is essential for the application of the EDM model as it has its roots in social psychology and organisational behavioural theory (Oliver and DeSarbo, 1988). Also this type of crime was selected for logistical reasons as it is a relatively common type of crime which implies a greater likelihood of victimisation and, since it is also a priority offence for the police, it was thought to be more likely that the police would cooperate by offering access to burglary victims.

As this topic is novel, there is no specific theory to explain the effect of unrealistic expectations of forensic evidence on satisfaction. For this reason, this thesis considers three bodies of literature in order to build a theoretical framework and hypotheses in order to explore this effect. Firstly the CSI effect literature can shed light on how victims perceive forensic evidence, implying that victims hold unrealistic expectations. Secondly, the impact of unrealistic expectations of forensic evidence on satisfaction with burglary investigations will be assessed, utilising the expectancy disconfirmation theory by including other variables that play an important role in satisfaction as identified in victim satisfaction with the police literature. It should be highlighted that the terms 'unrealistic expectations' of forensic evidence and 'unrealistic perceptions' of forensic evidence will be used interchangeably throughout this thesis.

The idea to examine this topic comes from a previous study, which developed a Forensic Evidence Evaluation Bias Scale (FEEBS) to measure jurors' perceptions of forensic evidence and their impact on verdicts (Smith, 2011). This study concluded that victims may hold unrealistic expectations of forensic evidence as supported by anecdotal evidence from Crime Scene Investigators, which can potentially affect their satisfaction with the police. It also suggested that such impact could be tested through the use of the expectancy disconfirmation model (EDM) while the FEEBS might also be applicable to victims as well (Smith, 2011; Smith and Bond, 2015). This thesis builds further on this idea by examining previous literature in order to identify the gaps and develop an effective research design to address this topic.

A review of the CSI effect empirical literature demonstrates that jurors can hold distorted perceptions of forensic evidence, namely they can have either unrealistic expectations for the presence of forensic evidence in every case or have an unrealistic amount of faith in the ability of forensic science to identify the offender (Smith and Bull, 2012). This literature focused exclusively on juries, and ignores victims' perceptions of forensic evidence. However, this thesis argues that similar to jurors, victims as members of the general public can hold similar perceptions of forensic evidence. Within the theoretical CSI effect literature there is only one paper (Cole and Dioso-Villa, 2009) which suggested that victims may hold raised expectations for the collection of evidence (Victim's effect) but it did not provide any clarifications on this, without considering whether it could affect satisfaction.

To examine whether victims' unrealistic expectations of forensic evidence (as implied by the CSI effect) can affect satisfaction, this thesis uses the expectancy disconfirmation model (EDM) for two main reasons. Firstly, the efficiency of this model to explain satisfaction is widely supported by the consumer behaviour literature and secondly this model considers the role of expectations in satisfaction. Moreover, there are four studies which utilised EDM to explain victim satisfaction with the police (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Strohshine, 2005). However, these studies did not examine specifically the potential impact of distorted perceptions of forensic evidence on victim satisfaction. One study found that unfulfilled expectations of forensic evidence negatively affected satisfaction of domestic violence victims with the police (Robinson and Strohshine, 2005), but it did not give any further

consideration to this finding, as it was not the focus of the study. Finally, this thesis examines previous studies on victim satisfaction with the police in order to identify other variables that may play an important role in satisfaction and would be relevant to consider. The review identified some important variables involving different police actions that can affect satisfaction. Nevertheless, it is difficult to compare their results, as these studies employed different methods, focused on different types of crime and most often did not use any specific theoretical framework to explain satisfaction (Laxminarayan, Bosmans, Porter and Sosa, 2013).

The above discussion demonstrates that previous literature has never considered specifically whether victims hold unrealistic expectations of forensic evidence and whether such expectations could affect satisfaction with the investigations, highlighting the novelty of this thesis topic. For this reason, this thesis will build on the existing victim satisfaction literature by developing a model to explain victim satisfaction based on the EDM, which will consider the potential impact of victims' perceptions of forensic evidence. Moreover, this thesis will contribute to the CSI effect literature by providing evidence for whether a new type of CSI effect (e.g. involving victims) might exist. However, it should be emphasized that this thesis is not interested in identifying the source of victims' perceptions of forensic evidence, but rather focuses on the perceptions themselves, following the same approach as Smith and Bull (2012).

Overall, the aim of this thesis is to explore burglary victims' perceptions about forensic science evidence, and specifically whether they hold unrealistic expectations and whether these can influence their satisfaction with the police and the Crime Scene Investigators (CSIs). In order to address this topic, a mixed methods approach is employed, generating both quantitative and qualitative data, as the research problem plays the central role in selecting this approach (Creswell and Plano Clark, 2011). Quantitative data was collected from an online questionnaire (and a postal version) with burglary victims. Qualitative data derived from interviews and an online survey completed by CSIs. A mixed method approach is used, as one data source may be insufficient given the advantages and limitations of qualitative and quantitative data, the fact that this topic has never been explored by previous research and the difficulty with accessing burglary victims. This thesis utilised a convergent parallel design known also as the triangulation design, namely, quantitative and qualitative data were collected

concurrently but they were analysed separately and independently. Finally, the results of both datasets were integrated through a combined analytic approach, so that mixing occurred during the interpretation stage (Creswell and Clark, 2011).

This thesis is divided into 10 chapters, which are structured as follows:

Chapter 1 reviews the CSI effect theory and empirical literature, in order to shed light on the way in which victims of crime perceive forensic evidence. Although, this literature has almost neglected victims of crime, it has examined the perceptions of the general public, mainly potential jurors, about forensic evidence in order to determine whether the CSI effect exists. Thus, it is argued that victims as members of the public may hold similar attitudes to jurors and the general public. The chapter explains that the *CSI* franchise, and similar forensic programmes, often depict forensic science and techniques in an unrealistic way and discusses the origins of the CSI effect and the different versions of it suggested by researchers. It also considers the empirical literature on law enforcement personnel or forensic investigators and research on jurors regarding the CSI effect. The first one is important so as to understand the CSI effect impact on the investigators' jobs and victims' perceptions of forensic investigations while research on jurors suggests that victims may hold unrealistic expectations for the presence of forensic evidence or an over belief in its ability to identify the offender.

To examine the potential effect of victims' unrealistic expectations on their satisfaction with burglary investigations, this thesis utilises the expectancy disconfirmation model (EDM) which can explain satisfaction while considering the impact of expectations. For this reason, chapter 2 examines how the EDM was developed and tested in the consumer behaviour literature, which recognises its efficiency in explaining satisfaction. It argues that this model can be used to explain victim satisfaction with the police, by conceptualising investigation of crime as a service provided by the police. The chapter explains the function of the EDM and the role of the main components of the model by referencing key research, enabling useful assumptions about the role of victims' unrealistic perceptions of forensic evidence in satisfaction. Although there are some fundamental differences between victims as consumers and typical consumers of products and services, this chapter provides justifications for the use of this model to explain victim satisfaction. Finally, the discussion assesses the way that EDM was applied by a few previous studies on victim satisfaction with the police and indicates

how the expectancy disconfirmation theory, as developed and tested in marketing research, can contribute further to the methodology. These methodological contributions will be utilised by the subsequent studies of this thesis (described in chapters 5-7).

Having explained the efficiency of EDM in understanding satisfaction, chapter 3 explores which variables play an important role in satisfaction, by discussing literature focusing on victim satisfaction with the police. The review of this literature shows that different actions related to police demeanour (the way that victims are treated) and behaviour (during and after investigations) have been found to affect satisfaction. Moreover, this review demonstrates that although victims' expectations have almost been neglected, there is some evidence which support their effect on satisfaction. Finally, this chapter explains why this thesis will focus specifically on burglary victims, considering the impact of burglary on victims and the importance of forensic evidence in this type of crime.

Chapter 4 describes the methodological approach that was adopted in order to address the research questions. In doing so this thesis utilises a mixed method approach and the first part of this chapter explains justifications for this approach. The second part outlines the research design that was used, referring to how the quantitative (burglary victim survey) and qualitative studies (CSI dataset) will be combined. It also explains how both types of studies will address the research questions, the rationale for using them and how they were conducted. Also, ethical considerations regarding these studies are addressed. Finally, issues regarding the validity or quality of the mixed method study are discussed.

Chapter 5 presents the findings of a quantitative survey conducted with burglary victims regarding their satisfaction with the police investigation, using the EDM approach. Different variables (related to police demeanour and behaviour) identified in the previous literature are explored under the framework of expectations, performance and disconfirmation, which are the three core elements of EDM, in order to assess their impact on satisfaction with the police. It also considers the role of the demographics alone in satisfaction and in comparison with the EDM. This chapter provides two methodological contributions to the previous literature, which used the EDM in

explaining victim satisfaction. Firstly, the operation of the EDM is investigated not only in specific dimensions of performance but also on a unidimensional performance level, while both analyses support disconfirmation being the most important determinant of satisfaction. Secondly, an assessment of both measurement types of disconfirmation, namely subjective and objective disconfirmation is considered, suggesting that subjective disconfirmation constitutes a better measurement. The results are discussed in relation to the previous literature in marketing and victim satisfaction with the police, and explaining the implications for policy and research. The chapter demonstrates how the EDM operates in explaining victim's satisfaction with the police, supporting its efficiency to understand further burglary victim satisfaction.

Based on the arguments presented in chapter 5, chapter 6 utilises the EDM to examine burglary victims' satisfaction with the Crime Scene Investigator (CSI), separately from the police. This study presents the results of the third section of the burglary victim survey (used in chapter 5), designed to measure expectations, performance and disconfirmation of several variables related to forensic investigations, in order to find the most important determinant of victims' satisfaction with the CSIs. The results demonstrate the importance of disconfirmation in determining satisfaction with the CSI and are discussed in relation to the expectancy disconfirmation literature and the study on victims' satisfaction with the police (chapter 5). Moreover, this chapter establishes an EDM model which explains satisfaction with the CSI investigation, providing the basis for the next chapter.

Chapter 7 explores victims' perceptions of forensic evidence and uses the EDM as established in the previous chapter in order to demonstrate whether such perceptions can have an impact on victims' satisfaction with the CSI investigation. This chapter presents the results of the fourth section of the burglary victim survey, designed to measure victims' perceptions of forensic evidence. The results suggest that victims hold unrealistic perceptions of forensic evidence in the directions that the CSI effect literature suggests. Moreover some of these perceptions can affect victims' satisfaction with the CSI investigation. This chapter contributes to the CSI effect literature, providing some insights for the existence of a new type of CSI effect, involving victims. These findings are discussed with reference to the previous literature and theory and

provide the basis for further discussion in the final chapter which will consider victims' perceptions of forensic evidence as perceived by the forensic investigators.

The previous chapter examined victims' perceptions of forensic evidence and their role in their satisfaction with the CSIs, using quantitative data provided by burglary victims. To complement these findings, chapter 8 further explores these perceptions and specifically whether victims hold unrealistic expectations of forensic evidence and investigations, using qualitative data from 'a two part study of Crime Scene Investigators' (CSIs). The chapter is divided into four sections. The first section explores how the CSIs themselves perceive victims' expectations regarding burglary investigations and forensic evidence by examining whether victims hold unrealistic expectations about burglary investigations. Emphasis is given to understanding unrealistic expectations and whether they are in line with the suggestions made in the CSI effect literature (chapter 1). The discussion continues in the second section which examines how victims' unrealistic expectations are reflected in victims' common attitudes and their impact on the forensic investigations, focusing on those mainly related to watching *CSI* or similar programmes. The third section provides an evaluation of how the CSIs perceived victims' expectations about forensic evidence and victims' attitudes during investigations. Finally, the potential source of these unrealistic expectations, as perceived by the CSIs, is discussed.

Continuing the discussion of the previous chapter, chapter 9 explores the impact of the unrealistic expectations on the way that the CSIs conduct their job, by examining how and why the CSIs manage expectations, and the role of these expectations in victim satisfaction with the police and CSI investigation. This chapter is divided into three sections. The first section identifies the techniques that the CSIs employ in order to deal with these expectations, supporting the existence of a new CSI effect which has an impact on the way that the CSIs conduct their job. This section suggests that CSIs perceptions of the importance of managing these expectations imply a potential link for the effect of unrealistic expectations on victim satisfaction. This is further discussed in the second section, which examines the role of unrealistic expectations about the investigative process and forensic evidence in victim satisfaction with the CSIs and police. The final section considers the factors that contribute to victim satisfaction with

the police investigations, assessing the role of unrealistic expectations among these factors.

Chapter 10 returns to the main research question underlying this thesis namely, whether victims' unrealistic perceptions of forensic evidence can affect their satisfaction. The findings from both studies, namely the quantitative victim satisfaction survey (chapters 5-7) and the qualitative CSI dataset (chapters 8-9) are considered. Using a mixed-methods approach data obtained from quantitative and qualitative studies are reinforced and complement each other. This chapter is divided into three sections. The first section considers whether burglary victims hold unrealistic expectations of forensic evidence and if so, discusses their impact in satisfaction. The second section discusses the importance of managing such unrealistic expectations, assessing its effectiveness and considering its policy implications. Finally, the contributions, strengths and limitations of this mixed method study are considered, followed by suggestions for future research.

Overall, this thesis will contribute to the previous literature by exploring a novel topic which although has never been examined it has several policy implications. Consequently the findings of this thesis are not only interesting for academic purposes as they generate new knowledge about the impact of victims unrealistic expectations of forensic evidence in satisfaction with the investigation, but also for professionals like the police and CSIs. If victims hold unrealistic expectations of forensic evidence that negatively affect their satisfaction, criminal investigation personnel should pay further consideration to this topic so as to avoid its negative impact on victim satisfaction.

# Chapter 1: CSI Effect Literature

## 1.1 Introduction:

Literature on the CSI effect can shed light on the way in which victims of crime perceive forensic evidence. Although this literature has neglected victims of crime, it has examined the perceptions of the general public, and mainly potential jurors, about forensic evidence in order to determine whether the CSI effect exists. Victims as members of the public, may hold similar attitudes to jurors and therefore this chapter examines the CSI effect theory and empirical literature. It is demonstrated that although the *CSI* franchise and similar forensic programmes have been very popular, they often depict forensic science and techniques in an unrealistic way. This fact has generated concern within the legal community about the impact of these programmes on public attitudes towards forensic evidence or their forensic awareness, and mainly on jurors' verdicts, which have been reiterated by widespread media reports. This potential impact has been described as the CSI effect by anecdotal accounts and subsequently different versions of this effect have been suggested by researchers. Empirical literature on law enforcement personnel and forensic investigators about their perceptions of the CSI effect is also considered in order to understand its impact on their jobs and victims' perceptions. Moreover, research on the CSI effect impact on jurors is discussed because it could provide a basis for understanding the perceptions of victims of crime about forensic evidence as both are laypersons who come into contact with the criminal justice system, and forensics in particular. The last section provides the context for discussing what burglary victims should expect during burglary forensic investigations, based on the response that burglary victims do and should receive in practice.

## 1.2 Popularity of *CSI*:

*CSI: Crime Scene Investigation* is a forensic and police procedural television programme, which premiered on CBS in 2000 (Huey, 2010). As its title suggests, it focuses on the use of forensic evidence during investigations in order to solve crimes (Cole and Dioso-Villa, 2007). *CSI* has received high ratings which indicate that is a very successful and popular production. It was rated as the second most popular programme by the end of its second season and as the third most popular in 2005/2006 across America (Cole and Dioso- Villa, 2007). In 2013, *CSI* was among the top ten in primetime broadcast network TV in the United States (Nielsen, 2013). The programme

concluded in 2015 with its finale titled as ‘Immortality’ which received the highest numbers in viewers since January 2012 (Collins, 2015). In addition, *CSI* had two spin-off series *CSI: Miami* and *CSI: New York* which also gained remarkable popularity. Moreover, *CSI*’s popularity spawned a number of subsequent programmes such as *Without a Trace*, *Criminal minds*, *Naval Criminal Investigative Service (NCIS)*, *the Closer*, *Crossing Jordan* and *Bones* (Cole and Dioso-Villa, 2007). Networks worldwide have purchased these types of programmes which resulted in international popularity (Huey, 2010). For example, Channel 5 imported *CSI* and its spin-off series in the UK. *CSI* was crowned the channel’s highest rating drama until January 2015, by bringing in an average audience of 4.5 millions viewers on a weekly basis with a 17.8% share in 2009 (Miller, 2016). Data from Barb (2017) suggest that these programmes received considerable popularity and *CSI* remained within the top ten of Channel 5 until 2015. The international popularity of such American programmes has some implications for the thesis study, which involves British victims and will be discussed in section 6.1.2. However, it is worth mentioning that similar programmes produced in the UK have been very popular among viewers. For instance, the British series *Silent Witness*<sup>1</sup> has enjoyed a similar success making it one of the BBC’s longest running shows (Pryer, 2017; Barb, 2017). In January 2015, over 9 million viewers watched this programme, which still remains in the top ten (Barb, 2017). Although the main focus of *Silent Witness* (forensic pathology) is very different from *CSI*, it also introduces to the audiences the use of forensic science in criminal investigations (Bull, 2015).

As Cole and Dioso-Villa (2007) observe *CSI* is not a novelty in television as a police procedural programme since crime and law have always been used in the plot of popular dramatic entertainment and they will remain in the contemporary cultural moment (Greer and Reiner, 2012). Nevertheless, the combination of police procedural and forensic science gave *CSI* a novel characteristic (Leishman and Mason, 2003).

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<sup>1</sup> *Silent Witness* focuses only on the use of forensic pathology in solving crime and emphasises more in understanding the criminal’s motive or the investigator’s emotional involvement, unlike *CSI* where several types of forensic evidence are used and the main focus is on how forensic evidence lead to the solution of the crime (Panse, 2007). *Silent Witness* is a medicalised forensic crime drama, but introduces to the audiences the use of forensic science in criminal investigations (Bull, 2015).

Having described that *CSI* and similar forensic programmes constitute a popular sub-genre, it is important to analyse the way that these shows depict forensic science and evidence since the average viewer is not likely to have actual knowledge about law, crime and forensic science. Consequently, the media representations play an important role in the formation of this knowledge of the average viewer<sup>2</sup> (Mawby, 2003; Hayes and Levett, 2013). Relevant research has been focused only on the content of *CSI* while other similar programmes have not been examined. Nevertheless, since *CSI* was the first forensic programme and the other programmes utilise the same template, one could reasonably argue that they share many similarities.

### **1.3 *CSI* depictions of forensic science:**

Undoubtedly, television programmes like *CSI* provide the public with a distorted perspective concerning forensic science and its application in investigations by police personnel (Houck, 2006; Ghoshray, 2007; Stevens, 2011). Theoretical discussions and content analysis of *CSI* reveals that the line between the reality and fiction related to forensic science and police is blurred. According to Thomas Mauriello, a forensic scientist at the University of Maryland, nearly 40% of the forensic science presented on *CSI* does not exist (cited in Houck, 2006). Moreover, in cases where the forensic techniques are real, the way that collection, processing and analysis of evidence is depicted, does not correspond with the reality (Cole and Dioso-Villa, 2007). Typical *CSI* episodes portray crimes that are solved due to the application of forensic tests which can always lead to the offender without inculcating the wrong person. The show promotes the idea that forensic evidence is infallible and accurate and exists in every crime scene. The *CSI* team is never portrayed as susceptible to human errors or violation of their profession standards (DiFonzo and Stern, 2007; Cooley, 2007) while the time frame for conducting scientific tests does not correspond with the reality (Robbers, 2008). For example, DNA results are available to prosecutors in a 44- minute episode (Mann, 2006). Moreover, forensic scientists are depicted as having plenty of

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<sup>2</sup> Modern cultivation theory (Pfau, Mullen, Deidrich and Garrow, 1995; Shanahan and Morgan, 1999; Podlas, 2002; Menkel-Meadow, 2001; Brewer and Ley, 2010), social cognitive theory (Bandura, 1986; Long and Steinke, 1996; Long, Boiarsky and Thayer, 2001; Steike, 2005) and audience reception studies (Kitzinger, 1999) have been suggested as theories which may underlie *CSI* effect and could explain this phenomenon. These theories will not be discussed further as the public's source of knowledge regarding forensics is beyond the aim of this thesis.

time to dedicate in every case and as giving their full attention to only one investigation at a time in these television programmes (Houck, 2006) and police agencies have seemingly unlimited resources (Robbers, 2008).

All these distortions along with portraying forensic science as a glamorous occupation and conflating the roles of the detective and police and forensic analyst, constitute the central theme as found in a study which examined 397 media reports criticising *CSI* and similar programmes (Cole, 2015). Also, *CSI* does not show criminal trials and as a result it gives the impression that the trial is a mere formality when forensic evidence is available to prove guilt. *CSI* suggests that evidence is so strong that a trial is not important or necessary, especially when the majority of the suspects in *CSI* confess when confronted with forensic evidence (Tyler, 2006). Similarly, content analysis of *CSI* demonstrates that its depictions do not correspond with the reality of forensic investigations.

For example, a study by Podlas (2006) which examined the forensic issues which are most salient on *CSI* by analysing the content of the first two seasons of the programme, found that rapes and murders were the most frequently presented crime types and various kinds of forensic evidence were present in 39 out of 46 episodes. DNA, fingerprints, metal and glass fragments, paint chips, shoeprints, hair and fibres were presented as evidence in these episodes (Podlas, 2006). However, apart from DNA and fingerprints all the other evidence types constitute very weak evidence and therefore although they may be useful to investigate the case, they are not capable of identifying the offender. One could reasonably argue that this presentation of overreliance on weak or ambiguous types of evidence may contribute to viewers' impressions that these evidence types are stronger than they are in reality.

Research by Ley, Jankowski and Brewer (2012) focused on *CSI* depictions of DNA collection, analysis and use by examining the content of the first six seasons of *CSI*. More specifically, they randomly selected 51 episodes, which included 82 cases, out of 141 episodes. Their results indicated that *CSI* tends to depict DNA testing as common, swift, reliable and very important in solving cases. The investigators in the programme search for and recover DNA from an unknown source at the crime scene, as a routine in almost two-thirds of all cases. Furthermore, they analyse DNA in around half of all

cases and use DNA matches to solve more than a fourth of all cases. These proportions are greater, if one consider that its episodes include usually more than one case. Thus, scientific accuracy gives way to the 'show's time-limited plots, sexy aesthetics and playful dialogue' (Ley et al. 2012:62). Although, melodrama and fantasy can undermine the reliability of the science, the use of scientific language and its scientific representation of the techniques provide an air of realism and sense of plausibility. According to the researchers, these results imply a potential effect of *CSI*'s depictions on public understanding of genetics and DNA. Moreover, this study found that apart from the dominant messages, less frequently DNA testing is presented in more ambivalent or more complex ways. Occasionally, the value of DNA for solving a case and subsequent identification of the offender is questioned by the protagonists who sometimes admit that they collect DNA due to prosecutors' and jurors' demand. Even though these kinds of messages are less frequent, the researchers suggested that their impact on viewers should not be neglected and their impact renders the *CSI* effect as a more complicated notion than previous scholars and researchers had considered.

A study by Cavender and Deutsch (2007) examined the cultural meanings of the police and science portrayed in *CSI* by analysing the content of the first season of *CSI* and complementing this data with observations of eight episodes from the 2006 season of *CSI*, *CSI: NY* and *CSI: Miami* episodes. Consistently, in all the episodes, the *CSI* team examines crime scenes, collects evidence, conducts experiments in the laboratory, interviews suspects and witnesses and uses forensic evidence in order to solve crimes. In each episode, the *CSI* investigators manage to solve several cases, control the threat of crime and 'bring closure to victims' (Cavender and Deutch, 2007:70). The researchers concluded that *CSI* renders science and police as moral authorities.

Although, this multi-task role of the investigators blurred with police duties does not correspond with the reality, it promotes the legitimacy of science and police. These hybrid investigators/police officers suffer along with the victims who may remind them of their personal experience. Moreover, the *CSI* team is depicted as a police family who respects, takes care of each other and cooperates competently in order to fight against social disorder. Thus, the police family characteristic normalizes the protagonists to the audience while it promotes the image of police as moral authority. Female characters appear more frequently than males and share the same abilities and duties with the male

ones while intelligence is portrayed as equally important to physical strength for applying forensic techniques (Cavender and Deutch, 2007). Nevertheless, stereotypes about women are depicted such as ‘special women insights’ (Cavender and Deutch, 2007: 72). According to Tyler (2006), *CSI* depicts investigators as being sceptical of civilians. More specifically, the show often presents ‘victims’ who turned out to be the offenders and ‘offenders’ who confess, although they are innocent. Investigators do not even try to assess the credibility of civilians. Rather, their only goal is to collect ‘real’ evidence which can determine the truth (Tyler, 2006: 1058).

#### **1.4 Origins of the CSI effect:**

Legal authorities and the media have coined the term ‘CSI effect’ in order to describe the alleged impact of watching the popular television programmes such as *Crime Scene Investigation (CSI)* on jurors’ behaviours and decision-making. This alleged impact suggests that jurors who watch *CSI* expect a higher quality and quantity of forensic evidence, and as a result they have a tendency to acquit defendants since actual evidence is usually flawed and uncertain, or absent altogether at trial (Tyler, 2006). The term CSI effect was first used on the CBS Early show in 2002 in order to describe the increased interest of college students who were watching *CSI* in enrolling on forensic educational programmes (Cole and Dioso-Villa, 2007). This term was next used in an article of *The Oregonian* (2002, cited in Cole and Dioso-Villa, 2007) which reported that prosecutors were worried that *CSI* can create unrealistic expectations about forensic evidence to jurors. By 2005, there was widespread coverage of cases and stories regarding the CSI effect which had spread to Europe also (Cole and Dioso-Villa, 2007). Despite the fact that the CSI effect was established as a phenomenon by media reports, academic literature and research attempted later to define this term and suggested further different possible effects covered under the broad term CSI effect.

#### **1.5 Effects of CSI:**

Narrowly defined, the CSI effect describes the alleged impact of watching *CSI* or similar programmes on jurors’ verdicts. Broadly defined, this term describes the dynamic relationship between the depiction of forensic science and the perception of real forensic science and the cultural meanings related to race, work, crime and policy which the depiction of science and police imply (Kim et al. 2009). A number of possible effects of CSI have been described in literature and research. The most often

cited effect is that CSI creates unreasonable expectations to jurors for the presence of forensic evidence in every case. *CSI* portrays that every crime can be solved by forensic evidence. Thus, jurors tend to believe that evidence can solve every case and evidence of guilt can be found in every crime scene in the form of forensic evidence. Based on this argument, the first version of the CSI effect hypothesises that jurors will expect forensic evidence in trials in order to convict and therefore it constitutes a burden for the prosecutors to secure convictions, in the absence of such evidence (Podlas, 2006). This effect has been named under different terms such as ‘anti-prosecution’ (Podlas, 2006), ‘pro-defence effect’ (Smith and Bull, 2012) and the ‘Strong Prosecutor’s effect’ (Cole and Dioso-Villa, 2007). In an attempt to avoid confusion, this thesis will utilise the term ‘Strong Prosecutor’s Effect’.

*CSI* depicts forensic evidence as infallible and accurate. In *CSI* episodes, forensic evidence leads easily to the offender while it never inculpates the wrong person. Due to this, jurors may believe that evidence is always accurate and reliable without considering the limitations of science itself, junk science and human error (Podlas, 2006). In other words, *CSI* may lead to jurors having an over-belief in the abilities of forensic evidence to identify the offender. As a result, the second hypothesis of the CSI effect is that jurors tend to convict when there is forensic evidence of guilt, even if this evidence is of a weak standard, by disregarding the actual reliability of the evidence (Podlas, 2006). This second effect is often described as the opposite of the first one. Nevertheless, both effects are equally plausible and may affect jurors (Tyler, 2006). Different names have been also given to the second hypothesis such as ‘pro-prosecution effect’ (Smith and Bull, 2012) and the ‘Defendant’s effect’ (Cole & Dioso-Villa, 2007). In order to avoid confusion, this thesis will use the term ‘Defendant’s effect’.

The existing literature and research on the CSI effect has mainly focused on these two effects. However, other potential effects have been suggested, although they have never or rarely been tested through research. Cole and Dioso-Villa (2007) identified six potential effects, by examining media reports and literature. The first two are the Strong Prosecutor’s and Defendant’s effect, as previously described. Further, they identified the ‘Weak Prosecutor’s effect’ which suggests that prosecutors take extra measures in order to mitigate the impact of the Strong Prosecutor’s effect and secure convictions, and the ‘producer’s effect’ which holds that the show raises public awareness about

forensic science and has an educational effect on the public and juries. Another effect described by Cole and Dioso-Villa is the ‘professor’s version’ which suggests that there is an increased interest in forensic science programmes by students who often get disappointed and drop out since forensic science does not have the glamorous nature as depicted on television. The last effect that they suggested is the ‘Police chief’s version’ which describes how *CSI* potentially educates criminals about using more sophisticated techniques to commit crimes and avoid detection.

Similar to their initial study, Cole and Dioso-Villa (2009) conducted a subsequent study which identified the same effects. However, this time they also hypothesised a new effect found in media accounts, referred to as the ‘Victim’s effect’ in which victims have raised expectations that police personnel will collect forensic evidence at every crime scene (Cole and Dioso-Villa, 2009). It is worth mentioning that this was the first time that the *CSI* effect literature suggested that there might be an impact of *CSI* on victims of crime. Nevertheless, this new effect which is relevant to this thesis is not clearly defined and whether such an impact exists and can affect victim satisfaction with the police is not addressed in the literature thus far.

### **1.6 *CSI* Effect - Empirical literature:**

Initially, the *CSI* effect was supported only anecdotally through widespread media reports which presented this phenomenon as an observed fact without the existence of any empirical data. These reports concerned cases where the juries acquitted defendants despite apparently strong circumstantial evidence and mainly based on jurors’ interviews about the reason for their decision by journalists or prosecutors (Cole and Dioso-Villa, 2007). The reason for the acquittal was reported to be the absence of forensic evidence in the majority of these cases. Nevertheless, these interviews cannot produce reliable results due to the many methodological problems that they involve. More specifically, the conditions of the interviews are unknown, for example it is not certain if leading questions were used and it is also well documented in psychological literature that people struggle to reliably explain their motivations for decisions (Cole and Dioso-Villa, 2007).

These anecdotal accounts of the *CSI* effect were tested at a later stage by empirical research. Existing research can be divided into research on perceptions of legal

practitioners about the existence of the CSI effect and research about the impact of the CSI effect on jurors' verdicts. For the purpose of this thesis as interviews will be conducted with Crime Scene Investigators (CSIs), firstly it is important to examine the perceptions of legal practitioners since they may imply that police personnel hold similar opinions. In fact, the existing few studies involving police participants support this argument. Secondly, it is important to examine research on jurors since useful inferences for the way that they perceive forensic evidence can be made which could also be applied to victims as members of the public.

### **1.6.1 Research involving legal practitioners and police about the existence of the CSI effect:**

#### **1.6.1.1 Legal practitioners perceptions about CSI effect:**

The Maricopa County Attorney's Office (2005) examined prosecutors' perceptions of a potential CSI effect among jurors, by surveying 102 prosecutors. The majority of prosecutors surveyed reported having talked with jurors after trials. According to the results, the overwhelming majority of the participants claimed that they changed the way they present their arguments and evidence during trials in order to counter the CSI effect. Most of the respondents (70%) asked questions to potential jurors during *voir dire* in order to find out whether television programmes influence jurors' understanding of the criminal justice system and 76% considered the answers to these questions in order to remove potentially biased jurors. Nevertheless, only a moderate number (38%) believed that they experienced at least one trial where there was an acquittal or hung jury when forensic evidence was not presented, despite the fact that the available testimony was considered sufficient to secure a conviction. Thus, this study found that prosecutors have significantly changed the way they conduct their job in order to counteract the CSI effect, although there was not a noticeable change to verdicts from guilty to not guilty (Cole and Dioso-Villa, 2007). Moreover, they concluded that CSI significantly affects jurors in Maricopa County.

Nevertheless, this last claim cannot be supported by these research data. Firstly, there was not any perceived change in the number of the acquittals while the prosecutors are litigants and therefore they cannot judge the strength of their own evidence and the reasons which led jurors to reach a decision. Secondly, this study can only support the Weak Prosecutor's effect and not the Strong Prosecutor's effect as it claims, since it

relies on interviews with prosecutors and not jurors. Finally, jurors' attitudes were measured indirectly through prosecutors' perceptions which cannot be considered to be objective due to the fact that prosecutors are interested parties. This limitation can severely affect the validity of the data combined with the lack of careful recording of the data in that study (Cole and Dioso-Villa, 2007).

A study by Robbers (2008) examined whether criminal justice practitioners believed in the existence of the CSI effect by conducting a survey on a random sample of 290 prosecutors, defence lawyers and judges in the United States who have worked in the criminal justice system prior to and after the debut of *CSI*. The majority of the respondents (79%) reported experiencing some cases where they felt that jurors' verdicts were influenced by forensic television programmes. Moreover, 85% of the participants believed that the way they work had changed in an attempt to counterbalance jurors' unrealistic perceptions of forensic evidence due to these types of television shows. The majority reported that they have to spend more time discussing forensic evidence, as the main change and spend additional time during *voir dire* in order to identify and exclude jurors who are influenced by *CSI*. Other reported changes in their job execution were that the participants have to spend more time learning about forensic tests and procedures, need to clarify the differences between fiction and reality during trials and have to highlight the facts of a case during trial in absence of evidence. Moreover, the respondents mentioned that they spend more time watching forensic television for trial preparation and in establishing the credibility of eye-witnesses and summon more experts in order to provide negative evidence. Also, Robbers (2008) found that 70% of the respondents believed that jurors now hold unrealistic expectations about forensic evidence and police work, for instance believing that the police having limitless resources and small caseloads.

Although this study supports the claim that legal practitioners believe in the existence of CSI effect one should consider the main limitation of this study. Participants were asked about how forensic television programmes have changed verdicts. Nevertheless, asking for retrospective recall involves specific problems such as the participants may not remember accurately past events and this could affect their responses (Robbers, 2008). This argument can be reinforced if one considers that their memory may be biased, based on whether they won or lost the case. Moreover, half of the respondents did not

regularly watch forensic television programmes and therefore they may not be familiar with the depictions of forensic evidence and techniques on such programmes and consequently they may make assumptions on their own about the programme's content. For this reason, they may not constitute the most appropriate sample for examining whether the CSI effect exists.

Research on prosecutors and lawyers indicates that legal professionals not only believe that the CSI effect exists and directly affects jurors' verdicts but also that they feel compelled to take some additional measures in order to reduce its impact on jurors (Maricopa, 2005; Robbers, 2008). Thus, one could reasonably argue that police officers and forensic investigators could hold similar opinions with legal professionals for victims of crime (instead of jurors) and the way that they deal with crime and victims. Indeed there are only a few studies on police and forensic investigators which give support to this argument, which are reviewed in the next section.

#### **1.6.1.2 Police perceptions about CSI effect:**

Stinson, Patry and Smith (2007) were the first to examine the perceptions of police officers and forensic investigators regarding the CSI effect and how these perceptions affect the way that they deal with crime, offenders and victims by conducting one study with 127 forensic investigators and a second study with 36 police officers, all of whom worked for the Royal Canadian Mounted Police. The results of the first study demonstrated that a large proportion of the forensic investigators (61%) watched at least some crime shows related to *CSI* per week. Nevertheless, crime drama viewing did not affect the responses on the key survey items. Out of 127 investigator participants, 98 provided definitions of the CSI effect which were consistent with the descriptions of the CSI effect in media. Thus, the majority (80%) defined the CSI effect as a phenomenon which increases the public's general expectations about investigations and criminal justice while more than 35% of the respondents believed that this increase specifically affected expectations at the crime scene. Moreover, 40% of the respondents believed that the CSI effect increases the sense of public knowledge about investigation and 30% believed it enhances the public's belief in forensic evidence. Furthermore, the majority (86%) of the sample believed that the advances in science and technology have changed the way that they execute their job at least to some extent while over half of the respondents believed that crime shows changed the way that they investigate crimes at

least to some extent. Nearly two thirds of the respondents believed that crime shows affect the way that they interact with the public, for example now they have to explain to people how they conduct the investigations. The overwhelming majority (94%) reported that crime shows affect the public's expectations about their profession, in terms of time spent on investigation, type and availability of evidence and the investigative process, as most frequently commented by the participants. Finally, all the respondents believed that crime shows are less than completely accurate while the majority of them (80%) reported that these programmes are at least slightly accurate.

Stinson et al. (2007) conducted a follow up study with 'on the beat' (2007:128) police officers since the sample of the first study consisted only of investigators which are likely to come into contact only with specific type of people regularly and they are limited in these terms. The results of the second study were consistent with the first one with only one exception. Unlike investigators, 69% of the police officers believed that these programmes have not changed the way that they conduct investigations. Moreover, the police officers reported that these programmes affect victims' expectations more than general public expectations, in terms of time spent on investigation and solving the crime, availability of evidence, and sophisticated investigations in every case, as most frequently commented by the participants. A paired samples t-test indicated that these differences as perceived by the police officers between victims and the public were statistically significant. This finding is interesting for this thesis since it may suggest that victimisation can have an effect on expectations about forensic evidence. Police officers estimated that only 41% of crimes are solved in reality, whereas 94.4% of crimes depicted in shows are solved while most of them (97%) agreed that these programmes oversimplify the way that the police investigate crimes.

In summary, both forensic investigators and police officers believed that the CSI effect exists and provided definitions consistent with the literature. Moreover, it was indicated that the CSI effect influences the way that forensic and police professionals work in terms of time spent on explaining the procedure of investigations to public. Professionals are changing their behaviour in order to reduce the impact of the CSI effect since they believe that the public hold unrealistic expectations due to crime shows (Stinson et al. 2007). However, these studies are mainly quantitative and they did not

explore further the comments provided by the participants regarding victims' expectations, which seem to reflect crime shows depictions. This topic will be further explored in chapter 8, which presents the findings from the qualitative study with Crime Scene Investigators (CSIs).

Huey (2010) examined police perceptions about the impact of *CSI* or other similar programmes on public expectations about investigations. She conducted interviews with 31 Canadian police investigators and 'forensic identification officers', which is the Canadian equivalent job title to 'CSI'. Thematic analysis revealed that the majority of the sample believed that crime programmes affect police interactions with the public, for example people (victims, their family and witnesses) query the investigation process, suggest alternative methods, and sometimes they even try to help by interviewing witnesses and identifying evidence. Moreover, the majority of participants believed that this kind of programme constitutes the primary source of erroneous expectations and behaviours of the public when they interact with the police during investigations.

This study identified three strategies that forensic professionals employ in order to manage victims' expectations in relation to those perceived as coming from media (Huey, 2010). The first strategy was appeasement; 'police members seek to silence potential or real evaluations and/or complaints about their performance by responding to, or pretending to respond to queries and demands as means of giving citizens the impression that they are doing everything to solve a case' (Huey, 2010: 60). Secondly, CSIs can perceive managing the expectations as an opportunity to educate the victims about reality of policing procedures. The last strategy is related to resorting to professional authority, where CSIs refer to their expert status to deal with unrealistic expectations. However, this study does not address the question of whether the management of expectations could be perceived as a change in the job of professionals. Moreover, many of the participants expressed concern that 'the ultimate' effect of *CSI* could decrease the public's confidence in police since there is an important gap between reality and media representations. This last finding gives support to the aim of this thesis since it implies that victims' unrealistic expectations of forensic evidence can influence their satisfaction with, and confidence in, the police. Nevertheless, this issue

should be further explored because the Huey (2010) study is based on police officers' perceptions of victims' attitudes without asking victims directly.

Makin (2012) explored specifically how common is collecting nonviable evidence and the reasons why officers employ such practice, by conducting a mixed method study with law enforcement officers (N= 441) in the United States. He found that 30% of the participants were familiar with this practice while 33% of the respondents would collect evidence, at the request of the victim. Interestingly, the most common reason for employing this practice was that CSI effect influences the decision of the investigator, especially in property crimes where evidence is collected for PR (public relations). Also, this can keep the victims satisfied or avoid complaints as they have very high expectations due to *CSI*, especially in smaller communities. Thus these findings do not have implications only about the credibility of the policing system as Makin argues, but also for the management of expectations and its relation to victim satisfaction.

Similar to the legal practitioners' perceptions of the CSI effect, police and forensic investigators also believe that the CSI effect exists and may influence the perceptions of members of the public about forensic evidence. It is worth mentioning that these studies demonstrated, to some extent, that police personnel believe that victims hold unrealistic expectations about forensic evidence due to *CSI* and similar programmes and they have changed the way that they conduct their job due to this belief. Moreover, if law enforcement personnel change the way that they conduct their investigations, and especially by collecting more evidence as some findings (Makin, 2012) and anecdotal accounts suggest, these behaviours can have important implications for the management of expectations and victim satisfaction. Overall, these findings provide a basis for exploring further in chapters 8-9 through the experiences of the CSIs, victims' expectations of forensic evidence and the existence of a new CSI effect on the Crime Scene Investigators, regarding the management of high/ unrealistic expectations. This effect is similar to the Weak Prosecutor's effect, and will be named as *the Investigator effect*. According to this new effect, one could argue that similar to prosecutors, CSIs may also feel that they have to change the way that they conduct their job (by adopting some techniques), in order to manage victims' unrealistic expectations due to watching *CSI* or similar programmes and potentially make the victims feel satisfied.

### **1.6.2 Research on the CSI effect's impact on jurors:**

Research on the CSI effect has focused mainly on crime shows' impact on jurors' decisions. The results of these studies are equivocal. Some studies found no direct link between television viewing and verdicts, others showed mixed results by supporting an indirect link and only one study gave support to the CSI effect. Nevertheless, these results should be carefully taken into consideration since these studies involve some methodological limitations. Despite the inconsistency and the limitations of the results among these studies, emphasis will be placed on the findings of these studies concerning unrealistic expectations and unrealistic reliance on forensic evidence since these are relevant to this thesis' aim.

Podlas (2006) was the first to conduct a survey in order to examine whether the CSI effect exists and more specifically she examined the anti-prosecution or Strong Prosecutor's effect. The sample consisted of 306 undergraduate and graduate university students. Based on their reported viewing habits for 33 law and crime related programmes, respondents were divided into 'frequent viewers' of *CSI* and 'non-frequent viewers' of *CSI*. Respondents were asked to read a rape trial scenario and determine whether the defendant was guilty or not, as well as selecting the reasons which led them to their decisions. In this trial scenario, no forensic evidence was provided by the prosecution, although it is worth noting that forensic evidence would not be useful even if it existed in this case since the only issue at trial was whether the victim gave consent. By analysing the reported reasons which led to not-guilty verdicts Podlas sought to determine if frequent viewers of *CSI* were more likely to acquit the defendant due to the absence of forensic evidence (as the CSI effect would suggest). The results indicated that there was no significant difference between the frequent viewers and non-frequent viewers in terms of reasons for acquittals. Thus, Podlas concluded that there was no support for the anti-prosecution version of the CSI effect.

Nevertheless, there are some limitations in this study. Firstly, since the defendant admitted that the sexual intercourse occurred, the only issue in the rape trial scenario was if the intercourse was consensual. Thus, even if forensic evidence was provided (e.g. DNA), it would be irrelevant in order to determine the guilt of the defendant. Due to the fact that only a small number of the respondents reported the absence of forensic evidence as a reason for verdict preference, Mancini (2011) argues that this study

examined the recognition of jurors of the inappropriateness of forensic evidence in this trial instead of examining whether the CSI effect exists. In addition, the use of college students is not considered to be appropriate for examining the CSI effect since actual jurors have a wide range of background characteristics unlike students and consequently this is not a representative sample (Kim et al. 2009). Moreover this study did not attempt to examine whether the participants held unrealistic expectations and their role in the verdicts despite the fact that this is a component of the Strong Prosecutor's version of the CSI effect.

Schweitzer and Saks (2007) examined a different component of the CSI effect, namely how television viewing can affect evidence interpretation. A transcript of a criminal trial about a murder was presented to 48 university students who were eligible for jury service. The only evidence for guilt presented was hair recovered from a ski mask and doubtful eye-witness testimony from a witness who barely saw the offender, at some distance, at night. Testimony from the forensic scientist, who did the microscopic hair analysis, suggested that the hair came from the defendant. Participants were divided into non-viewers if they reported never watching forensic science and general crime TV programmes and viewers if they reported watching one or more shows per month.

Schweitzer and Saks' (2007) results indicated that forensic science viewers and viewers of general crime shows believed that they understood the task that forensic scientists perform better than non-viewers. Moreover, only forensic science viewers were more critical of the testimony provided and rated it as less believable compared to non-viewers and general crime shows viewers. Thus, the researchers concluded that forensic science fiction viewing increases jurors' expectations about the quality of the evidence and makes them expect better or high-tech scientific evidence compared to the techniques often presented in the courts. As a result, they claimed that this study gives support only to this component of the Strong Prosecutor's version of the CSI effect. Nevertheless, they found no statistically significant difference between the verdicts of viewers and non-viewers therefore they suggested that crime show viewing does not have an effect on verdicts and consequently this study does not support the Strong Prosecutor's effect. A very important limitation of this study is the small sample size, which undermines the power of the study (Mancini, 2011).

Shelton, Kim and Barak (2007) examined whether jurors have expectations for forensic evidence in trials related to watching different types of crime shows, and whether they would demand the presentation of forensic evidence in order to convict a defendant. The sample consisted of 1027 participants who had been called for jury duty in Washtenaw County in Michigan who participated before they had been selected for any particular trial. Based on the county's census, the sample fairly represented the county population, which is a strength of this sampling method. Based on the frequency that respondents reported watching *CSI*, the sample was divided into *CSI* viewers (42.4%) and *CSI* non-viewers (57.6%) namely those who never or almost never watch *CSI*. *CSI* viewers frequently also reported watching other law related programmes while non-*CSI* viewers tended not to watch other law related programmes. The more frequently participants watched a particular programme, the more accurate they believed that this programme is.

Participants were asked about their expectations for different types of forensic evidence in different types of crime. Almost half of the participants (46.3%) expected some type of evidence in every case despite the fact that some evidence types are not appropriate or may not be needed in all cases. Their expectations varied depending on the type of crime. For example, the majority (71.1%) expected fingerprints in breaking and entering cases while a small proportion expected DNA (16%) which seems to be less relevant in these cases. The more serious the type of crime is, the more scientific evidence the participants expected to see. Thus, these results provide support for the anecdotal claims that jurors expect that the prosecutors will provide some types of scientific evidence in trials. Moreover, the majority expected to see non-scientific evidence (victim and eye-witness testimony and circumstantial evidence) nearly in all cases. However, these expectations were less discrete and crime specific compared to the expectations about forensic evidence. It was indicated that *CSI* viewers had marginally higher expectations for both scientific and non-scientific evidence compared to non-*CSI* viewers. Furthermore, *CSI* viewers had marginally higher expectations for more relevant evidence and lower expectations for less relevant evidence dependent on the type of crime compared to non-viewers. Nevertheless, this difference was statistically significant for some cases only.

Secondly, jurors were not less likely to convict without scientific evidence despite their high expectations generally. However, jurors demanded scientific evidence in order to convict in rape cases and in cases that relied on circumstantial evidence (Shelton et al. 2007). This is consistent with previous research on juror bias which indicated that the use of sexual assault trial scenarios have led to unexpected and inconsistent results (Smith and Bull, 2014). Moreover, the researchers did not find any statistical relationship between CSI viewing and demand for scientific evidence as a condition to convict. Consequently this study did not support the Strong Prosecutor's effect.

Shelton, Kim and Barak (2007) concluded that the importance of marginally increased expectations held by CSI viewers is unclear and they assumed that these programmes seem to 'educate' viewers about investigations and the criminal justice system despite the fact that they depict science unrealistically. Nevertheless, the results provide support for the anecdotal claims that jurors, and not only those who are CSI viewers, expect that the prosecutors will provide some types of scientific evidence in trials. In an attempt to explain the origin of expectations, the authors suggested that a broader effect of changes in culture is a more plausible explanation rather than television programmes as the CSI effect hypothesises. Instead they coined the term 'Tech effect' (Shelton et al. 2007: 362) which indicates that the advances in technology and the use of these advances in media crime stories are responsible for the high expectations of people about forensic evidence.

Kim, Barak and Shelton (2009) subsequently utilised the same data from their previous study (Shelton et al. 2007) in order to examine the relationship between crime show viewing and verdicts by utilising a more complicated statistical method, namely path analysis. Path analysis demonstrated that frequent CSI viewers had significantly higher expectations to see scientific evidence in trials while these increased expectations significantly lowered their willingness to convict in the absence of any type of scientific evidence. Thus, it was concluded that CSI programmes may have an indirect effect on verdicts by raising juror expectations, which in turn lower willingness to convict if no scientific evidence is presented. This provides support for the CSI effect's Strong Prosecutor's version but it explains this influence as indirect rather than direct effect.

Moreover, expectations about forensic evidence were significantly associated with juror's age, race, gender, education and political views. CSI viewers also often watch other crime related TV programmes, although this relationship is moderate ( $r = .614, p < .01$ ). As a result, the researchers suggested that jurors' expectations about scientific evidence were affected by three factors namely exposure to CSI dramas, individual characteristics and other relevant sources about science and forensic technology. Thus, they concluded that a Tech effect is a more possible explanation for the origin of the expectations since the advances of technology combined with the increased public awareness about forensic science in recent years influences jurors' behaviour and verdicts rather than CSI viewing alone as the CSI effect hypothesises. This is the first time within the CSI effect literature that a study attempted to identify other potential sources of unrealistic expectations instead of focusing only on the impact of watching *CSI* and similar programmes. Importantly, both the CSI and Tech effect propose that the public holds unrealistic expectations of forensic evidence but they differ only in terms of the potential sources of such expectations. However, identifying the potential sources of unrealistic expectations is beyond the aim of this thesis, as will be explained in section 1.6.2. For this reason, and given that no other study has examined the Tech effect, this thesis refers to the CSI effect throughout, rather than the broader Tech effect. However, the Tech effect will be considered in chapter 8, when examining the perceptions of the crime scene investigators about the origins of victims' unrealistic expectations of forensic evidence.

The Kim et al. (2009) study has some limitations. The study did not examine the Defendant's effect and namely, whether frequent exposure to CSI may lead to unconditional trust for scientific evidence or for scientific jargon. An important limitation of this study is that brief statements were used in order to describe the case scenarios and therefore detailed information was not used in order to describe the case, the victims and the offenders. By oversimplifying the scenarios, the ecological validity is weakened (Mancini, 2011) and consequently these findings may not be applicable to people's natural social settings (Bryman, 2008). However, it is worth mentioning that this is a criticism of all mock jury studies.

Baskin and Sommers (2010) examined if crime show viewing has an effect on public attitudes about forensic evidence and if these attitudes can lead to a predisposition to

convict or acquit in a trial. Data was gathered by Field Research Corporation, which is a professional polling organisation. Twelve questions related to this research; people's perceived reliability of evidence, their crime show viewing habits, their experience with the criminal justice system and the effect of scientific evidence on their verdicts in rape and homicide scenarios, were added in this poll. A telephone survey was conducted by using a random sample of 1,201 California registered voters. 40.3 % of the respondents reported to be victims of crime and 30.3 % of the sample reported that they do not watch any TV programmes related to crime and justice. The results indicated that the respondents believed that scientific evidence, namely DNA (89.5%) and fingerprints (78.8%) were more reliable compared to other evidence (e.g. medical expert testimony, victim, police and eye-witness testimony). It was demonstrated that the more time spent watching crime programmes, the more reliable the participants perceived forensic evidence to be, even if the respondents' background characteristics were controlled for in the analysis. Also, ethnicity was a significant predictor of perceived reliability of forensic evidence. Watching crime shows was not a significant predictor of perceived reliability of the other types of evidence. Furthermore, there was a significant relationship between crime show viewing and willingness to convict in a case of absence of scientific evidence both in murder and rape scenario. Participants who watch crime shows three or more hours per week were less willing to convict in an absence of scientific evidence. Also, ethnicity was a significant predictor of willingness to convict. On the contrary, the respondents who reported having been a victim of crime were more likely to convict in an absence of scientific evidence in both scenarios compared to non-victims of crime. This is an interesting finding for the aim of this thesis and indicates that previous victimisation may affect victims' decisions based on their perceptions of forensic evidence.

In an attempt to establish a causal link between crime show viewing, forensic evidence attitudes and likelihood to convict in absence of scientific evidence, Baskin and Sommers (2010) utilised mediation analysis. Mediation analysis can demonstrate whether there are intermediate variables, such as attitudes about forensic evidence, which can influence the relationship between crime show viewing and likelihood to convict. Due to the fact that a mediation model could not be established statistically, the researchers concluded that attitudes about forensic evidence had no mediating or indirect effect on likelihood to convict. On the contrary, crime show viewing directly

had an effect on participants' beliefs about their willingness to convict in absence of scientific evidence and on their perceptions about forensic evidence (Baskin and Sommers, 2010). As a result, this study gave support to the CSI effect, namely to the Strong Prosecutor's and Defendant's effect. This finding contradicts the study by Kim et al. (2009) which found that crime show viewing had an indirect effect on verdicts by raising juror expectations, which in turn lower willingness to convict.

Nevertheless, this study has an important limitation. The Field Poll included only twelve questions related to this study. Consequently, it was not possible to give to the participants any context to consider in order to reply to the questions. Although, the use of polls allows a correlation between items related to the research questions with a range of behaviours, attitudes and characteristics, as recognised by the researchers this study obtained only 'black-and-white snapshots of public attitudes' without being able to capture subtle differences in perspectives due to the use of polls (Baskin and Sommers, 2010:108). This limitation combined with the use of telephone survey as a method to gather the data weakened even more the ecological validity (Mancini, 2011) since the more the researcher creates unnatural settings the more ecologically invalid will be the results (Bryman, 2008).

The aforementioned studies represent the relatively limited research concerned with the CSI effect and its impact on juror behaviour, and they produced equivocal results concerning the CSI effect hypotheses. It is difficult to compare their results since they employed different methods, they adopted different approaches to examine the hypotheses and they share many methodological limitations. As a result, the exact scope of the CSI effect hypotheses is not clear while the extent to which this phenomenon influences actual jurors is even more difficult to determine. This argument is further reinforced, if one considers that no study attempted to examine how jury deliberation could affect the results of measuring the CSI effect, which decreases the ecological validity of these studies.

All of these studies supported the idea that forensic fiction television shows can affect, to some extent, the way that people perceive forensic evidence by either creating unrealistic expectations or an unrealistic amount of faith in the forensic evidence ability to identify the perpetrator. Nevertheless, there were inconsistencies regarding the

definition of 'frequent viewer' and different television programmes were referred to among the studies. Moreover, other potential sources of these perceptions apart from crime shows were not examined with the exception of one study. Kim et al. (2009) suggested that the source of expectations could be attributed to individual characteristics, other relevant sources about science and forensic technology along with CSI dramas.

Nevertheless, these findings support some of the components of the CSI effect hypotheses and more specifically that there are two types of perceptions of forensic evidence. Thus, these two types of perceptions about forensic evidence consist of either unrealistic expectations about the presence of forensic evidence or an unrealistic amount of faith in the ability of evidence to identify the offender. Undoubtedly, all these studies demonstrated that people hold perceptions similar to the ones that the CSI effect suggests (except Podlas, 2006 who disregarded the role of expectations).

According to more recent studies these perceptions indeed exist as the CSI effect literature suggests. These studies gave emphasis to measuring attitudes about forensic evidence themselves, instead of trying to identify potential sources of jurors' beliefs, like specific television programmes. Smith and Bull (2012) attempted to measure jurors' pre-trial attitudes about forensic evidence by developing and testing the Forensic Evidence Evaluation Bias Scale (FEEBS) and validated its effectiveness in two subsequent studies. The 31 initial items of FEEBS came mainly from the CSI effect literature and anecdotal claims about jurors' perceptions about forensic evidence and 219 members of the general public eligible for jury service participated in the initial research. After the exclusion of items with low inter-item and low item-total correlations, the final version of the FEEBS included 10 items. These items were analysed with principal component analysis (PCA), which resulted in a model of the ten items including two distinct components. Component one consisted of items related to beliefs which represent an unrealistic amount of faith in the ability of forensic evidence to identify the offender. This component corresponds with the Defendant's version of CSI effect (Cole and Dioso-Villa, 2007), referred to as the FEEBpp subscale. This subscale measures attitudes related to pro-prosecution beliefs which place an increased burden on the defence. Component two consisted of items related to the unrealistic expectations for the presence of forensic evidence in trials. This component corresponds

with the Strong Prosecutor's version of CSI effect (Cole and Dioso-Villa, 2007), named as the FEEBpd subscale. This subscale measures attitudes related to pro-defence beliefs which place an increased burden on the prosecution.

In a second study (Smith and Bull, 2012), the researchers tested how effectively the FEEBS can predict mock juror decisions in a murder trial scenario. The sample consisted of 159 undergraduate students (UK) eligible for jury service. Among other circumstantial and eyewitness evidence, the only forensic evidence which was provided was DNA which was of weak probative value. The DNA came from a cigarette end outside the murder scene and matched with the defendant. PCA analysis of the FEEBS resulted in the same two components as in the first study, comprising the two sub-scales of the FEEBS. The results indicated that only the FEEBpp subscale was a significant predictor of the participants' perceived strength of the forensic evidence. Specifically, as the FEEBpp score increases, the strength rating of the weak DNA evidence increases too. Mediation analysis was employed in order to investigate the relationship between perceived strength of evidence, verdicts and pre-trial bias. The mediation model demonstrated that in trials where forensic evidence with weak probative value is presented, scores on the FEEBpp partially predict the perceived strength of forensic evidence which in turn predicts the probability of a guilty verdict. The FEEBpd subscale could not predict the perceived strength of evidence. Nevertheless, the researchers suggested that this subscale may be relevant only in an absence of evidence trial scenario as its theoretical concept determines.

In a third study the effectiveness of the FEEBS was validated for sexual assault and robbery trial scenarios, where the presence of DNA was manipulated in order to examine whether the FEEBpd subscale could predict the perceived strength of circumstantial evidence in cases of absence of DNA evidence (Smith and Bull, 2014). The use of different crime types is important in order to test the predictive validity of the FEEBS since previous research on juror bias has indicated that sexual assault trial scenarios have found unexpected and inconsistent results (Smith, 2011). The sample consisted of 200 members of the general public (UK) eligible for jury service. Both trial scenarios had two versions, namely one with the presence of weak DNA and one without forensic evidence. Confirmatory Factor analysis gave theoretical and empirical support for the two subscales and demonstrated that the factor structure of the two

subscales is conceptually similar to the Strong Prosecutor's and the Defendant's effects respectively. Similar to the previous study (Smith and Bull, 2012), only the FEEBpp subscale was a significant predictor of the perceived strength of DNA in both sexual assault and robbery scenario when the weak DNA was present.

For both the robbery and sexual assault scenario where DNA was not provided, the perceived strength of the arresting police officer testimony was the only significant predictor of the perceived probability of guilty. Thus in the absence of forensic evidence, participants relied on circumstantial evidence, which is what would be expected in this type of trial scenario. The FEEBpd subscale was the only predictor which was related to the perceived strength of the circumstantial evidence. Participants with stronger pro-defence attitudes about forensic science were more likely to perceive circumstantial evidence as weak and therefore less likely to believe that the defendant was guilty.

Despite having a more sophisticated approach to the CSI effect, these studies (Smith and Bull, 2012; 2014) have some limitations. The second study utilised undergraduate students as a sample and therefore this limits the ability to generalise the results to real jurors. Even though this limitation was improved in the third study, the format of the trial materials was restricted and consequently this might have an effect on decision-making. Despite these limitations, the results of these studies were consistent with the CSI effect hypotheses, namely perceptions of forensic science can predict how evidence was perceived and in turn the verdicts given by the respondents. The CSI effect hypotheses further suggests that crime fiction and television programmes are the sources of these beliefs and since this was not examined by these studies, it can be argued that they support CSI effect versions only partially. As it was indicated previous research could not support any direct link between crime programmes and juror verdicts apart from the research by Baskin and Sommers (2010). However, these series of studies by Smith and Bull demonstrated that these beliefs exist and influence verdicts and they can be measured and utilised to predict jurors' perceptions of forensic evidence.

The study with burglary victims in this thesis (chapter 7) will utilise some items from the FEEBS which might be relevant for victims of crime, in order to measure their

attitudes about forensic evidence. The items of the FEEBS were successfully tested through principal components analysis and confirmatory factor analysis and validated for murder, sexual assault and robbery scenarios. Therefore, this thesis argues that the FEEBS is a potentially reliable scale and some of its items could measure victims' attitudes about forensic evidence and be utilised in order to subsequently predict victims' satisfaction with the police.

The empirical evidence base for the CSI effect is primarily derived from studies conducted in the US, suggesting that Americans have unrealistic perceptions of forensic evidence. This may have some implications for the applicability of the CSI effect theory in this thesis, which focuses on British victims. However, this does not constitute a significant issue for two reasons. Firstly, given the international popularity of these American programmes and the success of similar British shows (e.g. *Silent Witness*), one could reasonably argue that victims in the UK may have distorted perceptions of forensic evidence as well. The results of the studies conducted by Smith and Bull (2012; 2014) reinforce this argument, indicating that UK citizens hold unrealistic perceptions about forensic evidence to some extent, although they did not examine the origins of such perceptions. Secondly, this thesis utilises the CSI effect in order to understand how victims may perceive forensic evidence, without examining the sources of these perceptions. In reality, it would be very difficult to accurately determine the sources while this would not have any further impact on the aim of this study; if victims have unrealistic expectations, this could affect their satisfaction with burglary investigations, irrespective of their source. Therefore, following the reasoning of Smith and Bull (2012; 2014) this thesis does not attempt to identify the potential source of such perceptions, for example if they could be attributed to watching *CSI* or similar TV programmes, but instead it focuses on the perceptions themselves and whether they are unrealistic or not.

### **1.7 Hypotheses:**

Based on the two types of perceptions about forensic evidence, which the CSI effect describes, and the expectancy disconfirmation theory (reviewed in the next chapter) some hypotheses can be made for victims' perceptions (and their subsequent satisfaction with the investigation). Similar to the Strong Prosecutor's version of the CSI effect, victims can hold unrealistic expectations about the presence of forensic evidence in the crime scene.

- If forensic evidence is not recovered by the CSIs, then victims will report dissatisfaction with the CSIs while in the presence of this evidence they may feel satisfied.

Like the Defendant's version of the CSI effect, victims can have an unrealistic amount of faith in the ability of forensic evidence to identify reliably the offender.

- If the CSIs recover any type of evidence (irrespective of whether it is strong or weak), victims will report feeling satisfied.
- If the CSIs recover strong evidence, victims who have higher expectations about the quality of evidence (strong evidence), will feel satisfied while in absence of such evidence will feel dissatisfied.

Unfortunately the hypotheses coming from the Defendant's effect could not be addressed as initially designed. This will be further explained in chapter 7. Another hypothesis that will be examined is whether victims always expect that the police will collect forensic evidence at every crime scene as the Victim's effect suggests (Cole and Dioso-Villa, 2009) and consequently if such an expectation can lead to dissatisfaction in cases where the police do not search for forensic evidence. However this effect does not consider if such expectations could have an impact on satisfaction. This is reminiscent of the hypothesis made above, coming from the Strong Prosecutor's effect.

To clarify this, when applied to the criminal investigation context, the Strong Prosecutor effect is conceptually similar to the Victim's effect in terms of the type of perceptions of forensic evidence; raised expectations for the presence of forensic evidence (Strong Prosecutor's effect) or for collection of evidence in crime scenes (Victim's effect). The only difference is that unlike the Victim's effect, the Strong Prosecutor's effect emphasizes also the role of the absence of evidence which can be relevant to the victim satisfaction. This thesis argues that the type of perceptions as described in the Strong Prosecutor's effect and the Victim's effect are the same. Nevertheless, in an attempt to capture their definitions coming from the CSI effect literature, these effects will be measured differently, with the first giving emphasis to expectations about the collection of evidence (Victim's effect) and the second one to expectations about the presence of evidence (Strong Prosecutor's effect). The Defendant's effect gives further insight into the perceptions of forensic evidence, namely victims can have an unrealistic amount of

faith in the ability of forensic evidence to identify reliably the offender. All these hypotheses will be tested in the main study of this thesis with domestic burglary victims (chapter 7).

### **1.8 Burglary victims and expectations of forensic investigations:**

The previous sections reviewed the CSI effect literature in order to shed more light on understanding how victims perceive forensic evidence in terms of the potential strengths and limitations of forensic science, suggesting that victims may have unrealistic expectations. This section provides the context for discussing what burglary victims should expect during burglary forensic investigations, based on the response that burglary victims do and should receive. Defining 'realistic' expectations requires analysis of different policies among police forces and the actual forensic evidence recovery and use in detecting burglaries. Emphasis is placed on burglary investigations, given that this thesis will focus only on burglary victims, as will be explained in chapter 3.

Although there is no available recent data on this topic, Burrows, Hopkins, Hubbard, Robinson, Speed and Tilley (2005) conducted a study, which is indicative of how forensic investigations work in practice and the value of evidence in detecting crime. The researchers examined eight British Command Units (BCUs) in order to examine which factors affect their variation in detection rate in terms of volume crime. It should be mentioned that only 13% of burglaries were detected in England and Wales in 2003/2004. The study found that BCUs utilised different policies regarding the Crime Scene Investigator (CSI) attendance, demonstrating an important variation in crime scene attendance rates and in the recovery of forensic evidence (DNA and fingerprints). For example, CSI attendance for domestic burglaries ranged from 63% to 100% across the BCUs. From the 80% burglary crime scenes attended by a CSI (summary statistics from BCUs), only 36% yielded fingerprints and 6% DNA. Moreover, the recovery of such evidence does not lead necessarily to a suspect. Collection of evidence generated a first link, meaning that it primarily led to the detection of a suspect, only in 24% of all direct detections. The majority of these links (80%) were established through the recovery of forensic evidence. Such low percentages suggest that victims should realistically have low expectations about the recovery and usefulness of forensic evidence. Nevertheless, forensic investigations are still important as forensic evidence

can corroborate other types of evidence and lead indirectly to detection of crime and therefore CSI attendance is essential (Burrows et al., 2005). Also, BCUs do not have the same resources, allocating them differently along with their efforts in investigating crime. These lead to different strategies in assessing which crime scenes should get prioritised or would lead to secondary examination.

The aforementioned study indicates that police responses are dynamic and therefore forensic investigations depend on a number of factors (e.g. budget cuts, extended response times, crime scene management, CSI attendance) affecting the effectiveness of forensic evidence in solving crime. Consequently, one could argue that victims realistically should have low expectations for the recovery and use of forensic evidence in directly detecting burglaries. However, as most of the victims' first contact with the police and CSI investigation may be during the investigation of their burglary offence, their expectations may not be consistent with such limitations in practice. This may further intensify their unrealistic expectations about the strengths and limitations of forensic science, because most of them are lay people without specialised knowledge in forensics and as a result they are not able to assess the sources where their forensic knowledge comes from.

### **1.9 Conclusion:**

This chapter examining the literature on the CSI effect can shed light on victim's perceptions or expectations of forensic evidence. Although the existing literature has neglected victims of crime, it has examined the perceptions of the general public, and mainly potential jurors, about forensic evidence in order to determine whether the CSI effect exists. Victims as members of the public may hold similar attitudes with jurors and the general public. It was demonstrated that although the *CSI* franchise and similar forensic programmes have been very popular, they often depict forensic science and techniques in an unrealistic way. This fact has generated concern within the legal community concerning the impact of these programmes on public attitudes towards forensic evidence or their forensic awareness, and mainly on jurors' verdicts, which were reiterated by widespread media reports. This potential impact has been described as the CSI effect by anecdotal accounts and in later stages different versions of this effect have been suggested by researchers. Similar to the legal practitioners' perceptions of the CSI effect, the few studies on police demonstrate that the public and victims can

hold unrealistic expectations of forensic evidence due to watching CSI or similar programmes and that the investigators have to change the way that they conduct their job in order to manage them. Moreover, research on jurors suggests that they can hold two types of unrealistic perceptions of forensic evidence related to the Strong Prosecutor's and the Defendant's effects. Based on this finding, some hypotheses were made regarding victims' expectations of forensic evidence and their potential effect on victim satisfaction, acknowledging that the Strong Prosecutor's effect is conceptually similar to Victim's effect. Moreover, the last section provided the context for discussing what burglary victims should expect during burglary forensic investigations, based on the response that burglary victims do and should receive, suggesting that victims' expectations may not keep up with policy limitations in practice.

Having argued that victims can hold high or unrealistic expectations of forensic evidence, as the CSI effect literature suggests, the next chapter will discuss the expectancy disconfirmation theory. This theory sets a framework to understand victim satisfaction and also considers the impact of expectations on satisfaction providing useful insights about how victims' unrealistic expectations of forensic evidence could affect their satisfaction.

## **Chapter 2: Expectancy Disconfirmation Theory**

### **2.1 Introduction:**

A review of marketing literature indicates that the use of the expectancy disconfirmation model (EDM) for explaining consumer satisfaction has been widely recognised (Yi, 1990; Oliver, 2010). Based on this idea, this thesis attempts to apply this model in order to explain victim satisfaction with the police and CSIs, by conceptualising investigation of crime as a service provided by the police. Therefore, the purpose of this chapter is to introduce the theory and research concerning the expectancy disconfirmation model as it has been developed in consumer behaviour literature. Firstly, the function of the expectancy disconfirmation model is explained and secondly the role of the main components of the model is discussed by referencing key research, enabling also to make useful assumptions for the role of victims' unrealistic perceptions of forensic evidence in satisfaction. A careful examination of the function of the model and its components indicates that one cannot really predict how the components of the model will operate regarding victim satisfaction since there are some fundamental differences between victims as consumer and typical consumers of products and services. Nevertheless, there are important reasons, which justify the use of this model to explain victim satisfaction. Finally, the discussion assesses the way that EDM was applied by the few existing studies on victim satisfaction with the police and indicates how the expectancy disconfirmation theory as developed and tested in marketing research can contribute further to this body of literature. These methodological contributions will be utilised by the subsequent studies of this thesis (chapters 5-7).

### **2.2 The Expectancy Disconfirmation Model:**

The use of the expectancy disconfirmation model (EDM) for explaining consumer satisfaction with different products and services has been widely recognised (Oliver and Swan, 1989a, 1989b; Pager, 2004; Van Ryzin, 2006). According to EDM, consumers hold expectations about the performance of a product or service before the purchase of it. These expectations can derive from many sources, for instance previous experience or interpersonal and commercial communications, and operate as comparative standards. After using the product or service, the consumer becomes aware of the actual performance of the product. As a result, the consumer compares the perceived actual

performance with the prior expectations (Erevelles and Leavitt, 1992; Oliver and Burke, 1999). The gap created from this comparison is known as disconfirmation and constitutes an antecedent of satisfaction. Therefore, satisfaction is a function of expectations, performance and disconfirmation (Oliver and Burke, 1999).

There are three possible states of disconfirmation, namely positive, negative and no (zero) disconfirmation (Oliver, 1977). Positive disconfirmation results when consumers experience a product which exceeds their prior expectations and can lead to reported satisfaction. Negative disconfirmation occurs when the product's performance is lower than originally expected and the individual reports a lower level of satisfaction and possibly dissatisfaction. Finally, no (zero) disconfirmation occurs when the individuals' expectations are exactly met by the performance of the product which confirms prior expectations (Erevelles and Leavitt, 1992; Oliver, Balakrishnan and Barry, 1994). The role of zero disconfirmation in satisfaction is unknown a priori. Confirming or meeting expectations is not the key to satisfaction because if consumers expect to be satisfied or dissatisfied with a product/service and the experience is in accordance with these expectations, they will report 'just as expected' for both scenarios (Oliver, 1997).

It should be highlighted that the core EDM process consists of four main relationships, as depicted in Figure 1. Firstly, both expectations and performance together influence subjective disconfirmation (relationship 1 and 2), contributing to the creation of the gap between expectations and performance as the definition of disconfirmation states. As a result, three outcomes of disconfirmation are possible (negative, positive, zero disconfirmation). Secondly, disconfirmation can have a direct effect on satisfaction (relationship 3) (Van Ryzin, 2004). Calculated or objective disconfirmation gives the basis for the subjective interpretation of the gap between performance and expectations, which is referred to as subjective disconfirmation and therefore it directly affects satisfaction. Thirdly, expectations and performance are correlated although the direction of this relationship is not clear since this relationship depends on the stage of the consumption that was measured and on the specific product or service (relationship 4). Apart from these four main relationships, research and the conceptual refinement of the core theory indicates that there are also other relationships which may operate parallel to the core process. Thus, performance may directly affect satisfaction (relationship 5) and expectations may directly affect satisfaction (relationship 6) (Van Ryzin, 2004).

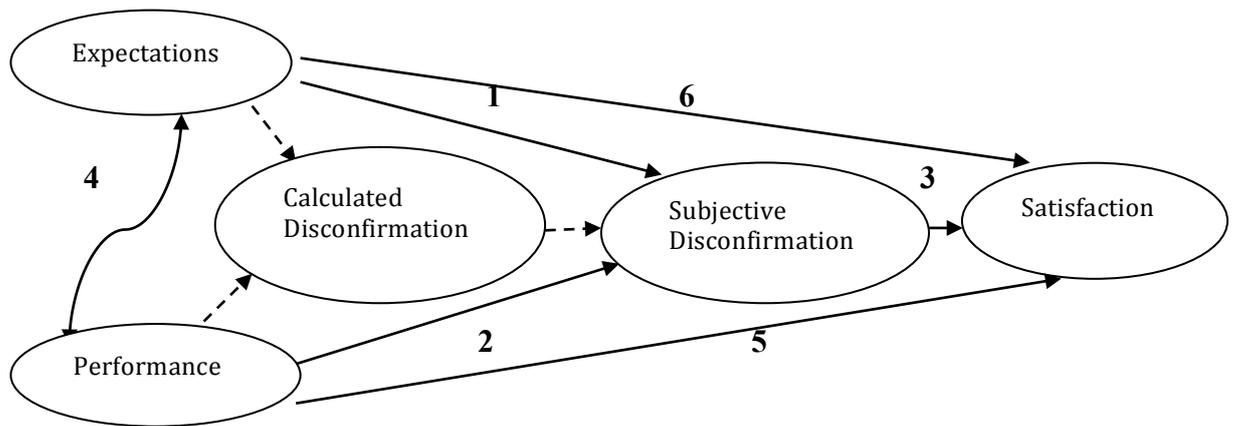


Figure 1 Expectancy Disconfirmation with Performance Model (Oliver, 2010: 120)

Having demonstrated the function of the EDM model, it is essential to discuss the three components of the model in further detail before considering how this model might be applied to studying victim satisfaction with the police.

### 2.2.1 Performance:

Early consumer satisfaction literature examined only performance as a determinant of satisfaction (Oliver, 1997). Performance is measured in terms of consumer evaluations of its key dimensions or attributes (through good-bad response measures) and these measures are almost always correlated with satisfaction (Oliver, 2010). ‘Performance can have a direct effect on satisfaction in tandem with disconfirmation, indirect effects fully absorbed by disconfirmation or both direct and indirect effects’ (Oliver, 1997: 120).

Due to the fact that the concepts of performance and disconfirmation are correlated, the problem of multi-collinearity can be overcome by using statistical manipulations or by running two models. The first model will include performance while the second model will exclude performance in order to reveal the effect of disconfirmation in isolation. Research indicated that both performance and disconfirmation affect satisfaction while which effect is stronger is not clear (Churchill and Surprenant, 1982; Tse and Wilton, 1988). The only possible case where the consumer will take into account only performance is when he/she is not confident enough to judge the product or there are no prior expectations as in rare one-time experiences. Other studies have demonstrated

indirect effects of performance through disconfirmation or both direct and indirect effects (Bolton and Drew, 1991; Anderson and Sullivan, 1993).

### **2.2.2 Expectations:**

Expectations can be defined as anticipation of future consequences, which depend on previous experience, current situations or other sources of information (Tryon, 1994 cited in Oliver, 2010). In consumer behaviour literature, emphasis is given to expectations' function in determining satisfaction and not to its definition itself. This function is related to the assumption that consumers use expectations as a comparative basis to assess performance. As a result, the definition of expectations broadens to contain other terms for example consumers' needs and desires which can be used as comparative standards, namely having the same function as expectation. Moreover, expectations are not only restricted to predicting future performance but they can also include many things such as hopes, wishes and anticipations. It is difficult to determine what exactly the consumer expects from a product or service because it is difficult to measure the level of abstraction of expectations which sometimes involves anticipated satisfactions. Therefore, although expectations related to attributes of a product or service can always be measured, researchers will not be able to know the level of abstraction or satisfaction and the level of desire which the consumer has as standard (Oliver, 2010).

#### **2.2.2.1 Types of expectations:**

Expectations may have many comparison levels such as of level of desire, concrete or ambiguous level of abstraction and comparison referent (Oliver, 1997). Firstly, they can be classified by the level of desire which indicates desire in general or the desired level of performance. Thus, these expectations are related to the ideal or wished level, the expected or predicted level and the minimum tolerable or lowest acceptable level. Nevertheless, in business monopoly situations like public utility service the consumers are obliged to tolerate expected levels below the minimum tolerable (Oliver, 2010). One could reasonably argue that this can be true also for the police service, which is a public utility service and as a result victims are obliged to tolerate expected levels below the minimum despite their high expectations. Unlike typical consumers in marketing literature, who have the opportunity to select a product or service among many options, victims do not have the same opportunity with the police service.

Expectations can also be classified by the level of abstraction. Thus, expectations can be active or passive, have knowable or unknowable outcomes and involve certainty, uncertainty or ambiguity or ignorance of the outcome. Unlike passive expectations, active expectations are those which are cognitively processed. Active expectations can involve the consideration of unknowable outcomes with ignorance (Oliver, 2010). 'Ignorance means that the frequency distribution of outcome cannot be ascertained because there is no historical precedent or because the outcomes are subject to a random process' (Oliver, 2010: 71). The consumer can hold active expectations with ignorance in cases of using innovations or products/services which are not within the normal experience of the consumer, for example in industries where rapid innovations and experimentation take place i.e. pharmaceutical, medical procedures or biogenetics. Thus, as indicated, expectations include elements, which are intangible and therefore pose difficulties to their measurement. Finally, expectations can be classified by referents of other comparison standards e.g. other people, product, internal standards and external sources. In this sense expectations start a comparison with other referents, which are blended within the expectations process (Oliver, 1997).

#### **2.2.2.2 How do consumers create expectations?**

Consumers transform available information into expectations due to external and internal sources (Olson and Dover, 1979; McKinney, Yoon and Zahedi, 2002). External sources include promotional claims like advertising. It is worth mentioning that both theory and research indicate that consumers are particularly influenced by advertising when they do not have other sources of information or experience (Hoch and Ha, 1986). Word of mouth is another external source of expectations according to which, consumers are influenced by the experiences of others who can be close to them, like spouses or friends, or people unknown to them. Third – party information like independent reports of product quality which can be found in television programmes and magazines can constitute another potential external source. The last external source is the use of information concerning price, scarcity, brand name, store image and advertising repetition (Oliver, 1997; Oliver, 2010). The first three external sources can be also relevant for the formation of expectations about police and forensic evidence by the victims because victims as lay persons often do not have other sources of information apart from media, friends, relatives and the internet.

Regarding the internal sources, previous experiences with the product or its competitors and other information deriving from personal or third party communications (i.e. media) are stored in the consumer's memory and play a significant role in the formation of expectations. Consumers use retrieval mechanisms in order to formulate expectations from their memory. The ease to recall is one of these mechanisms according to which consumers use the most available information in their memory, which is the most recent in cases where the product is 'unimportant' for them (Oliver, 2010: 78). This retrieval mechanism is reminiscent of the availability heuristic (Tversky and Kahneman, 1973 and 1974; Thorsten, Ralph and Florian 2012), 'Unimportant' product refers to the phenomenon of a consumer's low involvement and means that the consumer will not spend a substantial amount of cognitive effort in order to process it especially when there is a long history of performance experience. As a result, in these cases consumers will use the most available information in their memory such as distinctive past moments or they will update aspects of a past experience with the most recent one (Oliver, 1997). Previous satisfaction has been shown to have a significant impact on future expectations. Moreover, negative events are more available in memory compared to positive ones since individuals encode negative information faster in order to avoid harmful situations (Folkes, 1994; Oliver, 2010).

Another retrieval mechanism is the vividness of recall, according to which the distinctiveness or vividness of an event facilitates its recall. It is easier to recall events, which involve negative information and imagery since negative information is more distinctive and imagery improves vividness. For example advertising can improve vividness through visual stimuli. Many heuristics and other factors can influence expectations directly or the process of retrieval of relevant material which are used for the formation of expectation (Oliver, 2010). Thus, victims' perceptions of forensic evidence could operate as heuristics and consequently influence expectations directly or their formation as victims are lay people and do not have actual knowledge to assess information sources on forensics.

### **2.2.2.3 The role of expectations in satisfaction formation:**

Expectations have a double role in the formation of satisfaction. Firstly, they predispose a consumer's response to a specific way regardless of performance, having a direct effect on satisfaction. Secondly consumers use them as a basis for assessing

performance, so expectations have an indirect effect on satisfaction through disconfirmation (Oliver, 2010). Research on consumer satisfaction has mainly measured actual predictive expectations, namely the expectations were estimated before the use of the product or performance through experiments. When expectations are measured after consumption, they are called retrospective expectations. Measuring retrospective expectations relies on the ability of the consumer to recall their expectations before consumption. Undoubtedly, this involves problems such as recalled bias in favour of performance, ill-defined expectations or data-driven ones in cases where the consumer is not familiar with the product. For this reason, Oliver (2010) recommends that the retrospective expectations section should appear before other variables and especially satisfaction in a survey in order to avoid recalled bias in favour of performance or satisfaction. However, research has demonstrated that expectations sometimes are more easily recalled after the use of the product since the consumer actualizes them through consumption (Madey and Gilovich, 1993). Thus, measuring expectations retrospectively may be more valid in some cases, although this issue requires further research (Oliver, 2010).

#### **2.2.2.4 The role of the unrealistic perceptions (or expectations) of forensic evidence in satisfaction:**

The above discussion on expectations provides the basis for making some assumptions regarding the role of the unrealistic perceptions (or expectations) of forensic evidence in satisfaction. Victims may hold unrealistic perceptions of forensic evidence as the previous chapter suggested. Such perceptions of forensic evidence could operate as comparative standards or as heuristics which may affect their initial expectations of CSI investigation or their formation, given that victims are lay people and most of the time they do not have actual knowledge to assess their information sources on forensics:

- Unrealistic perceptions (or expectations) of forensic evidence can be related to victims' initial expectations of the CSI investigation, which in turn affect satisfaction either directly or indirectly through disconfirmation.
- Unrealistic perceptions (or expectations) of forensic evidence can have a direct effect on satisfaction because victims are lay people and do not know how to assess the performance of the CSIs (see next section; when expectations dominate).

### **2.2.3 Expectancy disconfirmation:**

Expectancy disconfirmation consists of three elements: the event, the probability that this event will occur, and whether it is desired or not. These elements should be considered during the interpretation of the states of the expectancy disconfirmation (Oliver, 2010). There are three states of expectancy disconfirmation, namely negative, positive and zero disconfirmation (Oliver, Balakrishnan and Barry, 1994). Negative disconfirmation occurs when there is a negative discrepancy between performance and expectations, and the performance fails to meet expectations. It includes situations where highly probable and desired events do not occur and low-probability, undesired events occur. Positive disconfirmation describes a positive gap, namely the performance exceeds the expectations and includes the opposite cases of negative disconfirmation. According to zero disconfirmation the performance exactly meets the expectations and it refers to cases where high probability and low probability events take place as they were expected. Whether the event is desirable or not does not play any role (Oliver, 1997; Oliver, 2010).

Depending on the way that disconfirmation is measured there are two types of disconfirmation, namely objective (or calculated) disconfirmation and subjective disconfirmation. Objective disconfirmation is measured by subtracting expectation scores from performance scores, as it is defined as the quantitative difference between performance and expectations. Subjective disconfirmation is measured by asking respondents directly through the use of better than/worse than expected Likert scales. Measuring objective disconfirmation involves some difficulties. The translation of the numeric scores to consumers' subjective meaning cannot be precise, especially for specific attributes that cannot be easily quantified (e.g. comfort, artwork) or because consumers may implicitly place greater emphasis on expectations than on performance or vice versa. The raw difference score does not indicate the proper amount of valence that the consumers attach to the gap between expectations and performance, unlike subjective disconfirmation which implicitly takes into account this valence of the consumer since it is measured by a better than/ worse than scale. This valence demonstrates how much better or worse the performance is according to the consumer's opinion (Oliver, 1997; Oliver, 2010). A number of studies have demonstrated that subjective disconfirmation constitutes a better measurement than objective disconfirmation for predicting satisfaction since it correlates more highly with

satisfaction measures (Oliver, Balakrishnan and Barry, 1994; Dion, Javalgi and Dilorenzo-Aiss, 1998; Page and Spreng, 2002). Moreover, they indicated that the sequence (cause and effect analysis) which better fits with the data is:

Calculated disconfirmation → Subjective disconfirmation → Satisfaction

**Figure 2 Objective/Subjective Disconfirmation Sequence (Oliver, 2010: 104)**

Consumers use the discrepancy between performance and expectation as input to their subjective interpretation of this discrepancy. Thus, subjective disconfirmation turns into the most direct antecedent of satisfaction (Oliver, 2010), as depicted in Figure 2. Consumers can sense the difference when no objective score of this discrepancy is available, for example the purchase of artwork where the performance dimensions are not objective. The fact that consumers can sense this difference when performance dimensions are not objective has been also indicated by research (Oliver, 1980).

### **2.2.3.1 When do expectations dominate?**

Expectations dominate in the formation of satisfaction when consumers place more emphasis on expectations than on performance or disconfirmation. In such a case, strong high expectations will dominate over weak negative disconfirmation and as a result the consumer will still be satisfied, although their satisfaction will have a lower level compared to their satisfaction if expectations had been met. Moreover, strong low expectations will overwhelm the effect of weak positive disconfirmation, and as a result the consumer will be dissatisfied despite the fact that the product was better than expected. Expectations absorb disconfirmation through assimilation (Oliver, 2010). Expectations can dominate when the consumers are disinterested or unwilling in testing performance and when they are unable to judge performance because performance is ambiguous or they are not aware of the procedures such as using high technology items (Oliver, 2010). This may be especially relevant to victim satisfaction with the investigative performance of the police. One could argue that victims as laypersons are not likely to have any specialised knowledge to assess forensic techniques and therefore it is possible that their expectations will dominate their satisfaction decision. As CSI effect literature suggests these expectations can derive from crime television programmes which unrealistically depict the police investigations and consequently

create unrealistic expectations of forensic evidence to the public while the public cannot assess these depictions due to lack of specialised knowledge.

### **2.2.3.2 When does disconfirmation dominate?**

This is the opposite case to the situation described in the previous section. Strong negative disconfirmation and weak high expectations lead to dissatisfaction (shock, betrayal) while strong positive disconfirmation and weak negative expectations lead to satisfaction (surprise). Disconfirmation dominates in satisfaction decisions when consumers are familiar with and have previous experience with the product or service or (Oliver, 1997). Thus applying this to victims, disconfirmation may dominate in cases of previous victimisation and contact with the police since victims would have a previous experience with the police investigation. Disconfirmation effects override expectations when there is a delay in assessing expectations, as the memory declines, which is implied if expectations are measured retrospectively. This declining memory does not affect the consumer judgement in the subjective disconfirmation scale as it is not necessary to know the precise expectation levels (Oliver, 2010). Consequently, the disconfirmation effect may be more dominant in the studies of this thesis because they measure expectations retrospectively (chapter 5-7).

### **2.3 Model variations:**

Figure 1 describes all the potential relationships of the elements of the expectancy disconfirmation model. Nevertheless, in practice all these elements may not operate as previously discussed, for instance some elements like expectations and performance may not be processed. Moreover, some studies have demonstrated that some groups of individuals process differently or not at all some of the elements of EDM and different elements can be dominant for different attribute sets (Oliver, 1997).

Oliver and DeSarbo (1988) examined the effects of expectations, performance, disconfirmation, attribution and equity on satisfaction both on an aggregate (entire sample) and individual level. They conducted an experiment using a simulated stock market transaction scenario. Analysis on an aggregate level indicated that the effect of disconfirmation was the strongest, followed by the effect of performance and the effect of expectations while all the effects were significant. However, analysis on an individual level demonstrated that out of 40 respondents only 15 used all three

elements. Concerning the rest of the respondents, nine participants were performance and disconfirmation orientated, nine were only disconfirmation orientated, five were expectation and disconfirmation orientated, one used only performance and the last one equity. As a result, this study demonstrates that the elements of the model, which play a role in determining satisfaction, can be different across different participants. However, this study did not examine whether moderator variables exist and could not find background characteristics associated with the response tendencies (Oliver, 1997). A similar study on an individual level does not exist in victim satisfaction research.

Oliver and Burke (1999) examined the operation of the elements of the model in specific dimensions of performance in restaurant patronage. Analysis on a unidimensional level by using a summed attribute list and overall score of all the elements indicated that only performance and disconfirmation had a significant effect on satisfaction. Factor analysis of the attribute list (from the performance data) indicated three main factors, namely ambiance, food and service. Due to multicollinearity between performance and disconfirmation concepts, the researchers ran two models, the first including performance and the second excluding performance in order to reveal the effect of disconfirmation in isolation. When performance was included, for the ambiance dimension, the effects of all elements were significant. For the food dimension, only the performance effect was significant while for the service dimension no significant effects were found. When performance was excluded both expectations and disconfirmation had significant effects in all dimensions. This study demonstrates that the operation of the model's elements can be different across specific attributes compared to a summed attribute list.

Oliver (2010) suggests that the impact of disconfirmation and expectations should be measured in an individual product or service basis since the relevant research has produced different findings due to many idiosyncratic variables. Despite the fact that the ability of the model to predict satisfaction is not questioned, research has demonstrated that its elements need more specification due to potential variations and some limitations of the model that have been observed. Moreover, there are other satisfaction comparative models which operate in tandem with EDM such as need fulfilment, quality, value equity, regret and affect while the interaction of all these models requires further research (Oliver, 2010). These comparative models will not be

further discussed here since these concepts were developed for typical consumers in marketing and therefore seem to fit only in marketing research. Nevertheless, other concepts more relevant to police service offered to victims can be more relevant and work in tandem with EDM, for example, previous victimisation, the psychology of burglary victims, fear of crime, victims' actions and belief in a justice world.

#### **2.4 EDM and victim satisfaction:**

Regarding the application of EDM to explain victim satisfaction, it is difficult to predict how the model will operate, and specifically which relationships of the model will significantly affect satisfaction for two main reasons. Firstly, as Oliver (1997) highlights research on consumer satisfaction has indicated that different relationships were important for different services and products. More specifically, some studies demonstrated that only expectations had a significant effect on satisfaction (Olshavsky and Miller, 1972; Anderson, 1973), other studies found only disconfirmation effects (Cadotte Woodruff and Jenkins, 1987; Oliver, Balakrishnan and Barry, 1994), some researchers found only performance effects (Churchill and Surprenant, 1982; Halstead, Hartman and Schmidt, 1994). Other studies supported the combination of two elements effects on satisfaction (Swan and Trawick, 1981; Bearden and Teel, 1983; Westbrook, 1987) while one study indicated a combination of all the elements effects working in tandem (Oliver and DeSarbo, 1988). Based on this evidence, Van Ryzin (2004) argued that all of the model's relationships should be tested in his research on citizens' satisfaction with urban services since this model had never been applied before in that context. Similarly, due to the fact that only four studies have previously examined this model to explain victim satisfaction with the police (Chandek and Porter, 1998; Chandek, 1999; Reising and Chandek, 2001; Robinson and Strohline, 2005), it is essential to test all of the relationships.

Secondly, it is important to highlight that this model has been mainly tested and developed in consumer satisfaction research and therefore there can be many differences regarding how this model operates in victim satisfaction. Although police investigations are a service and victims are considered to be consumers of the criminal justice system (Mawby, 2007) there are inherent differences between victims as consumers of police service and typical consumers of products or services. Generally, victims do not have the freedom of choice among many services as in a real market,

they may suffer a psychological trauma due to their victimisation and usually it is the first time that they come in contact with police service unlike consumers that are more familiar with other types of markets. These factors can affect the operation of the model and will therefore be considered by the research in this thesis. Nevertheless, there are still reasons which support the application of EDM to explain victim satisfaction.

Firstly, expectancy disconfirmation theory has its roots in social psychology and organisational behavioural theory (Oliver and DeSarbo, 1988) and therefore it can be applied to wider concepts apart from consumers in marketing research. Secondly, the criminal justice system has given victims the role of the consumer (Mawby, 2007) and therefore the EDM model can be applicable to explain their satisfaction with the police. Thirdly, there are a few studies which have applied this model to explain victim satisfaction, which are reviewed in the next section of this chapter. All these reasons support the suitability of this model in the context of victims of crime and justify the use of it by this thesis in order to explain their satisfaction with the police and CSI service. Especially regarding this thesis, this model has the advantage of considering the role of expectations in satisfaction decisions. According to CSI effect literature, the public can hold raised or unrealistic expectations of forensic evidence and specifically these types of expectations can indirectly affect jurors' decision-making. Thus, due to the fact that victims are lay persons (similar to jurors) and do not usually have actual knowledge of forensic science, the application of EDM to victims could indicate that victims' expectations may also affect their satisfaction decisions.

It is worth mentioning that marketing research has not specifically examined the role of unrealistic expectations, while victims are likely to hold unrealistic expectations of forensic evidence, according to CSI effect literature. Marketing literature assumes that consumers hold rational expectations in terms of purchasing goods due to their desire to maximise consumers' 'utility' (Oliver, 2010: 74). However, one could argue that one person can hold simultaneously unrealistic and rational expectations especially in cases where consumers have lack of knowledge of the actual service. For example, as the CSI effect literature suggests victims, as members of the general public, can hold unrealistic expectations of forensic evidence. Moreover, their lack of knowledge may sometimes lead the victims to hold unrealistic and irrational expectations. Although the line between rational and realistic is not clear and it could lead to an endless philosophical

debate, the specific role of the unrealistic expectations in victim satisfaction will be investigated by this thesis. It is reasonable to assume that unrealistic expectations may have a different effect on the operation of the model compared to the concept of expectations as developed in marketing literature. Finally, as previously discussed apart from the findings of four studies (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Strohshine, 2005), it is not clear how the elements of the model will affect victim satisfaction especially if the victims hold unrealistic expectations. Therefore although marketing literature provides the basis for the application of this model, the aforementioned arguments will be carefully examined by the studies presented within this thesis.

It is important to acknowledge the need for more critical consideration of the different ways in which people interact with the police. Treating victims as customers can make them have more demands, which highlights further the need for understanding and therefore managing their expectations, especially if such expectations affect satisfaction, as the expectancy disconfirmation theory predicts. If the police adopt a more distant, authoritarian role when interacting with victims, this could potentially keep in a lower level such demands or expectations. As will be further explained in chapter 3, the criminal justice system has given to victims the role of customers of its services. However, in practice, it is not always clear how exactly police officers interact with victims, in terms of choosing a purely customer service approach or a more authoritarian one or a mixture of these two. Although this requires further research, it indicates another difference between typical consumers of other products and services (in marketing research) and victims as consumers of police services. The next section discusses the four studies, which applied EDM in order to explain satisfaction with the police. None of these studies made any critical observation about the translation of EDM across to a very different context from marketing research, other than that victims are consumers of police service. This is a notable limitation of these studies, which this thesis addressed in the previous paragraphs.

## **2.5 Research on victim satisfaction with the police using the EDM:**

Chandek and Porter' study (1998) was the first which attempted to explain the effect of expectations related to police activities on victim satisfaction with the police by utilising the expectancy disconfirmation model. Telephone surveys and official complainant

records from a medium sized police department (US) were used in order to collect the data. The final sample consisted of 118 victims of both burglary and robbery. Nevertheless, the researchers argued that this sample was similar to the initial population of burglary and robbery victims (N=416), from which they draw it, in terms of gender, race and age. The study examined different activities related to police behaviour including searching for evidence (police activity scale), activities related to police demeanour (the way that victims are treated, police conduct scale), expectations and objective disconfirmation of victims regarding only police behaviour. Expectancy disconfirmation variable was created by subtracting the expectation scale from the activity scale. This study did not measure if the victims had expectations about police demeanour and the associated disconfirmation. The majority of the victims (80%) reported to be satisfied with the police, 80.9 % of the participants believed that the police performed some of the police behaviour activities and 70% believed that the police officers exhibited all the police demeanour activities. The tendency was that the victims expected a lot since 62% expected that the police would perform at least four of the police behaviour activities. The majority of the victims (41.8%) experienced negative disconfirmation, about 34% reported zero disconfirmation and more than 24% experienced positive disconfirmation.

The results demonstrated that demographic characteristics were not significantly related to satisfaction while police behaviour (Activity Scale) and demeanour (Conduct Scale) had a significant positive relationship with satisfaction. Expectations were not significantly related to satisfaction. On the contrary, expectancy disconfirmation had a significant relationship with satisfaction. Nevertheless, the effect of disconfirmation for satisfied victims was not clear. The majority of satisfied victims (39.8%) belonged to the group which experienced zero disconfirmation, about 30.7% belonged to the group which experienced positive disconfirmation and about 30% of the satisfied victims experienced negative disconfirmation. According to the researchers, expectancy disconfirmation theory cannot explain the number of satisfied victims who experienced negative disconfirmation and they suggested that other variables played a greater role in determining satisfaction. However, it is the author of this thesis opinion that this inconsistency with the theory could be attributed to the way that disconfirmation was measured. More specifically this study measured objective disconfirmation, namely the quantitative difference between expectations and performance scores, which neglects

the consumer's subjective interpretations of this difference. Marketing research suggests that subjective disconfirmation is a better measurement, as it considers directly these subjective interpretations through the use of 'better/worse than expected' scales (Oliver, 2010).

Moreover, the researchers examined whether the addition of disconfirmation variable can further assist in predicting satisfaction. Therefore, they created two models, using binary probit analysis to identify the effect of several independent variables on satisfaction. The first model consisted of the traditional variables, namely demographic characteristics, police behaviour and demeanour, indicating that only the last two had a significant effect on satisfaction. The second model included demographics, police demeanour and the disconfirmation variable and therefore model two is supposed to directly test EDM in terms of predicting satisfaction. Only demeanour and the disconfirmation variables were significantly associated with satisfaction. Based on the comparison of log-likelihood estimates of the two models, the second model was demonstrated to be statistically significantly better than the first one. Thus, they concluded that the addition of expectancy disconfirmation variable enhances the way that the researchers understand victims' satisfaction with the police.

Chandek (1999) examined whether police officer race and victims' expectations affect evaluations of the police. Although, this study did not directly test EDM, it took into account its components. The data came from telephone surveys and official complainant records from a Midwestern (US) police department. The sample consisted of burglary and robbery victims with 122 respondents participating in the research. The researcher observed the sample could not be entirely representative which affects the generalization of the results. Nevertheless, there were no statistically significant differences between the final sample and the population concerning age, gender, race and type of victimisation.

The majority of the victims (79%) reported to be either satisfied or very satisfied with the police. This study measured police demeanour and behaviour (investigative effort), expectations and objective disconfirmation (expectations fulfilment) only about police behaviour, in the same way with the previous study. Although, this study does not expressly refer to the term disconfirmation, it is obvious that the term expectation

fulfilment, as described is equal to objective/calculated disconfirmation as examined in EDM literature (Oliver, 2010). It also considered separately two other variables, namely whether victims had been recontacted by the police or another criminal justice agency about their case and victims perceptions' about the police response time compared to their expectations (*slower than expected, the same as expected and faster than expected*). Thus, in fact they measured response time in terms of subjective disconfirmation as described by Oliver (2010).

A considerable number of victims (63%) expected the police to perform at least four activities as described by the investigative effort variable. Half of the victims had expectations that were met or exceeded concerning all five police investigative activities while there was no victim who had unfulfilled expectations for all these activities. Among all the demographic variables, only age was significantly and positively related to satisfaction. Victims who reported that the response time was better than expected had greater levels of satisfaction. Victims were more satisfied if they perceived that police officers exhibited more behaviours related to police demeanour and investigative effort. Also, if victims were recontacted after the initial investigation was significantly related to satisfaction. Expectations were not significantly associated with satisfaction unlike disconfirmation (expectation fulfilment). Victims who had fulfilled expectations (positive disconfirmation), they had greater levels of satisfaction compared to those who had unfulfilled expectations. Ordered probit analysis revealed that police demeanour and disconfirmation significantly predicted satisfaction while based on the size of the coefficient, disconfirmation was the primary predictor of satisfaction.

Moreover, it is worth mentioning that the researchers attempted to further investigate the nature of expectations. It was demonstrated that minorities, younger victims and victims of burglary were more like to possess greater expectations of the police. The same analysis for the expectation fulfilment variable revealed that younger victims and victims of burglaries were more likely to believe that the police did not meet their expectations while race was not significantly related to this variable. Although, minorities had greater expectations, they were not demonstrated to have differential expectation fulfilment. Nevertheless, this study did not investigate a broad range of expectations related to other activities apart from investigative effort. In addition, the small size of the sample restricts the generalization of the results.

Reisig and Chandek (2001) examined whether EDM can explain satisfaction with the police of citizens who had recently had police encounters. They utilised two random probability samples of citizens from a medium size Midwestern city (US). The two samples consisted of 211 citizens with breaking and entering complaints (voluntary contact) and 379 who received a traffic citation (involuntary contact). This study measured two types of satisfaction, namely specific satisfaction about the incident and general satisfaction with the police department. Similar to the previous studies, this study measured police demeanour and behaviour (perceived service scale), victims' expectations and objective disconfirmation (expectancy disconfirmation) only about police behaviour for both samples. It is worth mentioning that victims' perceptions about the police response time and contact from the police to inform them about their case status were incorporated in the perceived service scale.

They found that the received service was correlated to satisfaction for both breaking and entering complainants ( $r=0.49$ ) and citizens who received a traffic citation ( $r=0.57$ ). On the contrary, the relationship between expectations and satisfaction was weak for both samples. Thus, only the received service had directly affected satisfaction with specific incidents. The researchers concluded that these findings give partial support for the hypothesis of EDM that expectations and received service directly affect satisfaction. Disconfirmation was negatively related to satisfaction for both samples. This relationship was moderate to strong for both the breaking and entering sample ( $r= -0.32$ ) and for traffic encounters one ( $r= -0.53$ ). Ordinary Least Squares (OLS) regression demonstrated that the most important determinant of satisfaction was the police demeanour for both samples, when considering disconfirmation, demographics and demeanour. Nevertheless, disconfirmation still affects significantly satisfaction with specific incidents. Unlike police demeanour which was significantly correlated with satisfaction with the police in general, disconfirmation performed poorly in terms of this for both samples. They concluded that this study supported the main hypothesis of EDM, namely citizen satisfaction with police encounters is a product of disconfirmation.

Robinson and Stroshine (2005) examined how the expectations of domestic violence victims affect their satisfaction with the police by using the EDM. The data came from structured interviews with 222 female victims of domestic violence, representing about

20% of the 1,150 women who used the service of the Women's Safety Unit (WSU) in Cardiff in Wales, in its first year of operation. The study measured victims' expectations, performance and objective disconfirmation (expectation fulfilment) of different police activities related to police demeanour and behaviour. Police demeanour was related to the way that the police treat the victims and police behaviour included actions during and after investigation. This thesis utilised this conceptualisation of police performance divided into police demeanour and behaviour, when applying the EDM. Moreover, the response time was measured as in Chandek's (1999) study and in terms of subjective disconfirmation.

The victims had high expectations concerning all the behaviours related to police officer demeanour with more than 70% of the victims expecting that the police will exhibit all of the behaviours. The percentages of the expectations related to police activities were lower and varied dependent on the specific activity. Although the police did not exceed the expectations for any of the variables, the majority of the victims (70%) were satisfied or very satisfied. None of the expectation variables had a significant relationship with satisfaction. On the contrary, police behaviour and demeanour variables were significantly and substantively related to satisfaction. Thus, the percentage of satisfied victims increased significantly if the police exhibited the aforementioned behaviours related to police behaviour or demeanour. Moreover, regarding police activities, only expectation fulfilment about 'evidence collection' and 'make an arrest' had a significant relationship with satisfaction while regarding officer demeanour, all the behaviours were significantly and substantially related to satisfaction. Relevant to the aim of this thesis, it is worth mentioning that this is the only study which examined victims' expectations about collection of evidence and found that victims whose expectations about evidence collection were unfulfilled tended to be dissatisfied. However, the researchers did not provide any further explanation on this finding, as the purpose of this paper was not to examine the CSI effect impact on victims' expectations of forensic evidence.

Logistic regression demonstrated that the strongest determinant of satisfaction was disconfirmation regarding police demeanour, followed by disconfirmation regarding police behaviour, even when the effects of demographic characteristics and victimisation variables are controlled. Also, if victims called the police by themselves,

they were more likely to be satisfied. Therefore the researchers suggested information about the actual police response should be shared between the police and the public, so the public can have more realistic expectations from the police.

Studies on victim satisfaction with the police which applied EDM are so few, examined different type of crimes, involved some differences in methodology (especially in terms of measuring variables) and as a result they can only provide some preliminary indications about the way that EDM explains victim satisfaction. Nevertheless, there are some consistent findings in all these studies and generally they support the idea that the use of the EDM for predicting victim satisfaction with the police is promising (Robinson and Strohline, 2005). All these studies demonstrated that expectations are not significantly related to satisfaction. On the contrary received service (in terms of police behaviour and demeanour) and disconfirmation (expectation fulfilment) directly affect satisfaction. However, all these studies did not consider simultaneously the effect of expectations, performance and disconfirmation in explaining satisfaction as it was tested in consumer's behaviour literature. Moreover, the aforementioned studies explored the operation of the EDM only on specific dimensions of performance. However, the operation of the elements of the model is different between using summed attributes or dimensions of the performance scores and among individual dimensions (Oliver and Burke 1999). Thus, this thesis examined how the EDM operates both on a unidimensional and specific dimensions of performance level.

The aforementioned studies used objective (calculated) disconfirmation for measuring all the variables except for response time despite the fact that consumer behaviour literature and research suggest that subjective disconfirmation is a better way to measure disconfirmation. This thesis measured subjective disconfirmation and compares the two measurements. Finally, these studies included only one question about forensic evidence search and collection as an indicator of police performance, ignoring the impact of victims' perceptions about forensic evidence, as CSI effect literature suggests. Building on these findings this thesis used different actions related to police demeanour and behaviour and examined their effect on satisfaction, using EDM.

## **2.6 Conclusion:**

A review of marketing literature indicates that the use of the expectancy disconfirmation model (EDM) for explaining consumer satisfaction has been widely recognised. Based on this idea, this thesis applied this model in order to explain victim satisfaction with the police and CSIs, by conceptualising investigation of crime as a service provided by the police. For this reason, the purpose of this chapter was to introduce the theory and research concerning the expectancy disconfirmation model, as it has been developed in consumer behaviour literature. Based on this theory some assumptions were made for the potential effect of victims' unrealistic perceptions of forensic evidence in satisfaction. Moreover, a careful examination of the function of the model and its components indicated that one cannot really predict how the components of the model will operate regarding victim satisfaction since there are some fundamental differences between victims as consumer and typical consumers of products and services. Nevertheless, there are important reasons, which justify the use of this model to explain victim satisfaction, although there is a need for more critical consideration about the different ways that people interact with the police.

Finally, the discussion assessed the way that EDM was applied by the few existing studies on victim satisfaction with the police and indicating that they did not consider subjective disconfirmation or test the operation of the model on a unidimensional level of performance, as marketing research has previously. Also, these studies did not examine the role of victims' unrealistic perceptions of forensic evidence in satisfaction, as the CSI effect literature suggests, when testing the EDM. All these have been examined in the subsequent studies of this thesis. Having explained the EDM theory and how the few studies on victim satisfaction with the police applied the EDM, the next chapter will identify which variables related to police demeanour and behaviour have been shown to play an important role in satisfaction so as to consider them in the EDM that this thesis will build. For this reason, the next chapter reviews literature focused on victim satisfaction with the police.

## **Chapter 3: Victim Satisfaction with the Police**

### **3.1 Introduction:**

The previous chapter argued that the expectancy disconfirmation model (EDM) is a model that can explain victim satisfaction, considering also the theoretical literature and the few studies on victim satisfaction with the police which applied the EDM. This chapter attempts to identify which variables related to police demeanour and behaviour play an important role in satisfaction in order to incorporate them into the expectancy disconfirmation model. Therefore, this chapter discusses literature which has focused on victim satisfaction with the police. The discussion starts with explaining the importance of understanding victim satisfaction and the role that the criminal justice system provides to victims. The chapter then considers previous studies on victim satisfaction with the police, in order to identify which variables have been found to be important according to the previous literature, when examining satisfaction. The review demonstrates that different actions related to police demeanour (the way that victims are treated) and behaviour (during and after investigations) have been found to affect satisfaction. However, it is difficult to directly compare these results, as previous studies are relatively few, employed different methods and focused on different types of crime (personal, property, mixed types of crime). Moreover, the review of this literature demonstrates that although victims' expectations have been almost neglected, there is some evidence which support their effect on satisfaction. Finally, this chapter explains why this thesis focused specifically on burglary victims, considering the impact of burglary on victims and the importance of forensic evidence in this type of crime.

### **3.2 Importance for victims to be satisfied with the police response and their role in the CJS:**

Victim satisfaction with the police response to their crime is an important area to understand for three main reasons. Firstly, police effectiveness in solving crimes depends on public (and mainly victims) who will bring the crime to police attention by reporting their crime incidents. As a result, victims who believe that police cannot respond appropriately, will be unwilling to report their incident or attempt to take vigilante actions (Mawby, 2007; Hinds and Murphy, 2007; Wells, 2007). For example, a study found that variables related to overall police satisfaction had a strong relationship with the willingness to call the police again. Nevertheless, victims'

perceptions that the police were helpful and showed interest in their case were more strongly related to willingness to call the police again compared to overall satisfaction (Johnson, 2007).

Secondly, police constitute the main agency and the first representative of the state that victims will contact after the crime, while victims may still be under the shock of the offence. Thus, police response will influence both how the victims will proceed with the offence and victims' perceptions of the administration of justice (Joutsen, 1987 cited in Mawby, 2007; Davies, 2003). For example Wemmers (1998) found that victims of felonies perceptions of fair treatment by police influenced attitudes towards other authorities like the public prosecutor and the courts. Thirdly, poor police service can promote secondary victimisation and exacerbate the negative consequences of crime. Distrustful or cynical police behaviour can be regarded as a source of secondary victimisation which can lead victims to report dissatisfaction with the police (Van Dijk, 1985).

The criminal justice system (CJS) has recognised the importance of victim satisfaction, giving victims the role of the consumer of the services that its agencies provide, including the police service. As Mawby (2007: 211) argues the first Victim's Charter formally recognised that CJS agencies were in the 'victim business' by having to meet specific standards which were assessed through consumer surveys with victims and witnesses. The emphasis on the customer's surveys as the primary means to evaluate quality control and accountability became more evident with the update of the Victim's Charter in 1996 and its reformulation, The Code of Practice for Victim's of Crime (Mawby, 2007). These initiatives set out the service standards that victims can expect from the CJS (Spalek, 2006). Satisfaction with police performance is evaluated using consumer surveys which are conducted internally at force level and externally through the Crime Survey for England and Wales (Mawby, 2007). This highlights further the victims' role as consumers of the services of the CJS and justifies the use of the EDM in the context of victim satisfaction, as this model was developed to explain customer satisfaction (see chapter 2). Having explained the importance of studying victim satisfaction with the police and how the CJS perceives victims, the next section discusses previous studies on victim satisfaction with the police, in order to identify

which variables are important, so as to incorporate them in the EDM that this thesis builds.

### **3.3 Empirical research:**

Literature about public evaluations of the police service has examined citizens satisfaction with the police, including also victim satisfaction in several instances (Brown and Benedict, 2002). Many studies from this body of literature examined the effects of victimisation on public attitudes towards police and found that victimisation has a significant negative effect on these attitudes. More specifically, it has been indicated that victims tend to hold lower evaluations of the police compared to non victims (Frank, Smith and Novak, 2005; O'Connor, 2008; Aviv, 2014). Although this topic has been extensively researched, this literature will not be further discussed, as it focuses mainly on comparisons between victims and non-victims in terms of their evaluations and consequently it is beyond the scope of this thesis.

Unlike public evaluations of the police service, a review of the literature concerning victim satisfaction with the police indicates that there is a smaller number of studies, which have explored this topic. These studies employed different methods, did not use an explicit theoretical framework to explain victim satisfaction, and in many cases focus on victims of different types of crime. All these reasons lead to the conclusion that it is difficult to directly compare their results and utilise them for the purpose of this thesis, since this thesis will focus only on burglary victims. Nevertheless, a review of this literature is important in order to identify which variables have been shown to be related to satisfaction, so as to consider them, before examining the effect of victims' perceptions of forensic evidence on satisfaction. Most of the studies on victim satisfaction with the police examined how victim demographics, different actions related to police behaviour (actions during and after investigations) and demeanour (the way that the police treat the victims) can affect satisfaction do not use an explicit theoretical framework. Only four studies utilised expectancy disconfirmation theory (chapter 2, and will not be discussed here) and some studies used procedural justice theory to explain victim satisfaction.

Early research on victim satisfaction focused on the role of different demographic variables in explaining satisfaction but also subsequent studies examined their effect

and produced mixed results (Chandek and Porter, 1998). For example some studies supported an effect of gender (Braithwaite and Yeboah, 2004) and race (Hirschel, Lumb and Johnson, 1998) on satisfaction while other studies did not report such effects (Felson and Pare, 2007). Also some studies found a significant effect of age on satisfaction with older victims being more satisfied with the police as found by Brandl and Horvarth (1991) who examined serious property crime (including burglaries) and by Coupe and Griffiths (1999) who focused only on burglary victims. This finding is supported by most of the previous literature which examined the extent to which several demographic variables explained satisfaction (Chandek, 1999). However, this is not a universal finding, as Chandek and Porter (1998) did not find any relationship between age and satisfaction.

Most of the studies examined the effect of different actions related to police behaviour and demeanour on satisfaction, without using an explicit theoretical framework while focusing on victims of different types of crime. For example, some of them examined satisfaction with the police of personal crime victims, including domestic violence (Austin and Buzawa, 1993; Fleury, 2002; Johnson, 2007) and physical and sexual assault (Felson and Pare, 2007). These studies will not be further discussed as this thesis focuses on burglary victims. However, it is worth mentioning that these studies found that police demeanour played an important role in satisfaction and victims were more satisfied in cases where the police referred them to social services. For the purpose of this thesis emphasis is given to research, which examined property crime (burglary) and mixed types of crime (personal and property crimes).

### **3.3.1 Property crime:**

Mawby, Ostrihanska and Wojcik (1997) explored burglary victims' evaluations of police service, including their satisfaction. In doing so, they interviewed victims from two English and Polish cities (Plymouth, Salford- Warsaw, Lublin) and the sample consisted of 200 burglary victims from each city. The main aim of this study was to compare victims' evaluations between the two countries. Overall, victims were dissatisfied if they perceived that the police did not do enough, were impolite, slow, made mistakes, did not recover property or not finding the offender, did not give feedback and were not interested in the incident. Polish victims were more critical of the police service, providing very low scores in satisfaction compared to the English

victims who were very or fairly satisfied in general. English victims who criticized that there were not sufficient resources for the police to provide an adequate service did not attribute this issue to the police, unlike the Polish ones. These results were compared to another study (Mawby, and Gorgenyi, 1998; Mawby 1998) which used interviews with approximately 200 burglary victims coming from Milskolc (Hungary). The researchers concluded that the Hungarian victims held generally positive evaluations of police performance, which were very similar to the perceptions of the English victims in contrast with the Polish victims and they attributed these different perceptions to political reasons and policy. These studies will not be further discussed, as their main aim was to compare victims' perceptions of police service across these countries rather than identifying important factors to satisfaction.

Hirschel, Lumb and Johnson (1998) examined the effect of several variables associated with the characteristics of the incident and victims, police actions and the outcome on burglary victim satisfaction. The police actions included also variables related to the demeanour of the officers, the police response time, whether CSIs attended the crime scene or recovered fingerprints, whether all the available information was collected and whether victims were offered advice about their safety or referred to other agencies/organisations. With respect to 'collecting all the available information' details were not provided about how the researchers asked this question and whether it refers to forensic evidence or other information collected by the police. This study examined satisfaction in a different way compared to the rest of the literature on victim satisfaction, as it assessed the differences between very satisfied victims and the rest of the categories, including somewhat satisfied and dissatisfied victims together. Satisfaction was measured also regarding the way that the officers handled the incident at the scene and overall how the police handled the incident.

Only the variables significantly related to satisfaction were used in the stepwise logistic regression model. The results indicated that white victims and those who perceived that the police collected all the available information, advised the victim about security and safety or were helpful, were more likely to be satisfied with the way that the officers handled the incident at the scene. The CSI attendance and whether the officers gave their business card did not have significant effects on satisfaction. Moreover, the race of the victim and victims' perceptions about whether officers gave them their business

card or information about insurance compensation, collected all the available information, apprehended the offender and were helpful had significant effects on overall satisfaction with the police handling the incident. The CSI attendance, whether victims offered safety advice and whether the property was damaged did not significantly affect satisfaction. Whether the officers were helpful had the greatest effect on both types of satisfaction. The researchers concluded that police actions are more important in determining burglary victim satisfaction, including the way that victims are treated and their activities as well, compared to the outcome, the characteristics of the incident and demographic variables.

Coupe and Griffiths (1999) examined the extent to which police actions and victims' characteristics affect victim satisfaction with the police response to burglary crime incidents, in West Midlands (UK). They selected a sample of 704 burglaries from a total of 5,768 burglaries reported between March and October in 1994 for conducting a survey with police officers. A subset of 462 victims was randomly selected and 200 of them agreed to participate in interviews. Police records were used for accessing further details regarding the burglaries. The majority of the victims were satisfied with the police response (53%), 29% of the victims reported that the police response was adequate and 18% were dissatisfied. The researchers examined seven aspects of police response; response time, time spent in the investigation, police treatment of victims, number of visits by different police personnel (first officer, who was a police officer), Scene of Crime Officer (SOCO), detective (CID), kept informed victims of the case progress, property recovered, outcome of investigation.

Response time was measured through police records and victims' perceptions of it. Only perceived response time and the difference between this and the victims' expectations of response time affected overall satisfaction. Based on both police records and victims' perceptions, the longer time spent at the crime scene, the more satisfied the victims were. Satisfaction was higher in cases where the victims had a positive attitude towards the attending officer's manner independent of the case outcome. Although the majority were satisfied with the SOCO's manner (78%), a SOCO visit and their manner did not change victims' satisfaction. According to the researchers, perceptions of SOCOS were affected by the first officer visit, as they were correlated with victims' perceptions of the first officer's manner and how long they spent at victims' houses. A similar

argument was made for the CID officers visit. Although it seems that the participants of this study received a visit from police officer first, the research design of this study cannot really support these arguments, as it cannot not provide evidence of a cause and effect relationship. Simple correlations between the first (police) officer visit/manner with victims' perceptions of the SOCO and CID cannot prove causation. In other words such correlations cannot show that victims perceptions of SOCO and CID were affected by the first officer's visit/manner. Moreover, victims were more satisfied if they received further contact from police (irrespective of the case outcome), if the police solved the crime or returned the stolen property, and when the police informed them about the outcome of the investigation. Older victims were more satisfied compared to younger ones and gender was not significantly related to satisfaction. Victims' socio-economic group had a significant effect on satisfaction with non-manual workers tending to be more satisfied. Victims predisposed negatively to police tended to be less satisfied especially if they were living in poorer neighbourhoods and had a lower social status. Previous victimisation did not affect satisfaction. However, participants who suffered a prior burglary in the previous 6 months tended to be more dissatisfied compared to those who did not suffer such an incident in the same period. Victims who felt more anxious or inconvenient due to the burglary tended to be less satisfied. The value of lost property did not influence satisfaction. The longer time victims lived in the property, the more satisfied they were reported to be.

All the aforementioned variables apart from those related to SOCO and CID (because they were highly correlated with the first officer's visit), were used in stepwise logistic regression analysis in order to assess the most influential variables on victim satisfaction. The results demonstrated that the most influential variables were reassurance, further contact from the police regarding case progress, case outcome, socio –economic group and length of the residence. The researchers concluded that satisfaction depends on expectations and police actions. The authors seem to come to this conclusion due to the fact that victims' perceptions were more influential compared to police records and victims' perceptions did not always concur with police records. However, expectations were not directly measured apart from the response time variable. This study did not examine other important SOCO activities such as searching or recovering forensic evidence, which could have an impact on satisfaction with the police. Also, this study was conducted in 1994, before the emergence of the CSI effect,

and the popularity of this kind of programme. Victims' perceptions about CSIs and forensic evidence may be very different and affect satisfaction at this point, which further highlights the importance of this thesis to examine such perceptions.

### **3.3.2 Mixed types of crime:**

Brandl and Horvarth (1991) examined whether victims' demographic characteristics, expectations of the police response time and police response can affect their satisfaction with the police, using a sample of mixed crime type victims (personal, serious and minor property crimes) in central Wisconsin. Police response consisted of victims' perceptions of professionalism (demeanour), investigative effort (investigation of the crime, including searching for evidence), expectations of response time and re-contact for further questioning or about the status of the investigation.

The majority of victims were satisfied with the police response (61% of victims of personal crime, 67% of victims of serious property crime and 74% of victims of minor property crime). The seriousness of the offence was not significantly related to satisfaction. Moreover, demographic characteristics did not have a significant relationship with satisfaction, apart from age, which was positively related to satisfaction only for the serious property crime cases. Expectations of response time (which was actually disconfirmation of response time) were strongly related to satisfaction only for personal and serious property crime cases. Victims were more likely to be satisfied when the police responded faster than expected. The perceived police professionalism or police demeanour was strongly related to satisfaction for all types of crime. Perceived investigative effort had a moderately strong relationship with satisfaction for serious and minor property crime cases with 'higher' effort leading to satisfaction, while this relationship was not significant for personal crime cases. Police re-contact was not significantly associated with satisfaction apart from the cases of serious property crime where re-contact about the status of the investigation led to greater satisfaction.

Multiple regression analysis demonstrated that only expectations of the response time and police professionalism (demeanour) were significantly predictors of satisfaction for the personal crime cases. Police professionalism was the most influential factor. Regarding both types of property crimes professionalism was the most important

determinant of satisfaction while investigative effort had also a significant effect on satisfaction. Moreover, re-contact about the status of the investigation was a significant predictor of satisfaction, only for serious property crime cases. The researchers concluded that different variables related to police response affected satisfaction differently within and across crime types.

It is worth mentioning that this study suggested that satisfaction can be associated with victims' expectations about police professionalism and investigative effort (Brandl and Horvarth, 1991). Especially for property crimes, victims may believe that a great amount of evidence demonstrates a greater amount of investigative effort. Moreover, victims' expectations may not be realistic and they may be influenced by media. Nevertheless, apart from a theoretical discussion the researchers recognised that the data collected in this study could not provide information about the basis and the formation of victims' expectations. Finally, by comparing the results about demographic characteristics with previous research, they suggested that the type of crime and police response variables can explain more of the variation in victim satisfaction than demographics.

Brathwaite and Yeboah (2004) examined the factors related with the experiences of mixed crime type victims (burglary, robbery, theft, rape) with the police and court process in Barbados, by conducting a survey. Their sample consisted of 458 victims who were randomly selected through police records. Regarding satisfaction with the police, 63% of victims reported to be satisfied. Most of the victims expected the police to treat their matter urgently, return the stolen property and inform them of the offender's release, victims' rights and available services. It was more likely for victims with low expectations (basic expectations like the police treat their case urgently or return the stolen property) to be satisfied. However, victims' expectations were not considered in multivariate analysis. This analysis demonstrated that the following variables were significantly related to satisfaction; age, gender, education, employment status, police seriousness, police interest and victims should be better informed. On the contrary, police politeness and time taken by the police to arrive were not significantly related to satisfaction. Moreover, they develop two variables for further analysis, namely police performance which consisted of three indicators (whether the police made an arrest, return stolen property and identify the offender) and police treatment

which consisted of six indicators (police showed interest, made efforts for the case, treat the matter seriously, kept victims informed for the progress of the case, told about the offender and police politeness). The majority of participants perceived police performance (66.3%) and police treatment (70.7%) as positive. Among different groups such as age, sex, education, type of crime, police performance and police treatment only police treatment was significantly related with satisfaction.

As previously stated, the aforementioned studies did not utilise any explicit theoretical framework to explain satisfaction. However, other studies within this literature utilised procedural justice theory to explain satisfaction. Procedural justice theory has been used mainly in order to explain citizens satisfaction with the police (some studies included also voluntary citizens encounters, see also Skogan, 2005; Murphy, 2009). A few studies tested this theory to explain specifically victims' attitudes and satisfaction with criminal justice authorities. According to this theory, fairness of the procedures and processes will affect the attitudes and behaviours of people involved these procedures (Wemmers, 1998). For example regarding victims, their attitudes towards legal authorities (including satisfaction and support) will be affected by the perceived fairness of treatment of them<sup>3</sup>. This theory and relevant research will not be discussed in great detail as they place emphasis more on the perceived fairness of the procedures rather than police activities so they are not within the aim of this thesis. However, the discussion that follows will consider two studies which used procedural justice theory as their results shed light on aspects of police performance in relation to satisfaction.

Elliot, Thomas and Ogloff (2012) examined how the perceptions of procedural justice can affect the contact between victims and police and victims' satisfaction. For this reason, 110 victims of property and personal crime (not randomly selected) were interviewed through in- depth semi- structured interviews and who reported their incident at 47 police stations in Melbourne. Perceptions of fair treatment were classified

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<sup>3</sup> This theory derives from experiments which were conducted by Thibaut and Walker in the early 1970s (Wemmers, 1998). Many models have been suggested since the early experiments of Thibaut and Walker (1975). Two studies (Wemmers, 1998; Elliot, Thomas and Ogloff, 2012) used the relational model of authority as proposed by Tyler and Lind (1992) in order to explain victims satisfaction, based on four criteria; quality of interpersonal treatment, participation, neutrality and trustworthiness. Wemmers, Van der Leeden and Steensma (1995) suggested a two factor procedural justice for crime victims model based on respect and neutrality.

under two themes namely 'police is doing their best to solve the crime' and 'victims are important for the police as persons independent of the case itself' (Elliot, et al, 2012: 442). Firstly, if victims, and especially victims of property crime, believed that the police did not do their best to solve the crime irrespective of the outcome, they felt dissatisfied. Although the respondents could understand the limited time and resources, they could not accept if the police lost their interest when the probability of arresting the offender was low. Victims perceived that the police did their best to solve the crime when police officers stated a personal unacceptance of a specific crime, adopted non-blaming attitudes, took prompt actions (especially in cases of personal crime) and kept the victims informed about the progress of their case (especially in cases of property crime). Secondly, it was essential for the victims how the police behaved to them as persons irrespective of the case itself. Thus, allowing victims to express their emotions and tell their stories, giving them options whether to report the offence and addressing the consequences of crime (regarding issues of safety and help in overcoming the negative psychological consequences of crime) had a positive effect on victims' evaluation of the police.

Laxminarayan, Bosmans, Porter and Sosa (2013) conducted a systematic review of the literature concerning victim satisfaction with the criminal justice system in order to identify which variables are associated with victim satisfaction, including satisfaction with the police. This study adopted a theoretical framework which classifies variables into two categories, namely those associated with quality of the procedure and those associated with the quality of the outcome, which was established in a previous study (Laxminarayan, 2010). Quality of the procedure consists of the concepts of procedural (voice, accuracy, general fairness), interpersonal and informational justice. Individuals perceive procedures as fair when their opinion is considered by the authorities when they present their cases (voice) and when the authorities base their decisions on accurate information coming from the procedure either investigations or court proceedings (accuracy) (Leventhal, 1980; Orth, 2002). Interpersonal justice is related to the degree to which victims are respected by the authorities. Informational justice is associated with the information, explanations for the procedures and progress of cases given by the authorities. The quality of outcome is assessed under the criteria of retributive justice, needs for behaviour control (making an arrest) and restorative justice (Laxminarayan, et. al 2013).

This study utilised research after 1985 since that date was a milestone for victims' rights with the enactment of U.N. Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power. The sample consisted of 22 articles. They found that the most commonly studied area was satisfaction with the police (13 studies) compared to other areas like satisfaction with the prosecutor, the courts or the judge, legal process (generally) and legal outcome. All studies examined victims of personal crime or a combination of victims of personal and property crime apart from one study, which focused on victims of burglaries. Regarding satisfaction with the police, 12 studies examined variables related to the quality of the procedure. The researchers found that the elements of procedural justice (accuracy, voice) were not always related to satisfaction, apart from general fairness. Interpersonal treatment and informational justice were found to be related with satisfaction by most of the studies. Moreover only 6 studies (out of 13) examined outcome indicators and produced mixed results, as making an arrest was not always associated with satisfaction.

These results are particularly relevant to this thesis in order to determine which variables are important in victim satisfaction with the police. Accuracy is associated with investigation actions (e.g. searching the crime scene for evidence, examining witnesses). Voice is related to take time to listen the victims, victims impact statements. Interpersonal treatment is associated to police demeanour and informational justice to re-contact to update the case status and referring victims to services. Most of these variables were considered in this thesis without examining procedural justice theory; police behaviour includes elements of accuracy and informational justice while police demeanour consists of elements of interpersonal treatment and voice. Although this study was able to identify some variables, which should be taken into account to measure victim satisfaction, it could not determine how strong these variables are related with satisfaction. This is mainly due to the fact that the sample studies utilised different methods to measure satisfaction and the independent variables (Laxminarayan, Bosmans, Porter and Sosa, 2013). Furthermore the majority of the sample studies examined victims of crime as a homogenous group, without taking into account that different types of offences can create different needs.

In summary, reviewing previous studies on victim satisfaction with the police demonstrated firstly that different variables regarding police demeanour and police

behaviour were related to satisfaction. However, it is very difficult to compare these findings and determine which actions are most strongly associated with satisfaction, as these studies examined different types of crime and utilised different methods. Moreover, there are very few studies on burglary victims so it is difficult to identify which variables are most related to satisfaction and it is not possible to compare them with the other studies which focused on personal or mixed types of crime as different types of crime create different victim needs. Another reason supporting the difficulty to assess these results is the fact that these studies were conducted in different countries which implies differences in policing styles across countries (Koster, Kuijpers, Kunst and Van der Leun, 2016) which consequently can create differences in the important actions for victims in respect to satisfaction. Relevant to this point, one could reasonably argue that the results presented in this thesis may not generalise to other countries. Firstly, other countries may not take a customer- service approach to policing as seen in the UK, so the use of the EDM in explaining victim satisfaction with the police may not be applicable in contexts with a police authoritarian role. Secondly, different findings might be expected elsewhere, with historical and contemporary police-public/community relations being an important factor to consider, as the study of Mawby et. al, (1997) demonstrated. For example, the CSEW and local police satisfaction surveys indicate that British victims tend to report high levels of satisfaction (Mawby, 2007; Hope, 2015). Although such data are good for measuring satisfaction, one should consider their limitations. CSEW is very limited in what is asked and published, and is primarily focused on government policy making (Hope, 2015). Local police satisfaction surveys have been criticised for using limited value performance indicators, coming mainly from police departments' self-regulations (Mawby, 2007).

Moreover, the review demonstrated that the importance of the Crime Scene Investigator actions has also been underutilised. Previous studies included limited CSI actions, mainly 'examine the crime scene' or 'search for evidence' as indicators of police performance (Brandl and Horvarth, 1991; Chandek and Porter, 1998; Braithwaite and Yeboah, 2004). The two studies with burglary victims considered some other variables like the visit and the manner of both a SOCO and CID and the time spent by each of them at the crime scene (Coupe and Griffiths, 1999) and CSI attendance and collection of fingerprints (Hirschel, Lumb and Johnson, 1998). However, the first study excluded these actions from multivariate analysis and did not consider other important actions

like the recovery of forensic evidence while the second one focused only on the recovery of fingerprints. Importantly, none of these studies considered the potential role of victims' perceptions of forensic evidence in satisfaction, which highlights the originality of this thesis to examine this topic.

Furthermore, the review of the empirical literature on victim satisfaction with the police gives further support for the role of victim expectations in satisfaction. Several studies concluded that satisfaction as a term can be better understood by considering also expectations, without directly examining expectations (Shapland, Willmore and Duff, 1985; Brandl and Horvarth, 1991; Austin and Buzawa, 1993; Coupe and Griffiths, 1999). Interestingly, Johnson (2007) found that victims of domestic violence reported to be surprised but satisfied when the police gave them information that they did not expect to receive. One study found that fulfilled expectations of domestic violence victims could positively affect their satisfaction with the police, which is reminiscent of the concept of disconfirmation. However, the researchers criticized the way that they measured fulfilled expectations for lacking validity, although they concluded that victims' expectations play an important role in satisfaction (Wilson and Jasinski, 2004).

Few studies measured police response time in terms of subjective disconfirmation (e.g. faster than expected), without mentioning the term disconfirmation and found that it was significantly associated with satisfaction. Brandl and Horvath (1991) argued that previous research (Carter, 1985) demonstrated that response time is more important in terms of expectations rather than the actual response time. Another study that measured response time in terms of victim estimates, actual response time as recorded by the police and the difference between victims' estimates and their expectations of response time, found that victims' perception about response time and whether it met their expectations were better predictors of satisfaction than police records (Coupe and Griffiths 1999). This study concluded that meeting victims' expectations in terms of response time plays an important role in satisfaction. These findings suggest that it is better to measure response time in terms of subjective disconfirmation giving support for the use of EDM to research victim satisfaction with the police, as this model considers the role of expectations and the disconfirmation of them in satisfaction.

### **3.4 Burglary:**

Having explored the literature on victim satisfaction with the police, this final section explains the reasons why this thesis examined burglary victim satisfaction with the police. The need to examine victims as a homogenous group was highlighted by Laxminarayan, Bosmans, Porter and Sosa (2013) when they conducted a systematic review of the literature concerning victim satisfaction. Following this argument this thesis focused only on burglary victims. Burglary was selected as the appropriate crime to investigate in this research firstly because it has a serious psychological impact on victims which is essential for the application of the EDM model as it has its roots in social psychology and organisational behavioural theory (Oliver and DeSarbo, 1988). Although burglary is a property crime, it has several significant effects on victims. Not only do victims have financial losses including items of sentimental value, but also they are emotionally affected, feeling anger, shock, fear, sleeplessness and sadness which can negatively affect the quality of their life. Such emotional impact involves victims' worries about whether the burglar would return, why they have been targeted and feelings of invasion of privacy and injustice. However, emotional impact can have also a long-term effect which is mainly associated to fear. Fear constrains victims from social life, for example they may not want to leave their house unprotected or they may feel their place unsafe so they need to move to a new house while poorer people may feel imprisoned in unsafe areas for them (Maguire, 1980; Mawby, 2001). Such emotional effects can last for months even years and burglary victims are more likely to need support than victims of other types of crime (Victim support, 2011).

Secondly, burglary is a common type of crime encountered by the police (Fisher and Fisher, 2012) where forensic investigation plays an important role as forensic evidence may lead to the detection of the offender or corroborate other evidence by linking the burglary with other offences (NPIA, 2011; Bradbury and Feist, 2005). For example, a study examining more than 3000 volume crime cases (including 1128 cases of domestic burglary) found that among other factors, collection of forensic evidence had a significant effect on the detection of volume crimes (Robinson, and Tilley, 2009). NPIA (2011) guidance on investigating burglary recognises the importance of forensic investigations and evidence in the solution of burglaries and recommends that the Crime Scene Investigators should always attend burglary and attempted burglary crime scenes. Nevertheless, in practice the CSI attendance is in the discretion of individual force

policy (Robinson, and Tilley, 2009). Last but not least burglary was selected for logistic reasons as it is a very common type of crime which implies a greater likelihood of victim participations and since it is also a priority offence for the police, it is thought to be more likely to get the police force to cooperate by offering access to burglary victims.

### **3.5 Conclusion:**

To conclude, victim satisfaction with the police is an important area to understand because of its central role within the criminal justice system. Previous studies on victim satisfaction with the police (which did not utilise EDM) were examined in order to identify which variables are important to consider when examining satisfaction. The review showed that different actions related to police demeanour and behaviour have been found to affect satisfaction. However, it is difficult to determine which variables are most strongly related to satisfaction, as previous studies are relatively few, employed different methods, focused on different types of crime and were conducted in different countries. Moreover, these studies did not consider the potential impact of victims' perceptions of forensic evidence in satisfaction. Although victims' expectations have been almost neglected by these studies, there is some evidence which supports their effect on satisfaction and provides further justification for using EDM, as it considers the role of expectations. Finally, this thesis focused on burglary victim satisfactions as burglary has a significant emotional impact on victims which is essential for the application of the EDM, is a common type of offence where forensic evidence plays an important role in its investigation, and for logistic reasons in terms of finding participants.

## **Chapter 4: Methodology**

### **4.1 Introduction:**

The previous chapters identified the gaps within the literature regarding victims' expectations of forensic evidence and their impact on victim satisfaction with burglary investigations. This chapter describes the methodological approach that was adopted in order to answer effectively the research questions. It explains why this thesis utilised a mixed methods approach and the first part explains the justifications for this decision. The second part outlines the research design that was used, referring to how the quantitative and qualitative studies will be integrated. It also explains how both types of studies address the research questions, the rationale for using them and how they were conducted. Importantly, the ethical considerations regarding these studies are detailed. Finally, issues regarding the validity or quality of the mixed method study are discussed.

### **4.2 Justification for using a mixed method approach:**

The aim of this thesis is to explore burglary victims' perceptions about forensic science evidence, and specifically whether they hold unrealistic expectations and whether these can influence their satisfaction with the police and the Crime Scene Investigators (CSIs). In order to address this topic, a mixed methods approach was employed, generating both quantitative and qualitative data, as the research problem plays the central role in selecting this approach (Creswell and Plano Clark, 2011). Quantitative data was collected from an online questionnaire (and a postal version) with burglary victims. Qualitative data derived from interviews and an online survey completed by CSIs.

A mixed methods approach was utilised as it was determined that one data source would be insufficient given the advantages and limitations of qualitative and quantitative data, the fact that this topic has never been explored by previous research and the difficulty accessing burglary victims. The combination of both types of methods enables a richer and more complete picture by identifying trends in the quantitative data along with the in-depth knowledge coming from the participants (Creswell and Plano Clark, 2007). Mixed methods bring benefits that offset the weaknesses of both qualitative and quantitative research, providing more evidence for examining a research

problem and addressing questions that could not be answered by the use of only a quantitative or qualitative approach. The discussion below explains common strengths and limitations of each approach, however these commonalities may not always apply. For example, qualitative interviews do not imply collection of data in natural settings, although they are less structured than quantitative surveys (Bryman, 2012). Also, quantitative researchers have their own biases and interpretations which is a topic that rarely is discussed (Creswell and Clark, 2011).

The main difference between these two methods is that quantitative data measures attitudes more objectively and unambiguously while qualitative data explores social meanings and definitions from the individual's perspective (Jupp, 1989). Thus, qualitative methods produce richer and more detailed data, which 'flesh out the bare skeleton provided by quantitative data' (Noaks and Wincup, 2004: 14). Quantitative research has been criticized for being unable to understand the context in which people speak or presenting their voices, as it uses an artificial setting to gather data (Creswell and Clark, 2011). On the contrary, qualitative methods can appreciate the social world from the perspective of criminal justice professionals, offenders or victims, by investigating people in natural environments. Although quantitative data can produce larger datasets or variables, they represent only abstractions while they cannot reveal the underlying reasons which drove the individuals to shape their attitudes or beliefs (Noaks and Wincup, 2004). On the other hand, qualitative research has the disadvantage of involving bias due to the subjective interpretations of the researcher, and it lacks transparency regarding how the researcher analysed the data or reached certain conclusions. Qualitative researchers have been criticised for being subjective in terms of relying on their opinions of what is important to report, giving few clues to the reader for the selection of certain topics over others. Moreover, this method poses difficulties in generalising the results since it usually utilises small samples or in replication as it is unstructured, depending on the researcher's personal skills (Creswell and Plano Clark, 2011; Bryman, 2012). It is argued that quantitative research can make up for these limitations. Consequently, combining the benefits of one approach can counter the weakness of the other approach (Creswell and Plano Clark, 2011).

The philosophical approach, or the worldview, taken for this type of mixed method thesis is pragmatism. This approach allows the use of both quantitative and qualitative

methods in a single study as emphasis is given to the importance of the research question, which determines which method works better or can address more effectively the research question. As a result it is the research question which plays a primary role rather than a method or its research philosophy (Murray, 2003; Plano Clark and Badiee, 2010; Creswell and Plano Clark, 2011). Quantitative and qualitative methods can be used interactively, despite their distinctive epistemological and ontological assumptions (Bryman, 2012).

### **4.3 Research design:**

This thesis utilised a convergent parallel design known also as the triangulation design, namely, quantitative and qualitative data were collected concurrently but they were analysed separately and independently. Finally, the results of both datasets were merged through a combined analytic approach, so that mixing occurred during the interpretation stage (Creswell and Clark, 2011). In this thesis, quantitative and qualitative data have approximately equal status in terms of addressing the research questions (Onwuegbuzie and Combs, 2010). However, without undermining their equal importance a small priority was given to the quantitative dataset, since it directly addresses the research questions, by providing the victims' perspective. Thus, the quantitative results provided the skeleton to build upon using the findings from the qualitative data; thus allowing assessment of the degree to which both types of data converged.

This mixed methods design was selected for two reasons. Firstly, it is suitable for triangulation and complementarity or for synthesis, in order to provide a more complete understanding (Creswell and Clark, 2011) and, it matches, the purpose of this thesis, in terms of addressing the research questions. Triangulation refers to the combination of both quantitative and qualitative methods, sources or types of data to address the same research question, by directly comparing and contrasting them. The main advantage of this method is that it increases the validity of the findings by blending the advantages and disadvantages of different methods (Noaks and Wincup, 2004; Francis, 2000). Triangulation has corroboration, confirmation and validation purposes. Complementarity emphasizes elaboration, enhancement and clarification of the results coming from the different methods, so as to lead to a more comprehensive understanding of the phenomenon. It is used for different facets of the same phenomenon (Green, Caracelli and Graham, 1989). Secondly, this design is the most

suitable when there is limited time for collecting the data, compared to other mixed methods designs (Creswell and Plano Clark, 2011). Relevant to this, the difficulty encountered to accessing burglary victims highlighted the decision to adopt such a design, which provides an independent analysis of both types of data.

The research questions play the primary role in the design of mixed methods (Creswell and Plano Clark, 2011). This thesis aimed to address the following research questions;

- 1) To what extent do burglary victims hold unrealistic expectations of forensic evidence (quantitative strand) and how do victims perceive forensic evidence (qualitative strand)?
  
- 2) What is the effect of victims' expectations of forensic evidence on satisfaction with the burglary investigation (quantitative strand)? How can such expectations affect satisfaction (qualitative strand)?

In addressing these questions, this thesis examined whether the results of the quantitative and qualitative study converge, using triangulation and complementarity. Quantitative data can show the extent to which victims hold unrealistic expectations. These results are compared with the qualitative data derived from interviews and an online survey with CSIs which shed light on this topic as CSIs interact with victims and are able to assess the extent to which victims hold unrealistic expectations of forensic evidence. CSIs can only provide an informed opinion about whether unrealistic expectations can affect victim satisfaction, as such an effect concerns only the victims. However, their opinions can provide some insights about how unrealistic expectations of forensic evidence can potentially affect satisfaction. One could reasonably argue that the qualitative sample from CSI interviews (and online survey) may not be as effective as interviewing victims, especially in terms of the classical triangulation for validation purposes. CSIs were interviewed rather than victims for mainly logistic reasons, as it proved extremely difficult to access victims for interviews, and due to time constraints. Nevertheless, considering the view of the CSIs offers a new perspective to the study. Although using this sample may undermine the use of triangulation for validation purposes, triangulation can still be used for corroboration. Last but not least, CSIs' opinions can demonstrate how victims' unrealistic expectations of forensic evidence can

affect the way that they conduct their job which in turn may play a role in victim satisfaction as will be indicated in chapter 9.

#### **4.3.1 Victim survey -Quantitative strand:**

This study proposes a model, to explain victim satisfaction with burglary investigations using the expectancy disconfirmation model (EDM), in order to specifically examine the potential effect of victims' unrealistic expectations of forensic evidence on satisfaction. The rationale for employing a quantitative method is that previous studies on victim satisfaction with the police utilized quantitative surveys, when using EDM (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Stroshine, 2005). Moreover, this model has been developed and validated through experiments and surveys in marketing literature (Oliver, 2010). Following the previous literature regarding the application of this model, this study gathered quantitative data, using both an online questionnaire and a postal version of it. The target population was adults who had been victims of burglary in the UK during the previous 18 months. The questionnaire collected information about victims' demographic characteristics and background information (e.g. previous victimisation), their expectations/ perceived performance/ disconfirmation regarding different police and CSI activities, their perceptions of forensic evidence and satisfaction with the police and CSI investigation (see Appendix A). It is worth mentioning that the questions about the different types of forensic evidence came from a pilot survey with the public (N=166) measuring their perceptions of forensic evidence. Further details of the survey items will be provided in chapters 5-7.

The quantitative research is presented in three chapters (5-7) and more details regarding items used are provided in those chapters. Chapter 5 examines the effect of different variables associated with the police on satisfaction with the police, using the EDM. This chapter aims to understand the operation of the model, considering also methodological aspects from the marketing literature. Chapter 6 explores how the EDM can explain victims' satisfaction with the CSI investigation. Chapter 7 will investigate the extent to which burglary victims hold unrealistic expectations and the effect of such expectations on victims' satisfaction with the CSI investigation, using the EDM as established in chapter 7. The results of chapters 6 and 7 are directly relevant for the mixed method

study, while the findings of the victims' satisfaction with the police –chapter 5 give insights for future research.

#### **4.3.1.1 Materials:**

The burglary victim survey used both an online format and a printed (postal) version of it. The online presentation of the questionnaire was developed using Survey Monkey which is an online survey generator (see <https://www.surveymonkey.co.uk/>). This generator enables the user to design and distribute an online questionnaire, offering several options in question and answer format, and also collects and stores the responses for later analysis. Importantly it also provides the IP address and the time of completion of the questionnaire which is essential in order to detect fake responses. The data were exported directly to Excel and SPSS for analysis. After designing the questionnaire through this software, a URL address was assigned for the survey to distribute to potential participants via email. The link to the questionnaire website could be further advertised by posting on social media, and other websites. Having developed the questionnaire and adapted into an online version, it was piloted on a group of five students at the University of Leicester. Their feedback was incorporated into the final version where appropriate and was essential for ensuring the clarity of the questions and terms and estimating the time required for completion. The required time for completion ranged from 10 to 20 minutes.

#### **4.3.1.2 Procedure -The issue of access and the final sample:**

It should be highlighted that the most difficult part of this thesis was locating, and engaging with burglary victims. The recruitment of the respondents for this project was achieved through the aid of a UK police force, acting as gatekeepers, and through several advertising approaches. After submitting a successful application for undertaking research with the police and applying for security vetting, the police force agreed to provide lists of burglary victims who voluntarily gave their consent to participate in further research during follow up phone surveys. Four lists of burglary victims were received in total (N=162) and they contained names and contact details (home address, telephone number and email address) and the types of studies in which victims would like to participate (e.g. telephone survey, postal survey). A link to the online survey along with explanatory text was sent to the victims included in these lists (N=138). As the initial response rate was very low, it was decided to take some further

actions. For this reason, the researcher decided to call the victims who expressed interest in participating in telephone surveys. Unfortunately, although most of the victims answered the phone call, none of them were willing to participate. The most common reasons for their refusal to take part was lack of free time or not believing that this was genuine research, endorsed by the police. Concerning the last reason victims challenged the researcher for not being British and consequently doubted whether the collaboration with the police was real. Despite the fact that this experience was really disappointing, it was very constructive in terms of identifying alternative solutions to gather more responses.

A second reminder email was sent through a police email account, in order to demonstrate to the participants that the project was genuine collaborative research. Moreover, to reassure victims that this was a legitimate research, a printed version of the online questionnaire, along with an explanatory letter, and a prepaid return envelope was sent through the University of Leicester Post Services. This had the advantage that there was a printed stamp with the University of Leicester logo on the envelope, which provided additional legitimacy. The explanatory letter was personalised mentioning the name and surname of each participant, explaining the importance of participating in this study, signed by the researcher. It also included information about the online survey, and asked participants to disregard the postal version if they had already completed the survey online. Sending the survey by post was a good idea because not only did the researcher receive some replies but also a few victims completed the online survey demonstrating that they were convinced of the authenticity of the study. Combining both the online and postal survey helped in offsetting some the disadvantages that one mode of administration has over the other. For example some respondents may feel more comfortable completing the survey online as they may spend more time online or they do not need to post back the questionnaire. On the other hand online surveys are restricted to online populations (Bryman, 2012; Hine, 2016). Consequently, this issue could be addressed using also a postal survey, so participants who are not familiar with digital technology can have the chance to take part.

Regarding the advertising approaches a summary of the research project with the online link to the survey was posted by the University of Leicester Press Office and on the primary supervisor, Lisa Smith's university staff webpage. A similar text was also

advertised on the Gumtree website in the section for advertising academic research projects. To ensure that the advertisement would be promoted more effectively, the researcher paid a monthly fee to this website. Participants coming from Gumtree, came in contact with the researcher through email, demonstrating that they were burglary victims by describing their incident, and asking for details of how they can complete the study. The study was also advertised through social media on Twitter, Reddit and Facebook. Concerning Facebook, a dedicated group and a page for burglary victims was created. The researcher also contacted some companies specialising in installation of security systems against burglary and a few of them were willing to advertise this study on their social media accounts. Moreover, the researcher informed Victim Support and Neighbourhood Watch about this study. Unfortunately, Victim Support was not willing to advertise the study to victims. However, Neighbourhood Watch posted this study in their weekly Bulletin and postcards with the details of the study were also printed and were distributed. A printed version of the survey was also distributed in a local café, which is known for holding diverse meetings of local communities groups. The researcher attended some of these meetings to advertise this project to the members of the local groups.

All the participants of the victim survey had the chance to enter a draw in order to win one of the Amazon vouchers offered optionally, as an incentive to maximise the response rate (Wilson, 2013). In total 420 respondents completed the survey, from February 2015 until May 2016. However, only 100 responses were considered to be valid for analysis, as several respondents did not finish the survey or provided 'fake' (43 responses came from the lists of burglary victims provided by the police and 57 from the researcher's personal efforts). One of the risks with the use of online surveys is that some people may mischievously respond more than once (Bryman, 2012), particularly if an incentive is offered. Thus, the responses to the online survey through the online advertising approaches were very carefully examined. To determine the validity of the responses the researcher cross-examined the IP address with the time length of completion, and whether the participants provided any comments, in cases where the first two criteria failed. For example answers given in less than 5 minutes or coming from the same IP address were automatically excluded, and the ones given in less than 10 minutes were treated with caution (searching for comments). The answers to the questions were also considered as final criterion when there was doubt.

Based on the abovementioned criteria used to identify 'fake' responses; 97 participants were excluded, as they gave answers in less than 5 minutes (on average 2 minutes) and some groups of participants (N=60) were excluded because they used the same IP addresses, without providing any general comments. Moreover, 7 participants were excluded for answering the survey in less than 10 minutes without providing any general comments while giving inconsistent answers to the questions. Also, 156 participants did not finish the survey and consequently were not included in the final sample. Thus after the data cleaning, the final sample consisted of 100 respondents considered to have provided valid data.

This type of participant recruitment results a non-probability sample, which may not be representative of the wider population, and therefore results are not necessarily generalizable (Hagan, 2006). Nevertheless, the effect size for conducting bivariate analysis is adequate, in terms that bivariate tests are able to correctly identify a difference or effect. For example, Mann-Whitney U test or Kruskal Wallis test were used only when there were more than 10 participants in each comparison group (McQueen and Knussen, 2002). To test how the elements of EDM can explain satisfaction with the police and CSIs, several logistic regression models were utilised. There is no universal agreement in establishing an appropriate sample size for logistic regression. Some authors suggest that 'the impact of sample sizes on the results should be considered both at the overall level and on a group by group basis' (e.g. satisfied/dissatisfied) (Hair, Black, Babin and Anderson, 2014: 318). They also recommend that 'the sample size should be at least 10 observations per estimated parameter for each group' (Hair et al. 2014: 318). It was not possible to achieve this in some models and consequently they could only identify large or moderate differences. Nevertheless, this was not a major issue or a priority, as this research is mainly exploratory and consequently does not have validation purposes. Further details about bivariate and logistic regression analyses will be provided in chapters 5-7.

#### **4.3.2 CSI dataset - Qualitative strand:**

The aim of this part of the research is firstly to explore the perceptions of CSIs about how victims perceive forensic evidence, and specifically whether victims hold unrealistic expectations of forensic evidence and investigations (chapter 8). Secondly it investigates the impact of such unrealistic expectations on the CSI investigation and

their role in victim satisfaction (chapter 9). This research uses qualitative data from two studies involving Crime Scene Investigators (CSIs). CSIs have the duty to find, record and recover forensic evidence from crime scenes for the UK police forces. Thus, in the UK CSIs are not police officers but civilians employed by the police forces. Firstly semi-structured interviews were conducted with six CSIs from an English shire police force in March 2015. Access was gained after submitting a successful application for undertaking research with the police and applying for security vetting. Secondly, 24 CSIs working for an English suburban police force completed an online survey in July 2015, as due to logistical reasons interviews could not be arranged; access was gained through the contacts of the primary supervisor, Lisa Smith. The online survey contained open questions, similar to the ones used in the interviews, aiming to gather mainly qualitative data (see Appendix B). The online presentation of the survey was developed using Survey Monkey (see section 4.3.1.1). The link to the survey website was sent to the CSI manager who distributed it to the CSIs working in that police force. It is worth mentioning that the researcher spent time on shift with some of the interviewees in order to observe their interactions with burglary victims during forensic investigations. In July and August 2015 the researcher attended 19 domestic burglary crime scenes, including two attempted burglaries and two commercial burglaries. However, the results of this observational research are not included in this thesis. The data gathered during these observations were not always directly relevant to answering the research questions, as the main purpose of this study was to understand the general context of burglary investigations and CSIs work. Nevertheless, the observations offered the opportunity to understand the interactions of the CSIs with burglary victims during investigations in their natural settings, the CSIs daily routine and the diversity of the victims. Therefore, it sets the general context for the researcher resulting in a better understanding of the research problem.

The above description demonstrates that this research used a purposive sample, namely the participants are not selected randomly but in a strategic way in order to answer the research questions (Bryman, 2012). Thus the sample coming from these sources is not representative of the wider population and generalizable. Nevertheless, this is not a primary concern for a qualitative study, rather in-depth analysis and comprehension of the topic are the key objectives. More details about the sample of the two studies are provided in chapter 8.

Qualitative interviews offer an additional dimension, to approach the research questions from another perspective in a greater depth and consequently they can be used in tandem with the quantitative data to examine whether they corroborate each other (Mason, 1997; 2002). Thus interviews with the CSIs can shed light on victims' expectations, as they can evaluate whether a victim holds unrealistic expectations of forensic investigations through their interaction with them. Also, their perspective was insightful, in order to understand the conditions under which such expectations can play a role in satisfaction. Using semi-structured interviews had the advantage of consulting a list of questions relevant to the topics that should be covered, while providing the flexibility to listen to the views of participants and the importance that they give in understanding events or patterns of behaviour (Bryman, 2012). In the online survey with the CSIs, the richness of the data depended on the participants' discretion, as advised in the consent form. Although this limits the detail of some responses, the larger number of participants enabled the researcher to further explore the data gathered from the interviews.

The researcher audio recorded the interviews. Interviews were transcribed and then printed along with the responses of the CSIs to the online survey. Thematic analysis was employed as a method in order to analyse the data obtained from the two studies. This method enables the researcher to identify, analyse and report patterns or themes within data, by organising and describing the data set in rich detail. Moreover, it is not bound to a specific theory and epistemology and it can be applied across a range of theoretical and epistemological approaches (Braun and Clarke, 2006). As this method of analysis is flexible, it is also compatible with pragmatism, namely the paradigm adopted by this mixed method thesis. Moreover, this research utilised data from several sources or individuals as evidence for the generation of themes in order to increase validity. Using data from different sources or individuals for this purpose, known as triangulation of data, can be utilised in qualitative research to increase validity (Creswell and Plano Clark, 2011). Chapter 8 will provide further details on the use of thematic analysis regarding the coding and the generation of themes and subthemes.

#### 4.4 Roadmap for the analytic strategy:

The tables 1-5 below demonstrate the research questions that will be addressed in chapters 5-10:

**Table 1 Chapter 5 Quantitative strand**

<b><i>Satisfaction with the Police- Research Questions/ Hypotheses:</i></b>
<b>Role of the demographics in explaining satisfaction with police</b> Older victims will be more likely to be satisfied than younger victims Gender, ethnicity and previous victimisation will not have a significant effect on satisfaction
What is the role of the source of forensic knowledge in explaining satisfaction with police?
Are victims' initial expectations about police performance related to satisfaction? Is perceived performance related to satisfaction?
Satisfied victims will differ from dissatisfied victims in terms of their total performance and disconfirmation scores but not in terms of their total expectation score
<b>EDM on unidimensional level</b> What is the impact of total expectations, total performance and total disconfirmation on satisfaction with the police?
What is the effect of total expectations and total performance on the nature of disconfirmation (positive, negative)?
What is the effect of demographics in explaining positive or negative disconfirmation?
<b>EDM on specific dimensions of performance</b>
<b>Dimension 1 police demeanour</b> What is the impact of expectations, performance and disconfirmation regarding police demeanour on satisfaction with the police
<b>Dimension 2 police behaviour</b> What is the impact of expectations, performance and disconfirmation regarding police behaviour on satisfaction with the police?
<b>EDM for both dimensions</b> What is the impact of disconfirmation regarding police behaviour and police demeanour on satisfaction with the police
<b>EDM and demographics in predicting satisfaction with the police</b> What is the impact of disconfirmation regarding police behaviour and police demeanour and demographics on satisfaction with the police?
<b>Subjective disconfirmation vs. objective disconfirmation</b> What is the impact of total objective and subjective disconfirmations on satisfaction with the police? What is the impact of total objective disconfirmation and total expectations on satisfaction with the police? What is the impact of total subjective disconfirmation and total expectations on satisfaction with the police?

Table 2 Chapter 6 Quantitative Strand

<b><i>Satisfaction with the CSI investigation- Research Questions/ Hypotheses:</i></b>
Satisfaction with the CSI investigation will be associated with satisfaction with the police investigation
What is the role of demographics in explaining satisfaction with the CSI investigation?
What the role of the source of forensic knowledge in explaining satisfaction?
Are victims' initial expectations about the CSI performance related to satisfaction with the CSI investigation?
Is perceived performance related to satisfaction with the CSIs?
Satisfied victims will differ from dissatisfied victims, tending to have a higher score in each of the disconfirmation variables
Satisfied victims will differ from dissatisfied victims in terms of their total performance and disconfirmation scores but not in terms of their total expectation score
<b>EDM on unidimensional level</b>
What is the impact of total expectations, performance and disconfirmation regarding CSIs' actions on satisfaction with the CSI investigation?
<b>Nature of disconfirmation</b>
Do the three disconfirmation groups differ significantly regarding their total expectations and performance scores?
Satisfied victims will differ from dissatisfied victims in terms of perceived time spent in crime scene and disconfirmation of the time spent but not in terms of the expected time
What is the impact of expected, perceived time spent in the crime scene and the disconfirmation of the time spent on satisfaction with the CSI investigation?

Table 3 Chapter 7 Quantitative strand

<b><i>The role of perceptions forensic evidence in satisfaction: Research Questions/ Hypotheses:</i></b>
<b>Strong Prosecutor's/ Victim's effects</b>
In the absence of forensic evidence, victims will feel dissatisfied with the CSIs while in presence of this evidence they may feel satisfied
<b>Defendant's effect</b>
If the CSIs recover any type of evidence (irrespective of whether it is strong or weak), victims will feel satisfied
If the CSIs recover strong evidence, victims who have higher expectations about the quality of evidence, will feel satisfied while in absence of such evidence they will feel dissatisfied
Satisfied victims will have lower scores on the FEEBS items compared to the dissatisfied victims
Victims who expect that the CSIs will collect forensic evidence from all burglary crime scenes will be dissatisfied, if no/insufficient evidence had been recovered
Satisfied victims will differ from dissatisfied victims in terms of their score on the Victim's effect items; 'Every crime scene should be examined by crime scene officers in order to recover forensic evidence' and 'Crime scene officers always collect forensic evidence at a crime scene', if no insufficient evidence had been recovered
Victims' expectations for collection of evidence at every burglary crime scene will be associated with victims' expectations of the four CSI activities
Victims who expected each of the four CSI activities will differ in their scores regarding the Victim's effect items; 'Every crime scene should be examined by crime scene officers in order to recover forensic evidence' and 'Crime scene officers always collect forensic evidence at a crime scene'
In the absence of evidence recovered from their crime scenes, victims will feel dissatisfied with the police, while in the presence of evidence victims will feel satisfied
<b>Expectancy Disconfirmation Model and perceptions of forensic evidence</b>
What is the impact of total expectations, performance and disconfirmation along with the FEEBS item 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough' on satisfaction with the CSI investigation?
What is the impact of total expectations, performance and disconfirmation along with the belief of whether the CSI recovered all the available evidence from the crime scene on satisfaction with the CSI investigation?
Victims who have an unrealistic amount of faith in the ability of forensic evidence to lead to the offender (FEEBS items related to the Defendant's effect) will feel satisfied, if the CSIs recover any type of evidence from their crime scene
Victims' unrealistic amount of faith in the ability of forensic evidence to lead to the offender will be related to their perceptions of effectiveness of different types of forensic evidence to lead to the offender

**Table 4 Chapters 8 and 9: The Qualitative strand**

<b><i>Victims Expectations of forensic evidence/investigation, Managing expectation and their role in satisfaction, The CSI perspective – Research Questions:</i></b>
How CSIs perceive victims' expectations regarding burglary investigations and forensic evidence; Do victims hold unrealistic expectations for the following aspects of forensic investigations? availability of evidence ability/likelihood of forensic evidence to lead to the offender time needed for the police to conduct the forensic investigations and solve crime use of sophisticated techniques the role of the CSIs during investigations
What are the most common victims' attitudes during investigations, attributed to their realistic/ unrealistic expectations?
Which factors affect CSIs' perceptions about victims' expectations/attitudes?
What are the sources of victims' unrealistic expectations of forensic evidence, as perceived by the CSIs?
What is the impact of the unrealistic expectations on the way that the CSIs conduct their job? How and why do CSIs manage unrealistic expectations? What is the role of unrealistic expectations in satisfaction with the police and CSI investigation? Which other factors contribute to satisfaction?

**Table 5 Chapter 10 Mixed- method study**

<b><i>Mixed Method Study - Research Questions:</i></b>
<b>Unrealistic perceptions and Satisfaction</b> To what extent do burglary victims hold unrealistic expectations of forensic evidence (quantitative strand) and how do victims perceive forensic evidence (qualitative strand)? What is the effect of victim expectations of forensic evidence (related to the Victim's and the Defendant's effects) on satisfaction with the burglary investigation (quantitative strand)? How can such expectations affect satisfaction (qualitative strand)?
<b>Management of unrealistic expectations of forensic evidence – policy implications</b> (quantitative and qualitative strands) Is it important to manage unrealistic expectations? Do CSIs collect evidence, at the victim's request? Is the management of unrealistic expectations effective? Which are the policy implications?
<b>Suggestions for future research</b> Which are the key dimensions of CSI and police performance? Which is the impact of victims' unrealistic expectations in relation to other variables (victims' emotional state and willingness to solve crime, negative forensic outcome, CSIs individual characteristics) on satisfaction?

#### **4.5 Ethical considerations:**

All of the studies included in this thesis received ethical approval from the University of Leicester's Ethics Committee. In line with the University of Leicester's policy, which mandates ethical approval of all research involving human participation, the researcher completed two separated online ethics application for both quantitative and qualitative datasets (see Appendices A and B, respectively). Moreover, conducting research involving the police requires security clearance from the police agency. Two applications for undertaking research with the police and for security vetting were submitted and approved by the relevant forces, granting the researcher the role of 'temporary researcher'. Regarding the online survey with the CSIs, the CSI manager had to approve the questions before forwarding the survey to the participants. For

example, the researcher had to remove a question concerning the emotional impact of victims' negative attitudes on the investigators.

Social research should be governed by ethical principles such as obtaining informed consent, ensuring data protection and confidentiality, and not harming or deceiving participants (Bulmer, 2008; Bryman, 2012). These principles were considered in relation to the studies in this thesis. The informed consent used for the victim survey data explained clearly the purpose of the study, emphasising that participation was voluntary, the right to withdraw at any time (before submission of the response), securing confidentiality through anonymity and secure storage of the data (see Appendix A). Research should not harm the participants including causing stress or upset (Bryman, 2012; Boddy, 2016). One could consider that research on burglary victims could harm the participants in terms of stress due to the potential traumatic effect of the burglary. To minimise potential stress, the victim survey did not include any sensitive questions regarding the specific incident and the main focus was on the police and CSI activities and victims' perceptions of forensic evidence. Also participants had the right to withdraw at any time from the victim survey. Moreover, the consent form included the contact details of the researcher and supervisor in case there were any questions or concerns. The respondents of the online survey had to click an 'I agree' button in order to confirm their consent and be able to continue with the survey (see Appendix A). A similar consent form was included in the online survey with the CSIs (see Appendix B).

Before starting the interviews the participants had to read a consent form which explained clearly the purpose of the research and their rights (voluntary participation, right to withdraw at any time, confidentially, secure storage of data) and give their consent by signing (see Appendix B). The interviewees were informed that an identification code would be used so that their names would not appear anywhere in the thesis or in any document or report produced for any other purpose. The researcher did not expect any particular issue when conducting research with the CSIs, as there were not any sensitive topics to discuss. However, one of the interviewees asked the researcher not to record the interview and take notes instead. One of the questions (Do you collect evidence at the request of the victim, even if this type of evidence is not useful to the investigation?) seemed to provoke uneasiness for most of the interviewees.

The researcher realised that immediately from their facial expressions and encouraged the participants not to answer this question. Adopting this attitude made the interviewees feel comfortable and despite it being a ‘taboo’ question they provided an answer, mentioning that it was fine to speak about this topic. Interestingly, this question was approved by the CSI manager regarding the online survey with the CSIs. In sum, the researcher conducted all these studies in accordance with the appropriate guidelines on ethics and acceptable research standards. Relevant to this, all the data gathered from the studies in this thesis were stored in a secure location electronically, where only the researcher had access to through the use of a username and password.

#### **4.6 Considerations of the validity or quality of the mixed method approach:**

Having explained the quantitative and the qualitative strands that were utilised in this thesis, this section discusses the issue of validity in the mixed method approach. Due to the fact that the use of mixed methods is relatively new, there is a lack of consensus among scholars on the criteria that should be used in order to evaluate its quality (Creswell and Plano Clark, 2007). Although mixed methods is thought to increase validity of the inferences made, based on both quantitative and qualitative findings, some academics have rejected this term for being overused and meaningless (O’Cathain, 2010; Creswell and Plano Clark, 2011). Thus, this thesis will utilise the term ‘quality’ of mixed method instead of ‘validity’, as described by Teddlie and Tashakkori (2009). The quality of the inferences made in a mixed study method depends on the quality of the design and of the interpretations. In this section emphasis is given to the quality of the design adopted in this thesis. The quality of the design is associated with the extent to which the researcher chose the most appropriate method, including the quantitative and qualitative strands, to answer the research questions. Also it refers to whether the different strands’ components (e.g. sampling, data collection) can adequately capture meanings and relationships and whether the analytical techniques are appropriate to answer the research questions (Teddlie and Tashakkori, 2009). Care was taken to ensure that the design adopted in this thesis matched these criteria.

Although the design adopted in this thesis seems to match these criteria, there is an issue, which requires consideration. ‘Methods should be mixed in a way that has complementary strengths and non-overlapping weakness’ (Johnson and Turner,

2003:299). Thus, it is essential that the quantitative strand should use large samples in order to note trends and generalizations while the qualitative strand could have a smaller sample aiming to focus on details and in depth knowledge (Patton, 1990; Creswell and Plano Clark, 2011). It is especially this argument, which has to be considered in respect to this thesis. The burglary victim survey gathered a moderate sample size, which affects the generalization or representativeness of the results. On the other hand the qualitative data have the advantage that the CSIs come in contact with many burglary victims, even with victims that may be unlikely to appear in any survey data. In reality even a larger sample of burglary victims would not be necessarily representative if one considers their diversity (e.g. victims who are vulnerable, or marginalised, or ex-offenders). Thus, it might be the case that the CSIs' experiences with a large number and variety of burglary victims could balance the moderate sample size of the quantitative study. In any case, this is not such an important issue for this thesis because the employed mixed method study is mainly exploratory, as the research questions have not been addressed by previous literature. Consequently, future research is essential in order to validate the findings.

#### **4.7 Conclusion:**

This chapter outlined the methodological approach that was adopted in this thesis in order to answer the research questions. More specifically, the aim of this thesis is to explore burglary victims' perceptions about forensic science evidence and specifically whether they hold unrealistic expectations and whether these can influence their satisfaction with the burglary investigation. In order to address this topic, a mixed methods approach is employed, using both quantitative and qualitative data. This approach is utilised as one data source may be insufficient given the advantages and limitations of qualitative and quantitative data, the fact that this topic has never been explored by previous research and the difficulty with accessing burglary victims. The discussion of the research design explained how both the quantitative and qualitative strands address the research questions, the rationale for using them and how they were conducted. For each study, this chapter discussed the procedure, participants' recruitment, difficulties encountered and the analytical techniques that were utilised. Also, the chapter referred to ethical considerations regarding the studies conducted. Finally, issues about the validity or quality of the mixed method study in this thesis in respect with its research design were discussed. Having explained the methodological

approach of this thesis, the next chapter presents the results of the quantitative survey with burglary victims, aiming to examine how the EDM explains victim satisfaction with the police.

## **Chapter 5: Victims' satisfaction with the Police**

### **5.1 Abstract:**

The aim of this chapter is to examine different variables related to police investigations of burglary that may influence victim satisfaction, as identified in the previous literature on victim satisfaction (see chapter 3), through the application of an expectancy disconfirmation model (EDM). This model has been mainly tested and developed in marketing literature, which widely recognises its use for explaining consumer satisfaction (Oliver, 2010). Based on this idea, this model is applied in order to explain victim satisfaction with the police, by conceptualising investigation of crime as a service provided by the police consistent with the role of the consumers that the criminal justice system gives to the victims (Mawby, 2007). This chapter presents the results of the second section of the burglary victim survey, designed to measure expectations, performance and disconfirmation for several variables, in order to determine which are the most important determinants of victim satisfaction with the police. Different variables related to police demeanour and behaviour identified by previous literature are explored under the concept of expectations, performance and disconfirmation, which are the three core elements of EDM (see chapter 2 and 3). The study also considers the role of demographics alone in satisfaction and in comparison with the EDM. This study provides two methodological contributions to the previous literature, which used the EDM in explaining victim satisfaction. Firstly, the operation of the EDM is investigated not only for specific dimensions of performance but also on a unidimensional performance level, while both analyses support disconfirmation being the most important determinant of satisfaction. Secondly, an assessment of both measurement types of disconfirmation, namely subjective and objective disconfirmation is considered, suggesting that subjective disconfirmation constitutes a better measurement. The results are discussed in relation to the previous literature and their implications for policy and research are considered.

## **5.2 Introduction:**

According to the EDM consumers hold expectations about the performance of a product or service before the purchase, or use, of it. These expectations can derive from many sources, for instance previous experience or interpersonal and commercial communications, and operate as comparative standards (Oliver, 2010). After the usage of the product or service, the consumer becomes aware of the actual performance of the product. As a result, the consumer compares the perceived actual performance with the prior expectations (Erevelles and Leavitt, 1992; Oliver and Burke, 1999). The gap created from this comparison is known as disconfirmation and constitutes an antecedent of satisfaction.

There are three possible states of disconfirmation, namely positive, negative and no (zero) disconfirmation. Positive disconfirmation results when consumers experience a product which exceeds their prior expectations and can lead to reported satisfaction. Negative disconfirmation occurs when the product's performance is lower than originally expected and the individual reports lower level of satisfaction and possibly dissatisfaction. Finally, no (zero) disconfirmation occurs when the individuals' expectations are exactly met by the performance of the product (Erevelles and Leavitt, 1992). Depending on the way that disconfirmation is measured there are two types of disconfirmation, namely objective or calculated disconfirmation and subjective disconfirmation. Objective disconfirmation is measured by subtracting expectation scores from performance scores as it is defined as the difference between performance and expectations. Subjective disconfirmation is measured by asking respondents directly through the use of 'better than'/'worse than expected' Likert scales, and this is considered by some to be a more accurate measurement compared to objective disconfirmation (Oliver, 2010). Following this argument the current study assesses both measures of disconfirmation, however only subjective disconfirmation is integrated in to EDM model.

Empirical literature about expectancy disconfirmation supports that there are different variations of the model, namely different relationships between the elements of the EDM were important for different services and products (Oliver 1997). For example, some studies demonstrated that only expectations had a significant effect on satisfaction (Olshavsky and Miller, 1972; Anderson, 1973), other studies found only

disconfirmation effects (Cadotte, Woodruff and Jenkins, 1987), some researchers found only performance effects (Churchill and Surprenant, 1982) while other research indicated a combination of these elements working in tandem (Oliver and DeSarbo, 1988). Moreover, the elements of the expectancy disconfirmation model can operate differently in specific dimensions of performance compared to its operation on a unidimensional level (Oliver and Burke, 1999). Therefore, the current study considers the operation of the model on both of these aspects.

There are only four studies on victim satisfaction with the police, which applied EDM in order to explain satisfaction (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Stroshine, 2005). There are some consistent findings in all these studies and generally they support the idea that the use of the expectancy disconfirmation model for predicting victim satisfaction with the police is promising. All of these studies demonstrated that expectations are not significantly related to satisfaction. On the contrary received service (in terms of police investigative activities and police officer demeanour) and disconfirmation (expectation fulfilment) directly affect satisfaction. However these studies are so few, examined different type of crimes, involved differences in methodology (particularly in terms of measuring variables) and as a result they can only provide some indications about the way that EDM predicts victims satisfaction. Moreover, they did not examine the operation of the model on a unidimensional level and used only objective disconfirmation. Building on these previous results, this study will examine how the elements of the EDM operate in explaining victim satisfaction with the police, by examining also how the model works on a unidimensional level and assessing whether subjective disconfirmation is a better measurement than objective disconfirmation.

As chapter 3 indicated the review of victim satisfaction with the police literature is essential in order to identify more variables that can be used under the concept of the core elements of the model (expectations, performance, disconfirmation). Previous studies on victim satisfaction with the police demonstrated that different variables related to police demeanour and behaviour were significantly associated with satisfaction (Brandl and Horvarth, 1991; Coupe and Griffiths, 1999; Laxminarayan, Bosmans, Porter and Sosa, 2013). Nevertheless it is difficult to determine how strong these variables are related with satisfaction since these studies utilised different methods

and examined different types of crime. This study examines different variables that may influence victim satisfaction in accordance with the previous literature on victim satisfaction through the use of an expectancy disconfirmation model.

### **5.3 Method:**

#### **5.3.1 Participants:**

The target population of this study was adult victims of burglary. More specifically those who have been victims of burglary in the UK during the previous 18 months. The final sample consisted of 100 participants who were burglary victims during the previous 18 months. The overwhelming majority (94%) had police attend their burglary crime scene and most of them (82%) had a CSI attend as well. There were no participants who had a CSI but no police attendance. In terms of demographics, 56% of the sample were male, 82% identified themselves as white British (or white other) and 58% were victims of a crime more than once in the last five years. The mean age of the respondents was 39 years old (min=19, max=76). Half of the sample (50%) reported to have a postgraduate level qualification, 25% had an undergraduate level degree and 25% had secondary level education. It is difficult to compare the demographics of this sample to those of the burglary victims in the general population, as comparable data from UK burglary victims are not available. Nevertheless, one could reasonably argue that the educational attainment of this study sample seems to be disproportionately high compared to the general population. The implications of this will be further discussed in chapter 7 in relation to victims' expectations of forensic evidence.

The participants were also asked to report their main source of knowledge about forensic evidence. Most of the participants (42.6%) reported that their knowledge came from TV/movies, 5.3% from crime books, 18.1% from news media, 10.6% from their education, 5.3% from their career, 12.8% from Internet and 5.3% from other sources. For statistical analysis, this variable was recoded into professional (education and career) and non-professional knowledge (the other sources). This classification was made, based on the argument that only education and career related to forensics can more objectively provide reliable knowledge about forensic evidence. Although the CSI effect literature focused mainly on crime show viewing, suggesting that crime shows provide distorted perceptions of forensic science (Cole and Dioso-Villa, 2009), forensic knowledge coming from crime books, news media or Internet cannot also reasonably be

treated as reliable. Two participants were excluded, as they indicated that their knowledge came both from professional and non-professional sources. Thus, 82.6% of the sample had non-professional knowledge and 17.4% professional knowledge (N=92).

Moreover, the majority of participants were satisfied with the way that the police handled their incident (75%) and with the crime scene investigators (72%) while 25% of the participants were dissatisfied with the police and 28% dissatisfied with the CSIs. Finally, as six participants reported that the police did not attend their crime scene, they were excluded from bivariate and multivariate analysis (N=94).

### **5.3.2 Materials:**

The burglary victim survey used both an online questionnaire and a printed version of it. The questionnaire was divided into five sections. The first section gathered information about victims' demographic and background characteristics. Items in this section were used for further analysis as independent variables (e.g. age, gender, previous victimisation) to examine their impact on victims' satisfaction. The participants were also asked to report the main source of their knowledge about forensic science (television, movies, crime books, news media, education, career, the internet or 'other'). The second section included questions relevant to victim satisfaction with the police. The participants reported their expectations, what they perceived in reality and their disconfirmation on a list of items regarding the attendance and performance of police officers during the burglary investigation. These items were consistent with variables used in previous studies. Due to the fact that only one study (Coupe and Griffiths, 1999) examined specifically burglary victim satisfaction with the police, the current study also utilised government and police sources to ensure that all the important police actions during investigations were included. The survey measured victims' expectations of different police actions retrospectively which implies that the recalled expectations probably may be biased by the experience of the performance and satisfaction (see chapter 2). To minimise this as much as possible, the questions about victims' expectations of different CSI actions appeared before the other material relevant to the CSI investigation and satisfaction (Oliver, 2010).

The third and fourth section examined different variables related to the crime scene investigation and the perceptions of forensic evidence and will be further explained in

chapter 6 and chapter 7 respectively. The final section included questions regarding victims' satisfaction with the police investigation of the burglary, the CSI investigation and with the police in general. The participants reported their satisfaction using a four point Likert scale coded very dissatisfied (1) to very satisfied (4) (see the survey questions in Appendix A).

#### **5.4 Results:**

Regarding bivariate analysis, a non-parametric test (i.e. Mann-Whitney U test) was utilised due to the fact that the normality assumption was violated, as exploratory analysis indicated. Moreover, the Kolmogorov- Smirnov test was statistically significant ( $p < .05$ ), confirming that the score of the scale variables used were not normally distributed (Field, 2013).

##### **5.4.1 Victims' satisfaction with the police – Dependent variable:**

Victims' satisfaction with the police constitutes the dependent variable and was measured with a general question 'How satisfied were you with the way that the police officers handled your burglary incident?' Victims were asked to respond on a four-point Likert scale where 1=very dissatisfied and 4= very satisfied and their responses presented as follows; very dissatisfied=9.6%, dissatisfied=13.8%, satisfied=45.7% and very satisfied=30.9% (N=94). Given that there were more than two categories of the dependent variable, multinomial logistic regression would have been an appropriate test to predict satisfaction (Fields, 2013). However, due to the fact that there was not sufficient variability in the satisfaction scale for performing multinomial logistic regression, the variable was collapsed to a dichotomous variable, indicating whether the victim was satisfied or dissatisfied with the police, and used as such for bivariate and multivariate analysis. Regarding multivariate analysis, the appropriate regression is binary logistic regression since the dependent variable is dichotomous (Tabachnick and Fidell, 2014). The VIF values were checked for each regression, and unless otherwise stated they were less than 10, confirming that multicollinearity was not an issue. (Pallant, 2013).

#### 5.4.2 The role of the demographics in explaining satisfaction with police:

*Hypotheses:*

- i) Older victims will be more likely to be satisfied than younger victims*
- ii) Gender, ethnicity and previous victimisation will not have a significant effect on satisfaction*

Logistic regression was performed to assess the predictive role of age, gender, ethnicity and previous victimisation on the likelihood that respondents would report being satisfied (table 6). The full model containing all predictors was statistically significant, [ $\chi^2(4, N=92, 2 \text{ missing cases}) = 10.06, p < .05$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 10.4% (Cox and Snell R square) and 15.5% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 76.1% of cases. Only age made a unique statistically significant contribution to the model. The older a respondent is, the more likely (odds ratio=1.05,  $p < .05$ ), the participants were to be satisfied with the police investigation of their burglary. This finding is consistent with the previous literature (Brandl and Horvarth, 1991; Coupe and Griffiths, 1999), although it accounts for a fairly small proportion of the variance in satisfaction.

**Table 6 Logistic regression analysis predicting satisfaction with the police using demographic variables**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Gender (female)	.04	.53	.01	1	.94	1.04	.37	2.94
Age	.05	.02	4.72	1	.03	1.05	1.00	1.09
Previous victimisation	-.81	.59	1.89	1	.17	.45	.14	1.41
White	.11	.62	.03	1	.86	1.12	.33	3.80
Constant	-.04	1.01	.00	1	.97	.96		

Notes: N=94

Further, bivariate analysis explored the relationships between victims' source of forensic knowledge (professional, non-professional) and their gender, education and age. Chi-square tests for independence indicated that victims' source of forensic knowledge was not significantly associated with gender (Continuity correction= 1.99,  $p= 1.6$ ), nor with their educational level (Likelihood ratio= 4.8,  $p= .09$ ). A Mann-Whitney U test demonstrated that the source of forensic knowledge was not significantly related with age ( $U= 413$ ,  $p= .06$ ).

#### **5.4.2.1 The role of the source of forensic knowledge in explaining satisfaction with police:**

Logistic regression was performed to assess the predictive role of the participants' source of forensic knowledge on the likelihood that respondents would report being satisfied. The full model containing all predictors was not statistically significant, [ $\chi^2$  (1,  $N=92$ , 2 missing cases)= .55,  $p= .46$ ], indicating that the model was not able to distinguish between respondents who reported to be satisfied and dissatisfied. The source of forensic knowledge, namely whether participants' knowledge came from professional or non-professional sources did not have any effect on their satisfaction with the police. Consequently, this variable was not included in the subsequent multivariate models.

#### **5.4.3 Expectations, performance, (subjective) disconfirmation and satisfaction with the police:**

Participants were asked to report their expectations and their perceived performance for five items related to police demeanour at the burglary crime scene:

Police officers (would perform /performed the following actions):

- 1) courteous or respectful
- 2) show understanding of your case
- 3) appear to be concerned for your case
- 4) took time to listen to your case
- 5) reassure you

Moreover, participants were asked to report their expectations and their perceived performance of 8 items related to police behaviour during burglary investigation:

Police officers (would perform/ performed the following actions):

- 1) offer you a crime reference number for insurance purposes
- 2) search for and question witnesses
- 3) respond quickly to your crime incident
- 4) give advice for preventing future break -ins
- 5) inform you of available services (e.g. Victim Support)
- 6) call you after the initial report to inform you about the status of the case
- 7) make an arrest
- 8) return to you the stolen property

All demeanour and behaviour questions were answered by yes/no responses regarding expectations and yes/no/ N/A responses regarding perceived performance. The N/A option was given for those who did not have police attendance. However, several participants selected the N/A option for the items 'make an arrest' and 'return the stolen property' and for this reason these items were excluded from further analysis. The participants also reported their subjective disconfirmation, on a 7-item Likert scale, where 1='worse than expected', 4= 'just as expected' and 7 ='better than expected' for each of the above items.

As table 7 indicates, the majority of victims had very high expectations regarding different indicators of police demeanour (min: 78.5%, max: 99%). Similarly, table 8 shows that the majority of the victims had very high expectations about the items related to police behaviour (min: 76%, max: 88%). For all the variables the percentages of victims who expected the items of police demeanour and behaviour were higher than the percentages of victims who reported performance for these items. Thus, it could be said that the police performance did not exceed the expectations of the victims for any of these items, although performance measures were quite high indicating that police perform these actions in most cases.

**Table 7 Descriptive statistics for victims' expectations and perceived police demeanour**

	Value	Victims Expectations		Victims Perceived Performance	
		N	%	N	%
Courteous or Respectful	No	1	1	5	5.30
	Yes	99	99	89	94.70
	Missing	-		6	
Show understanding of your case	No	5	5	8	8.50
	Yes	95	95	86	91.50
	Missing	-		6	
Appear to be concerned	No	14	14	28	29.80
	Yes	86	86	66	70.20
	Missing	-		6	
Time to listen you	No	9	9	13	13.80
	Yes	91	91	81	86.20
	Missing	-		6	
Reassure you	No	22	22	33	35.10
	Yes	78	78	61	64.90
	Missing	-		6	

**Table 8 Descriptive statistics for victims' expectations and perceived police behaviour**

	Value	Victims Expectations		Victims Perceived performance	
		N	%	N	%
Crime reference number for insurance	No	12	12	11	11.70
	Yes	88	88	83	88.30
	Missing	-		6	
Search for and questioned witnesses	No	23	23	40	42.60
	Yes	77	77	54	57.40
	Missing	-		6	
Respond to your crime (in terms of time)	No	21	21	26	27.70
	Yes	79	79	68	72.30
	Missing	-		6	
Advice to prevent future break -ins	No	19	19	33	35.10
	Yes	81	81	61	64.90
	Missing	-		6	
Inform you for available services	No	23	23	32	34
	Yes	77	77	62	66
	Missing	-		6	
Update the case status(after the initial report)	No	24	24	29	30.90
	Yes	76	76	65	69.10
	Missing	-		6	

#### **5.4.3.1 Bivariate analysis:**

A Chi-square test for independence was conducted in order to determine whether victims' initial expectations and their perceived performance were associated with their satisfaction with the police investigation of their burglary. The Yates Correction for Continuity is reported (instead of the chi-square) as it compensates for the overestimate of the chi-square value when using a 2 by 2 table (Pallant, 2013). Fisher's exact test is reported (instead of the Asymp. Sig.), when the assumption that all the expected cell sizes should be greater than 5 was violated (Field, 2013). None of the victims' expectation variables related to either police demeanour or behaviour were significantly related with satisfaction. However, all the perceived performance variables related to police demeanour were significantly associated with satisfaction (table 9). The item with the most dramatic relationship is 'appeared to be concerned'; 93.9% of the victims are satisfied when they perceive the police officers as being concerned whereas 35.7% of the victims are satisfied when police do not exhibit this behaviour.

**Table 9 Bivariate results for victims' perceived police demeanour and satisfaction**

Perceived police demeanour		Police Satisfaction		Total	Continuity Correction	Asymp. Sig. (2-sided)	Fisher Exact Test	Phi
		Dissatisfied	Satisfied					
Courteous or respectful	No:	5	0	5	13.07	-	0.00	0.43
	%	100%	0%	100%				
	Yes:	17	72	89				
	%	19.10%	80.90%	100%				
Showed understanding	No :	7	1	8	16.32	-	0.00	0.46
	%	87.50%	12.50%	100%				
	Yes:	15	71	86				
	%	17.40%	82.60%	100%				
Appeared to be concerned	No:	18	10	28	34.00	0.00	-	0.63
	%	64.30%	35.70%	100%				
	Yes:	4	62	66				
	%	6.10%	93.90%	100%				
Took time to listen	No:	11	2	13	27.69	-	0.00	0.58
	%	84.60%	15.40%	100%				
	Yes:	11	70	81				
	%	13.60%	86.40%	100%				
Reassure you	No:	18	15	33	24.89	0.00	-	0.54
	%	54.50%	45.50%	100%				
	Yes:	4	57	61				
	%	6.60%	93.40%	100%				

*Note. Fisher Exact test is provided only for the variables that have 2 or 1 cell with expected count less than 5. Asymp. Sig. (2-sided) is provided when 0 cells have expected count less than 5.*

Regarding the perceived police behaviour, apart from the ‘offer a crime reference number for insurance purpose’ item, all the other five items were significantly associated with satisfaction (table 10). Thus, the percentage of victims who were satisfied with the police increased when the police exhibited each of these five behaviours. The variable that shows the most dramatic relationship, was ‘the police responded quickly’, as 89.7% of the victims were satisfied when they perceived that the police responded quickly to their incident, whereas only 42.3% were satisfied when they did not perceive this behaviour.

**Table 10 Bivariate results for victims' perceived police behaviour and satisfaction**

Perceived police behaviour		Police Satisfaction		Total	Continuity Correction	Asymp. Sig. (2-sided)	Fisher Exact Test	Phi
		Dissatisfied	Satisfied					
Offered a crime reference number for insurance	No:	3	8	11	0.00	-	0.72	0.03
	%	27.30%	72.70%	100%				
	Yes:	19	64	83				
	%	22.90%	77.10%	100%				
Searched for and questioned witnesses	No:	16	24	40	9.15	0.00	-	0.34
	%	40%	60%	100%				
	Yes:	6	48	54				
	%	11.10%	88.90%	100%				
Responded quickly	No:	15	11	26	21.00	0.00	-	0.50
	%	57.70%	42.30%	100%				
	Yes:	7	61	68				
	%	10.30%	89.70%	100%				
Gave advice for prevention	No:	13	20	33	5.94	0.02	-	0.28
	%	39.40%	60.60%	100%				
	Yes:	9	52	61				
	%	14.80%	85.20%	100%				
Informed you of available services	No:	13	19	32	6.64	0.01	-	0.29
	%	40.60%	59.40%	100%				
	Yes:	9	53	62				
	%	14.50%	85.50%	100%				
Called to update the case status	No:	13	16	29	9.08	0.00	-	0.34
	%	44.80%	55.20%	100%				
	Yes:	9	56	65				
	%	13.80%	86.20%	100%				

*Note. Fisher Exact test is provided only for the variables that have 2 or 1 cell with expected count less than 5. Asymp. Sig. (2-sided) is provided when 0 cells have expected count less than 5.*

Furthermore, the differences between satisfied and dissatisfied victims regarding the five items of disconfirmation related to police demeanour were assessed (table 11). The results of exploratory analysis indicated that the normality assumption was violated, therefore a non-parametric test was used. A Mann –Whitney U test revealed that victims who were satisfied had significantly higher disconfirmation scores for each of the five items related to police demeanour than victims who were dissatisfied ( $p < .001$ ).

The effect size,  $r$  was calculated using;

$$r = \frac{z}{\sqrt{N}}$$

where  $N$ = total number of cases, (Pallant, 2013). Using the Cohen (1988) criteria all of the effect sizes were large for each of the five items.

**Table 11 Bivariate results for disconfirmation regarding police demeanour and satisfaction**

	Police Satisfaction	N	Mean Rank	Median	Mann-U Whitney	Z	Asymp. Sig. (2-tailed)	r
Courteous or respectful	Dissatisfied	22	22.64	4	245	-5.06	.00	0.52
	Satisfied	72	55.1	6				
Showed understanding of your case	Dissatisfied	22	21.48	3	219.50	-5.27	.00	0.54
	Satisfied	72	55.45	5				
Appeared to be concerned	Dissatisfied	22	18.07	3	144.50	-5.88	.00	0.61
	Satisfied	72	56.49	5				
Took time to listen you	Dissatisfied	22	21.82	3	227	-5.21	.00	0.54
	Satisfied	72	55.35	5				
Reassured you	Dissatisfied	22	18.91	2	163	-5.71	.00	0.59
	Satisfied	72	56.24	5				

Also, a Mann – Whitney U test revealed that the difference between victims who were satisfied and dissatisfied in their disconfirmation score was statistically significant for each of the six items related to police behaviour, with satisfied victims having significantly higher disconfirmation scores than the dissatisfied ones (table 12). Using the Cohen criteria the effect size was large only for the items ‘searched and questioned witnesses’ and ‘update the case status’.

**Table 12 Bivariate results for disconfirmation regarding police behaviour and satisfaction**

	Police Satisfaction	N	Mean Rank	Median	Mann-U Whitney	Z	Asymp. Sig. (2-tailed)	r
Crime reference number for insurance	Dissatisfied	22	36.32	4	546	-2.39	.02	0.25
	Satisfied	72	50.92	4				
Searched for and questioned witnesses	Dissatisfied	22	23.11	3	255.50	-4.91	.00	0.51
	Satisfied	72	54.95	4				
Responded to your crime (in terms of time)	Dissatisfied	22	26.14	3	322	-4.25	.00	0.44
	Satisfied	72	54.03	5				
Advice to prevent future break-ins	Dissatisfied	22	24.32	3	282	-4.7	.00	0.48
	Satisfied	72	54.58	4				
Informed you for available services	Dissatisfied	22	30.93	3	427.50	-3.33	.001	0.43
	Satisfied	72	52.56	4				
Updated the case status (after the initial report)	Dissatisfied	22	23.16	2	256.5	-4.86	.00	0.5
	Satisfied	72	54.94	5				

#### **5.4.4 Victims' satisfaction with the police on an aggregate level:**

Total expectations, total performance and total disconfirmation were computed by counting the number of 'Yes' responses (Yes=1) of the eleven items of both police demeanour and behaviour. As six participants reported that the police did not attend their crime scene, they were excluded from this analysis. Thus the total sample consisted of 94 participants. Table 13 presents the descriptive statistics for total expectations, performance and disconfirmation. The mean scores demonstrate that participants had very high expectations and perceived that the police performed most of the actions asked in the questionnaire. The comparison of these means indicates that the police performed fewer actions than the initially expected actions. Nevertheless, the mean score for total disconfirmation shows that the participants tended to experience positive disconfirmation, namely total police performance was better than initially expected.

**Table 13 Descriptive statistics for Total expectations, performance and disconfirmation**

	Minimum	Maximum	Mean	Std. Deviation
Total Expectation	2	11	9.31	2.22
Total Performance	1	11	8.26	2.76
Total Disconfirmation	12	77	50.05	14.81

#### **5.4.4.1 Bivariate analysis:**

*Hypothesis: Satisfied victims will differ from dissatisfied victims in terms of their total performance and disconfirmation scores but not in terms of their total expectation score*

The differences between satisfied and dissatisfied victims regarding their total expectations, performance, disconfirmation were assessed. Due to the fact that the results of exploratory analysis indicated that the normality assumption was violated a non-parametric test was used. A Mann-Whitney U test revealed no significant difference in the total expectations score of victims who were satisfied (Md=11, n=72) and dissatisfied (Md=10.5, n=22), (U= 766.50, z= - 2.45, p= .81, r=0.3). The medians indicate that all the participants of this sample had very high expectations about the items related to both police demeanour and behaviour. Victims who were satisfied (Md=10, n=72) had a higher total performance score than the dissatisfied ones (Md=5, n=22), (U= 173, z= - 5.61, p< 0.01, r = 0.6). Reasonably, dissatisfied victims perceived a lower number of actions related to police performance than the satisfied ones, as the mean rank indicates. Also, satisfied victims (Md=4.95, n=72) had a higher score in total disconfirmation variable compared to dissatisfied victims (Md=3.1, n=72), (U= 88, z= - 6.29, p<0.01, r= 0.6). As the mean rank shows dissatisfied victims had a lower score in disconfirmation than the satisfied ones, tending to perceive the police actions as worse than they initially expected. Using the Cohen (1988) criteria the r values indicate a large effect. The mean ranks are presented in table 14.

**Table 14 Bivariate results for Total expectations, performance, disconfirmation and satisfaction**

		Total Expectation	Total Performance	Total Disconfirmation
N	Dissatisfied	22	22	22
	Satisfied	72	72	72
Mean Rank	Dissatisfied	48.86	19.36	15.50
	Satisfied	47.15	56.10	57.28
Median	Dissatisfied	10.50	5	3.18
	Satisfied	11	10	4.95

*Note. The differences are significant only for total performance and disconfirmation scores*

#### 5.4.4.2 EDM- Multivariate analysis:

Regression analysis was used in order to assess the impact of total expectations, total performance and total disconfirmation on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 15). The full model containing all predictors was statistically significant, [ $\chi^2(3, N=94) = 61, p < .001$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 47.7% (Cox and Snell R square) and 72% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 90% of cases. Only ‘total disconfirmation’ made a unique statistically significant contribution to the model. The higher the score of total disconfirmation, the more likely (odds ratio=1.26,  $p=.001$ ) the respondents are to be satisfied by the police investigation. Total expectation and total performance have a positive relationship with satisfaction but they are not statistically significant. Although, bivariate analysis indicated that total performance was associated with satisfaction, it loses its impact in the regression model when total expectation and total disconfirmation are considered simultaneously.

**Table 15 logistic regression analysis predicting satisfaction with the police, using EDM**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	.15	.22	.46	1	.50	1.16	.76	1.78
Performance	.40	.21	3.44	1	.06	1.48	.98	2.25
Disconfirmation	.23	.07	9.90	1	.001	1.26	1.09	1.46
Constant	-12.89	4.03	10.22	1	.001	.00		

*Note. N=94*

#### **5.4.5 Disconfirmation (subjective):**

Due to the fact that only disconfirmation was a significant predictor of satisfaction, it is interesting to explore further the nature of disconfirmation. For this reason, subjective disconfirmation was recoded into three categories, reflecting its three states (Oliver, 2010) namely, negative disconfirmation  $N=34$ , zero disconfirmation  $n=7$ , positive disconfirmation  $n=53$  (total  $n=94$ ). Due to the fact that zero disconfirmation had a low frequency, it would not be appropriate to use this category for logistic regression (Hair, Black, Babin and Anderson, 2014) and consequently it was excluded from further analysis.

Firstly, the nature of disconfirmation will be explored based on total expectations and performance. Disconfirmation is conceptually the difference between expectations and perceived performance. However, as this study measured subjective disconfirmation by asking directly the participants whether they felt that different police actions were much worse or much better than their initial expectations, it was interesting to examine the degree to which these variables can explain disconfirmation.

##### **5.4.5.1 Bivariate analysis:**

The differences in total expectations and total performance scores between victims who belonged to positive and negative disconfirmation groups were assessed using a Mann-Whitney U test, as the normality assumption was violated. Victims who experienced negative disconfirmation ( $Md=10$ ,  $n=34$ ) had a higher score in the total expectation variable compared to those who experienced positive disconfirmation ( $Md=9$ ,  $n=53$ ), ( $U= 652.50$ ,  $z= - 2.35$ ,  $p< 0.05$ ,  $r = 0.3$ ). The mean rank demonstrates that the negative disconfirmation group expected more items related to police demeanour and performance (51.31) than the positive disconfirmation group (39.31). Victims who experienced negative disconfirmation ( $Md=6.5$ ,  $n=34$ ) had a lower score in the total performance variable compared to those who experienced positive disconfirmation ( $Md=10$ ,  $n=53$ ), ( $U= 255.50$ ,  $z= - 5.69$ ,  $p< 0.01$ ,  $r = 0.6$ ). The mean rank shows that the positive disconfirmation group (56.18) perceived more police actions related to demeanour and behaviour compared to the negative disconfirmation group (25.01). Although total expectations did not have an impact on satisfaction and there was no statistical difference between satisfied and dissatisfied in total expectations score, it appears that expectations had an effect on the nature of disconfirmation. More

specifically, victims who expected more police actions were less likely to experience positive disconfirmation.

#### 5.4.5.2 Multivariate analysis:

Logistic regression was performed to assess the impact of total expectations and performance on the likelihood that respondents would report whether they felt better or worse than expected (table 16). The full model containing all predictors was statistically significant, [ $\chi^2$  (2,N=87)= 48.21,  $p < .001$ ], indicating that the model was able to distinguish between respondents who reported negative and positive disconfirmation. The model as a whole explained between 42.5%(Cox and Snell R square) and 57.7% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 83.9% of cases and the Hosmer and Lemeshow test was significant ( $p < .05$ ). Both total performance and total expectations were statistically significant predictors, with total performance being the strongest one. The higher the total performance score gets the more likely the respondents were (odds ratio=2.23,  $p < .001$ ) to experience positive disconfirmation. Moreover, the higher the total expectations score gets, the less likely (odds ratio= .63,  $p = .01$ ) respondents were to experience positive disconfirmation. The results indicate that the participants of this study based their disconfirmation responses on both expectations and performance.

**Table 16 Logistic regression analysis predicting disconfirmation, using total expectations and performance**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Total Expectations	-.47	.17	7.67	1	.01	.63	.45	.87
Total performance	.80	.18	20.69	1	.00	2.23	1.58	3.15
Constant	-1.72	1.55	1.23	1	.27	.18		

Secondly, the nature of disconfirmation was explored based on several demographic variables, using logistic regression in order to determine the degree to which these variables can explain the likelihood of a victim experiencing negative or positive disconfirmation (table 17). The full model containing all predictors was statistically

significant, [ $\chi^2(4, N=85, \text{missing cases}=9) = 11.68, p = .02$ ], indicating that the model was able to distinguish between respondents who experienced negative or positive disconfirmation. The model as a whole explained between 12.8% (Cox and Snell R square) and 17.4% (Nagelkerke R squared) of the variance in experiencing disconfirmation and correctly classified 64.7% of cases. The only significant predictor was previous victimisation. Thus, the participants who have been a victim of crime more than once during the last 5 years were less likely (odds ratio = .33,  $p < .05$ ) to feel that police performance was better than initially expected.

**Table 17 Logistic regression analysis predicting disconfirmation using demographic variables**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Gender (female)	.04	.49	.01	1	.94	1.04	.40	2.70
Age	.03	.02	3.55	1	.06	1.03	1.00	1.07
Ethnicity (white)	.42	.59	.51	1	.48	1.53	.48	4.88
Previous victimisation	-1.11	.51	4.68	1	.03	.33	.12	.90
Constant	-.42	.88	.23	1	.63	.67		

#### **5.4.6 Expectancy Disconfirmation Model-Analysis on performance dimensions:**

Having examined the operation of the elements of EDM on a unidimensional level this section examines how the model can operate in specific dimensions of performance. To examine this, two dimensions of police performance were conceptually identified, namely police demeanour and police behaviour. In doing so, this study followed the four previous studies, which explained victim satisfaction using the EDM which adopted similar conceptual identifications (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Stroshine, 2005). Regarding police demeanour, expectations and performance were computed by adding the scores of the five demeanour items respectively. Disconfirmation was computed by adding the scores of the scales related to these five items. The same process was done with the six items

of police behaviour to construct its expectations, performance and disconfirmation scores.

#### 5.4.6.1 Dimension 1- police demeanour:

Logistic regression was performed to assess the impact of expectations, performance and disconfirmation regarding police demeanour on the likelihood that respondents would report being satisfied or dissatisfied (table 18). The full model containing all predictors was statistically significant [ $\chi^2(3, N=94) = 57.48$   $p < .001$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 45.7% (Cox and Snell R square) and 69% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 89.4% of cases. Only disconfirmation of police demeanour made a unique statistically significant contribution to the model. The higher the score of disconfirmation of police demeanour, the more likely (odds ratio=1.41,  $p=.02$ ) the respondents were to be satisfied by the police investigation.

**Table 18 Logistic regression analysis to predict satisfaction, using performance Dimension 1 - police demeanour**

Police Demeanour	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	.07	.45	.03	1	.87	1.08	.44	2.61
Performance	.74	.40	3.43	1	.06	2.10	.96	4.59
Disconfirmation	.35	.15	5.65	1	.02	1.41	1.06	1.88
Constant	-8.79	3.38	6.76	1	.01	.00		

#### 5.4.6.2 Dimension 2- police behaviour:

Logistic regression was performed to assess the impact of expectations, performance and disconfirmation regarding police behaviour on the likelihood that respondents would report being satisfied or dissatisfied (table 19). The full model containing all predictors was statistically significant [ $\chi^2(3, N=94) = 37.49$   $p < .001$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 32.9% (Cox and Snell R square) and 49.6% (Nagelkerke R squared) of the variance in satisfaction and correctly

classified 85.1% of cases. Only disconfirmation of police behaviour made a unique statistically significant contribution to the model. The higher the score of disconfirmation of police behaviour gets, the respondents were more likely (odds ratio=1.27, p=.001) to be satisfied by the police investigation.

**Table 19 Logistic regression analysis to predict satisfaction using Performance Dimension 2- police behaviour**

Police Behaviour	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	.11	.22	.26	1	.61	1.12	.73	1.70
Performance	.13	.23	.32	1	.57	1.14	.73	1.78
Disconfirmation	.24	.07	10.82	1	.001	1.27	1.10	1.47
Constant	-5.38	1.84	8.50	1	.001	.01		

#### **5.4.6.3 EDM for both Dimensions:**

The final model contained only the previous significant variables; disconfirmation regarding police behaviour and police demeanour and logistic regression was used in order to assess their impact on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 20). The full model containing all predictors was statistically significant [ $\chi^2(2, N=94) = 59.24$  p < .001], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 46.8% (Cox and Snell R square) and 70.5% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 89.4% of cases. Disconfirmation for both regarding police demeanour and police behaviour made a statistically significant contribution to the model, with police demeanour being the most important predictor of satisfaction. The higher the score of disconfirmation for police demeanour (odds ratio=11.38, p=.001) the more likely respondents were to be satisfied with the police investigation. Regarding disconfirmation for police behaviour, the higher the score, the more likely (odds ratio=3.48, p < .05) the participants were to be satisfied with the police investigation.

**Table 20 Logistic regression analysis to predict satisfaction using both performance dimensions**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Disconfirmation Demeanour	2.43	.72	11.40	1	.001	11.38	2.77	46.68
Disconfirmation Behaviour	1.25	.51	5.88	1	.02	3.48	1.27	9.52
Constant	-12.79	3.45	13.74	1	.00	.00		

**5.4.7 EDM and demographics in predicting satisfaction with the police:**

Logistic regression was performed to assess the impact of expectations, performance and disconfirmation regarding police behaviour and demeanour and demographics on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 21). The full model containing all predictors was statistically significant [ $\chi^2(6, N=92)= 63.65 p < .001$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 49.9% (Cox and Snell R square) and 74.8% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 88% of cases. Holding constant the effects of demographics (gender and age) and previous victimisation, both disconfirmation regarding police demeanour and behaviour made a statistically significant contribution to the model. The higher the score of disconfirmation for police demeanour, the more likely (odds ratio=1.78,  $p = .001$ ) the respondents were to be satisfied by the police investigation. The higher the score of disconfirmation for police behaviour, the more likely (odds ratio=1.28,  $p < .05$ ) respondents were to be satisfied by the police investigation. Disconfirmation appears to be more important than demographics in explaining satisfaction, showing that the expectancy disconfirmation model is more effective in explaining satisfaction compared to several demographics.

**Table 21 Logistic regression analysis to predict satisfaction, using disconfirmation variables and demographic variables**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Disconfirmation Police Demeanour	.58	.19	9.81	1	.001	1.78	1.24	2.56
Disconfirmation Police Behaviour	.25	.11	5.04	1	.03	1.28	1.03	1.59
Ethnicity (White)	-.22	1.15	.04	1	.85	.80	.08	7.58
Gender (female)	.80	.90	.80	1	.37	2.23	.38	12.30
Age	.07	.04	3.25	1	.07	1.08	.99	1.17
Previous victimisation	-.54	1.19	.20	1	.65	.58	.06	6.04
Constant	-17.46	5.52	10.01	1	.001	.00		

#### **5.4.8 Subjective disconfirmation vs. objective (calculated) disconfirmation:**

Depending on the way that disconfirmation is measured there are two types of disconfirmation, namely objective (or calculated disconfirmation) and subjective disconfirmation. Subjective disconfirmation is measured by asking respondents directly through the use of Likert scales. Objective disconfirmation is calculated by subtracting expectation scores from performance scores, as it is defined as the difference between performance and expectations (Oliver, 1997). This study utilised only subjective disconfirmation, as it has been considered as a better measurement over objective disconfirmation (Oliver, 2010). Nevertheless, due to the fact that the previous studies (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001 and Robinson and Stroshine, 2005), which utilised EDM to explain victim satisfaction used only objective disconfirmation, this section explores also objective disconfirmation and compares the validity of both measurements.

To calculate objective disconfirmation, the scores on the 11 items measuring expectations were subtracted from the scores on the 11 items measuring performance respectively. Doing so generated scores ranging from -11(negative disconfirmation) to 11 (positive disconfirmation). To avoid the negative values, the scale was recoded and the final scale took the following form; from 1 to 11.99 (= negative disconfirmation),

12(=zero disconfirmation) and from 12.1 to 23 (=positive disconfirmation). Table 22 shows the descriptive statistics for both types of measurements.

**Table 22 Descriptive statistics for total subjective and objective disconfirmation**

	Minimum	Maximum	Mean	Std. Deviation
Subjective Disconfirmation	12.00	77.00	50.05	14.81
Objective Disconfirmation	2.00	20.00	10.95	3.46

Note. N=94

#### 5.4.8.1 Multivariate analysis- EDM:

Logistic regression was used in order to assess the impact of total objective and subjective disconfirmations on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 23). The full model containing all predictors was statistically significant [ $\chi^2(2, N=94) = 55.84$   $p < .001$ ], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 44.8% (Cox and Snell R square) and 67.5% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 89.4% of cases. Only subjective disconfirmation made a statistically significant contribution to the model. The higher the score of the subjective disconfirmation, the more likely the respondents (odds ratio=1.3,  $p=.001$ ) were to be satisfied with the police investigation.

**Table 23 Logistic regression analysis to predict satisfaction, using both objective and subjective disconfirmation**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Objective Disconfirmation	.11	.15	.52	1	.47	1.12	.83	1.50
Subjective Disconfirmation	.26	.08	11.08	1	.001	1.30	1.11	1.52
Constant	-10.82	2.86	14.35	1	.00	.00		

In order to determine how both types of disconfirmation operate in explaining satisfaction with the police, two models were computed. Both models included only total expectations and each of the two types of disconfirmation. Total performance was excluded from the analysis as it was highly correlated with the objective disconfirmation and consequently there was an issue of multicollinearity.

Both models were statistically significant; Model 1 [ $\chi^2(2, N=92)= 41.65$   $p < .001$ ] as a whole explained between 35.8% (Cox and Snell R square) and 54% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 87.2% of cases (table 24). Model 2 [ $\chi^2(2, N=92)= 57.15$   $p < .001$ ] as a whole explained between 45.6% (Cox and Snell R square) and 68.7% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 90.4% of cases (table 25). Based on the variance explained Model 2 performed better, indicating that subjective disconfirmation made a stronger contribution in explaining satisfaction compared to objective disconfirmation. Moreover, in Model 1, both total expectations and objective disconfirmation significantly contributed in explaining satisfaction, with the last being the most important factor. The higher the score of total objective disconfirmation, the more likely (odds ratio=2.03,  $p < .001$ ) the respondents were to be satisfied with the police investigation. The higher the score of total expectations, the more likely (odds ratio=1.9,  $p = .001$ ) the respondents were to be satisfied with the police investigation. In Model 2, only subjective disconfirmation made a significant contribution. The higher the score of total subjective disconfirmation, the more likely (odds ratio=1.34,  $p < .001$ ) the respondents were to be satisfied with the police investigation.

Model 1:

**Table 24 Model1-Logistic regression analysis to predict satisfaction using objective disconfirmation**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Total Expectations	.64	.20	10.57	1	.001	1.90	1.29	2.80
Total Objective Disconfirmation	.71	.15	21.51	1	.00	2.03	1.51	2.74
Constant	-3.45	1.65	4.37	1	.04	.03		

Model 2:

**Table 25 Model 2- Logistic regression analysis to predict satisfaction using subjective disconfirmation**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Total Expectations	.26	.21	1.53	1	.22	1.30	.86	1.95
Total Subjective Disconfirmation	.30	.07	17.11	1	.00	1.34	1.17	1.55
Constant	-13.61	3.86	12.47	1	.00	.00		

#### **5.4.8.2 States of disconfirmation:**

Total objective disconfirmation was recoded into three categories in accordance to each three states (Oliver, 2010); negative disconfirmation (N=45), zero disconfirmation (N=25) and positive one (N=24). The same procedure followed for total subjective disconfirmation; negative disconfirmation (N=34), zero disconfirmation (N=7) and positive one (N=53). The comparison of both types of disconfirmation demonstrates that they differ substantially in respect of each of their three states. According to objective disconfirmation the majority experienced negative disconfirmation, while according to subjective disconfirmation, the majority experienced positive disconfirmation, indicating that there is an essential difference between these two measurements, although they are often assumed to be measuring the same concept.

#### **5.5 Discussion:**

The aim of this study was to build on the existing victim satisfaction literature by developing a model to explain burglary victim satisfaction with the police, based on the expectancy disconfirmation model (EDM). Different variables (related to police demeanour and behaviour) identified in the previous literature were explored under the concept of expectations, performance and disconfirmation, which are the three core elements of EDM, in order to assess their impact on satisfaction with the police. The operation of the EDM was investigated on a unidimensional level and in specific dimensions of performance. Moreover, the different states of disconfirmation were considered and there was a comparison of subjective and objective disconfirmation.

### **5.5.1 The role of demographics in explaining satisfaction:**

This study examined the role of gender, age, ethnicity and previous victimisation in explaining satisfaction and found that only age was a significant predictor of satisfaction. Older victims were more satisfied with the police on average, which is consistent with the studies of Brandl and Horvarth (1991) who examined serious property crime (including burglaries) and Coupe and Griffiths (1999) who focused only on burglary victims. Also, this finding is supported by most of the previous literature which examined the extent to which several demographic variables explained satisfaction (Chandek, 1999). However, Chandek and Porter (1998) did not find any relationship between age and satisfaction. Traditionally, victim satisfaction literature has used demographic variables in explaining satisfaction. However, the studies which considered the role of demographics produced mixed results regarding the role of demographics in explaining satisfaction, with some supporting an effect of gender (Braithwaite and Yeboah, 2004) and race (Hirschel, Lumb and Johnson, 1998) on satisfaction. Although, the model used in this chapter to assess the role of demographics was significant, the variance that it could explain was low, supporting further the argument that there are other more important variables to consider in order to understand satisfaction. For this reason, this study considered whether expectancy disconfirmation theory can provide a better explanation of satisfaction. An assessment of the role of demographics and EDM is provided later in the discussion after explaining the results of the EDM. Further bivariate analysis explored the relationships between victims' source of forensic knowledge and their gender, education and age, indicating their source of knowledge was not significantly related with any of these variables. Moreover, the logistic regression model indicated that the source of forensic knowledge (professional, non-professional) did not have any significant effect on satisfaction with the police.

### **5.5.2. Expectations, performance, disconfirmation (Bivariate analysis):**

Bivariate analysis demonstrated that the participants in this study held very high expectations regarding the different actions of police demeanour and behaviour. However, none of these expectations were significantly related with satisfaction. For all the variables the percentages of victims who expected different actions of demeanour or behaviour were higher than the percentages of victims who reported to see these actions. Victims tended to be more satisfied when the police demonstrated different

actions related to police demeanour (courteous or respectful, show understanding of the case, appear to be concerned, took time to listen, reassured the victim) and behaviour (search for and question witnesses, respond quickly, gave advice for prevention, informed the victims of available services e.g. Victim Support, called to update the case status). The only police behaviour action, which did not associate with satisfaction was 'the police offered a crime reference number for insurance purposes'. It is not clear why this item was not significantly associated with satisfaction, but it may be the case that victims were not aware that the police should do so.

These results are consistent with the previous literature on victim satisfaction with the police which found also that the way that victims are treated (police demeanour) and whether the police demonstrated different activities during the investigation of the crime (police behaviour) were related to satisfaction (Brandl and Horvarth, 1991; Chandek and Porter, 1998; Coupe and Griffiths, 1999). Nevertheless, one should consider that these studies examined victim satisfaction for mixed type of crime (apart from Coupe and Griffiths, 1999 who examined burglary victims) and used other indicators of police performance depending on the crime type. Satisfied and dissatisfied victims differed significantly in terms of the disconfirmation score with satisfied victims tending to have a higher score in the disconfirmation scale for all variables related to police demeanour and behaviour. The disconfirmation of response time was positively related to satisfaction as previous studies suggested (Brandl and Horvarth, 1991; Coupe and Griffiths, 1999).

Overall these results are similar with the ones found in the four previous studies which used EDM to explain victim satisfaction (Chandek and Porter, 1998; Chandek, 1999; Reisig and Chandek, 2001; Robinson and Strohshine, 2005). Although this study did not specifically examine the concepts of procedural justice theory and its effect on satisfaction, it provides support for some elements of it, as they were identified in a recent systematic review of victim satisfaction with the criminal justice system (Laxminarayan, Bosmas, Porter and Sosa, 2013). More specifically, the current study supports that the actions of police behaviour, which is related to accuracy (procedural justice), the actions of police demeanour, which is related to respect (interpersonal justice) and some specific actions like 'inform about available services', 'update the

cases status' which are related to informational justice play a role in explaining victim satisfaction with the police.

### **5.5.3 Expectancy Disconfirmation Model:**

According to Oliver and Burke (1999), the elements of the expectancy disconfirmation model can operate differently in specific dimensions of performance compared to its operation on a unidimensional level. For this reason, this study firstly used the expectancy disconfirmation model in order to explain satisfaction on a unidimensional level, and secondly explored the operation of the model in specific dimensions of performance.

#### *A) EDM on a unidimensional level:*

The results indicated that total expectations and police performance did not influence satisfaction unlike total disconfirmation, which had a significant effect on satisfaction. Victims did not seem to predispose their satisfaction based only on their expectations regardless of the performance, but they used expectations indirectly through disconfirmation, as a basis to assess performance. This gap created from comparing perceived performance to prior expectations is known as disconfirmation (Oliver, 1997) and it was the only significant predictor of satisfaction. One could expect also to find a direct effect of expectations on satisfaction, as expectations can dominate when consumers are disinterested in testing performance or unable to judge performance as they are not aware of the procedures (Oliver, 2010). However, this could be explained by the fact that this study measured retrospective expectations. More specifically, the theory suggests that satisfaction may be dominated by disconfirmation (instead of expectations) in cases where there is a delay in assessing expectations (Oliver, 2010). In addition, performance can override initial expectations as it makes consumers believe that their initial dispositions were correct and affirmed in the direction of performance (Oliver, 2010). Consequently, measuring expectations retrospectively leads to domination of satisfaction by disconfirmation instead of expectations. However, another explanation for not finding an effect of expectations could be the fact that police service is a public utility service, and as a result consumers (and in this case the victims) are obliged to tolerate an expected level below the minimum despite their high expectations (Oliver, 2010).

Moreover, bivariate analysis indicated that performance was significantly associated with satisfaction, but it lost its impact when considering disconfirmation and expectations in explaining satisfaction. This might be explained by the size of the sample in this study. A larger sample would have increased the ability to detect a small effect by increasing the statistical power, and consequently it may indicate that performance had a significant role in the expectancy disconfirmation model along with disconfirmation.

Considering the operation of the model on a unidimensional performance level constitutes a methodological contribution, as the previous studies which utilised EDM did not include such analyses. The current study supports only a direct effect of disconfirmation on satisfaction. This is consistent with the results of expectancy disconfirmation empirical literature, which supports that there are different variations of the model, namely different relationships among the elements of the EDM were important for different services and products (Oliver 1997). For example, some studies demonstrated that only expectations had a significant effect on satisfaction (Olshavsky and Miller, 1972; Anderson, 1973), other studies found only disconfirmation effects (Cadotte Woodruff and Jenkins, 1987), some researchers found only performance effects (Churchill and Surprenant, 1982) while other research indicated a combination of these elements effects working in tandem (Oliver and DeSarbo, 1988).

Although both expectations and performance did not directly affect satisfaction, they had an indirect effect through disconfirmation, which is the gap created from the comparison of perceived performance with prior expectations (Oliver, 1997). For this reason, it was interesting to explore the nature of disconfirmation by identifying its three states (negative, zero and positive disconfirmation) (Oliver, 2010). Unfortunately, this study could not examine zero disconfirmation, as the number of participants belonging to this group was too small to allow any statistical comparisons. The results indicated that the participants based their negative or positive disconfirmation on both expectations and performance. If the respondents perceived more police actions, they were more likely to experience positive disconfirmation while if they expected more police actions they were less likely to experience positive disconfirmation. As expected, victims who belonged to the positive disconfirmation perceived more police actions related to police demeanour and behaviour and had lower expectations of these police

actions compared to the victims experienced negative disconfirmation. Although total expectations did not have a direct impact on satisfaction and there was no statistical difference between satisfied and dissatisfied participants in total expectations score, one can observe that they had an effect on the nature of disconfirmation. More specifically, victims who expected more police actions were less likely to experience positive disconfirmation.

Demographic variables (gender, age, race) were assessed in order to determine the likelihood of victims experiencing either negative or positive disconfirmation. The regression model indicated that the only significant predictor of disconfirmation was previous victimisation. Thus, the participants who have been a victim of crime more than once during the last 5 years were less likely to feel that police performance was better than initially expected compared to those who have not been victims during that period. This effect of previous victimisation on disconfirmation could be explained by the theory which suggests that previous experiences with the product is stored in the consumer's memory and play a significant role in the formation of expectations, as consumers use retrieval mechanisms in order to formulate expectations from their memory. For example, previous satisfaction has been shown to have a significant impact on future expectations while negative events are more available in memory compared to positive ones since individuals encode negative information faster in order to avoid harmful situations (Oliver, 2010).

As previously demonstrated previous victimisation did not have a direct effect on satisfaction, however, one could suggest that it might indirectly affect satisfaction through disconfirmation since it was significant predictor of disconfirmation. Moreover, age did not affect disconfirmation unlike the study of Chandek (1999) who found that younger victims and victims of burglary were more likely to feel that the police did not meet their initial expectations. However, this could be attributed to the sample size as using a larger sample would have increased the ability to detect a small effect by increasing the statistical power, and consequently it may indicate that age could influence disconfirmation.

*B) Expectancy Disconfirmation Model-Analysis of Performance dimensions:*

This study explored the operation of the EDM on specific performance dimensions and found that only the disconfirmation variables (police demeanour and behaviour) for their dimensions respectively were important in explaining satisfaction. Moreover, the full regression model containing only the significant variables from the previous regressions on each of the dimensions of performance (police demeanour and behaviours) demonstrated that both disconfirmations regarding police demeanour and behaviour were important predictors of satisfaction, with police demeanour being the most important. Thus, the elements of the EDM did not operate differently from their operation on unidimensional level, as direct effects of expectations or performance could not be detected in any of the dimensions. However, not finding such direct effects for any of the dimensions of performance might be attributed to methodological reasons, as this study used a conceptual identification of the dimensions of performance (police demeanour and behaviour). For example Oliver and Burke (1999) found a different combination of direct effects on performance, expectations and disconfirmation for the dimensions of performance when measuring satisfaction with a novel restaurant dining experience while utilising factor analysis to identify the different dimensions of performance.

**5.5.4 EDM vs. demographics in predicting satisfaction with the police:**

Earlier in the discussion, it was mentioned that when considering demographics only age had a significant effect on satisfaction. Although that model was significant, the variance that could explain was very low suggesting that other variables exist that can be more effective in explaining satisfaction. For this reason both demographics and EDM were assessed in order to find out which plays a more important role in satisfaction. It was demonstrated that only disconfirmation variables (police demeanour and behaviour) were significant in predicting satisfaction, with disconfirmation regarding police demeanour being the most important predictor while considering the effects of age, gender, race and previous victimisation. Consequently, this study supports the argument that the expectancy disconfirmation model provides a more effective way to understand satisfaction compared to using several demographic variables, as disconfirmation is a better predictor of satisfaction. These results are consistent with the previous study of Robinson and Stroshine (2005) who found that unlike demographics, the disconfirmation variables contribute significantly to

understanding domestic violence victims' satisfaction with the police while disconfirmation regarding police demeanour also had a stronger effect than disconfirmation about police behaviour. The finding that disconfirmation about police demeanour was a stronger predictor than disconfirmation police behaviour could also be explained by previous empirical studies on victim satisfaction with the police (Laxminarayan, Bosmas, Porter and Sosa, 2013). These studies, although they did not examine disconfirmation and used different types of crime, generally support the role of different actions of police demeanour in satisfaction while the different actions of police behaviour produced mixed results for explaining satisfaction.

#### **5.5.5 Policy implications:**

In summary both the operation of the EDM in a unidimensional and in specific dimensions of performance supports the direct effect of disconfirmation in burglary victims' satisfaction. Both expectations and performance affected the states of disconfirmation, which further highlights the indirect role of both victims' expectations and performance (behaviour and demeanour) in satisfaction with the police, through disconfirmation. Regarding police behaviour, although certain police activities during the actual investigation can be hard to change due to situational factors (e.g. response time) (Chandek and Porter, 1998; Robinson and Strohshine, 2005), police officers should make sure that they exhibit other actions such as 'give advice for prevention', 'inform the victims of available services e.g. Victim Support', and 'call to update the case status'. Also, the way that victims are treated is important for burglary victims as well. Therefore police officers should be aware that certain actions of demeanour (be courteous or respectful, show understanding of the case, appear to be concerned, took time to listen, reassured the victim) play a vital role in victim satisfaction in burglary incidents. Such changes might be easier to implement, as these actions are more within the police officer control (Robinson and Strohshine, 2005).

Moreover, it is important for the police to recognise the role of victims' expectations and accordingly attempt to manage such expectations. Robinson and Strohshine (2005) in their study of domestic violence victims suggested that sharing information with the public is essential as victims can obtain more realistic expectations, if they are able to know what they can and cannot routinely expect from the police response. Such practice could also improve the performance of the police officers as they will be aware of what

victims expect and they can respond more effectively. These suggestions are essential for managing burglary victims' expectations as well. Therefore, as proposed for the domestic violence victims (Robinson and Stroshine, 2005), police should adopt a more proactive role by using educational campaigns for informing the public about what is realistic to expect from a burglary police investigation and training programmes for informing police officers about burglary victims' expectations.

#### **5.5.6 Subjective disconfirmation vs. Objective disconfirmation:**

Previous studies which assessed both measurements provided evidence for the superiority of subjective disconfirmation (Oliver, 2010). Consistent with this, the logistic regression model demonstrated that when considering both subjective and objective disconfirmation, only subjective disconfirmation was a significant predictor of satisfaction. Moreover, the two regression models (including expectations and each of these two types of disconfirmation measure) demonstrated that subjective disconfirmation (model 2) made a better contribution in explaining satisfaction, compared to objective disconfirmation, (model 1) based on the variance explained. The operation of the elements of the EDM was also different between the two models. As the first model indicated, expectations and objective disconfirmation can affect satisfaction both independently and in tandem. The higher the expectations the more likely the victims are to feel satisfied while the higher the score in the disconfirmation scale, the more likely the victims are to feel satisfied, although the disconfirmation effect was the strongest. These results demonstrate that although both types of disconfirmation are thought to measure the same concept, they have a different effect on the operation of the EDM, when explaining satisfaction, which in turn suggests that they constitute two very different constructs. This was further evident when both disconfirmations were recoded into their three states (negative, zero, positive disconfirmation).

According to the objective disconfirmation measure, the majority of participants experienced negative disconfirmation while according to the subjective disconfirmation, the majority experienced positive disconfirmation. This problem was also encountered by Chandek and Porter (1998) who used only objective disconfirmation and could not explain why they found so many participants who experienced negative disconfirmation, when the majority were satisfied with the police. If one considers the

expectancy disconfirmation theory (Oliver, Balakrishnan and Barry, 1994), we would expect that the majority should belong to the positive disconfirmation group as the majority were satisfied with the police. However, this is not surprising if one considers that objective disconfirmation is the raw difference between expectations and performance scores. As such, it cannot take into account the consumer's subjective interpretation of this difference, like the implicit weightings on expectations and performance and the valence towards the discrepancy, and consequently it can lead to inaccuracies. On the contrary, subjective disconfirmation measures consumer's subjective interpretations by asking directly the consumer to make these types of judgements. Through this scale the subjective judgment can be 'sensed' even when performance dimensions are not objective e.g. artwork (Oliver, 2010). For all these reasons, this thesis supports the argument that subjective disconfirmation constitutes a better measurement than objective disconfirmation especially if one would like to explore the three states (negative, zero positive disconfirmation).

Moreover, in a victim satisfaction context, research cannot measure victims' expectations other than retrospectively for practical reasons. In turn measuring expectations retrospectively suggests that satisfaction may be dominated by disconfirmation over expectations, as there is a declining memory for expectations. This declining memory does not affect the consumer judgement in the subjective disconfirmation scale, as it is not necessary to know the precise expectation levels (Oliver, 2010). For this reason, as well, maybe it is more valid to measure subjective disconfirmation especially in a victim satisfaction context rather than objective disconfirmation.

Overall, this chapter supports the direct effect of disconfirmation on victims' satisfaction and discussed the implications of it to policing. It was also indicated that EDM provides a more effective to understand satisfaction compared to using several demographic variables. This study provided two methodological contributions to the previous literature, which used the EDM in explaining victim satisfaction. Firstly, the operation of the EDM was investigated not only in specific dimensions of performance but also on a unidimensional performance level, while both analyses supported disconfirmation being the most important determinant of satisfaction. Secondly, the assessment of both measurement types of disconfirmation, namely subjective and

objective disconfirmation indicated that subjective disconfirmation constitutes a better measurement. Consistent with the previous literature which employed EDM in order to explain victim satisfaction with the police, the current study supports the validity of this model in understanding satisfaction. Nevertheless, these studies did not consider the forensic investigation, which constitutes an important aspect of criminal investigations and ignored the potential impact of victims' perceptions of forensic evidence in satisfaction as the CSI effect literature implies. For this reason and due to the fact that forensic investigation plays an important role in burglaries, the next chapter will consider how different aspects of the forensic investigation can affect victim satisfaction with the Crime Scene Investigators (CSIs), using EDM.

## **Chapter 6: Victims' Satisfaction with Crime Scene Investigators**

### **6.1 Abstract:**

The previous chapter demonstrated how the expectancy disconfirmation model (EDM) operates in explaining victims' satisfaction with the police, supporting its usefulness for understanding burglary victim satisfaction. Based on this argument, this chapter utilises the EDM to examine burglary victim satisfaction with the Crime Scene Investigator (CSI), for two reasons. Firstly forensic investigations constitute an important aspect of criminal investigations, especially in burglary crimes, while the role of different CSI activities during forensic investigations was largely ignored by the previous literature. Secondly, examining satisfaction with the CSI serves the main aim of this thesis, which is to explore the impact of victims' perceptions of forensic evidence on satisfaction. This chapter presents the results of the third section of the burglary victim survey, designed to measure expectations, performance and disconfirmation for several variables related to forensic investigations, in order to determine which is the most important predictor of victim satisfaction with CSIs. The results demonstrate the importance of disconfirmation in determining satisfaction with the CSI and are discussed in relation with the expectancy disconfirmation literature and the study on victims' satisfaction with the police (chapter 5). Moreover, this study establishes a CSI satisfaction model, providing the basis for the next chapter, which will consider the role of victims' perceptions of forensic evidence in satisfaction with the CSI.

## **6.2 Introduction:**

To the knowledge of the author of this thesis, there is no previous study considering satisfaction with CSIs separately from the police. Previous research on victim satisfaction with the police included limited CSI actions, mainly ‘examine the crime scene’ or ‘search for evidence’ as indicators of police performance (Brandl and Horvarth, 1991; Chandek and Porter, 1998; Braithwaite and Yeboah, 2004). The two studies with burglary victims considered some other variables like the visit and the manner of both a SOCO and CID and the time spent by each of them at the crime scene (Coupe and Griffiths, 1999) and CSI attendance and collection of fingerprints (Hirschel, Lumb and Johnson, 1998). However, the first study excluded these actions from multivariate analysis and did not consider other important actions like the recovery of forensic evidence while the second one focused only on the recovery of fingerprints. CSI actions during forensic investigations constitute an important part of the investigation of a burglary, which need to be considered as well in order to better understand satisfaction with the investigation of burglaries. Therefore, the current study measures satisfaction with the CSI investigation separately in order to explore which actions performed by the CSIs are useful for explaining satisfaction using the expectancy disconfirmation model.

Regarding the application of EDM, it was difficult to predict how the model would operate, and specifically which relationships within the model would significantly affect satisfaction, as it had never been used before to explain victim satisfaction with the CSI investigation. Even research on consumer satisfaction, which has widely applied EDM, has indicated that different relationships were important for different services and products Oliver (1997). For this reason, bivariate analyses were used to test all the potential relationships between expectations, performance and disconfirmation with satisfaction, and multivariate analysis identified their potential effects on satisfaction with the CSI investigation. Due to the fact that there is no previous research examining satisfaction with the CSI investigation the hypotheses made in this chapter are mainly exploratory. For this reason, this chapter does not assess different variations of the EDM, including the differences between objective and subjective disconfirmation. This is in contrast with the previous chapter where existing literature on victim satisfaction with the police enabled the researcher to take a more confirmatory analytic approach by examining more variations of the EDM, following and building further on the results

and methodology of previous studies. Moreover, such analytic approach would not be appropriate for this chapter given the limited CSI actions included in the questionnaire, compared to the number of the police actions. Nevertheless, the results are discussed in relation to the expectancy disconfirmation literature and the previous chapter on victims' satisfaction with the police.

### **6.3 Method:**

#### **6.3.1 Materials:**

This study presents the result of the third section of the burglary victim survey (see Appendix A). The third section included questions relevant to the CSI investigation; the participants reported their expectations, what they perceived in reality and their disconfirmation on a list of items regarding the attendance, performance of CSIs during the burglary investigation and the amount of time spent in the crime scene. Regarding the actions of the CSIs during investigations, the previous literature examined very few actions only as indicators of police performance, but neglected to consider other tasks that CSIs have to perform during investigations. To ensure that all the important CSI tasks were considered this study consulted the guide for investigative options and good practice during burglary investigations (NPIA, 2011).

The survey measured victims' expectations of different CSI actions retrospectively, which implies that the recalled expectations probably will be biased in response to the experience of the performance and satisfaction. To minimise this as much as possible, the questions about victims' expectations of different CSI actions appeared before the others materials relevant to CSI investigation and satisfaction (Oliver, 2010). The final question was about satisfaction with the CSI investigation and appeared in the last section of the questionnaire along with the question about satisfaction with the police. Finally, from the 100 reliable responses identified in the whole victim survey, only 82 were used in this chapter due to the fact that 18 participants reported that a CSI did not attend their crime scene, and their responses were therefore excluded from further analysis.

### **6.4 Results:**

With regards to the bivariate analyses, different non-parametric tests (i.e. Mann-Whitney U test, Kruskal- Wallis test) were utilised due to the fact that the normality

assumption was violated, as indicated by exploratory analysis. Moreover, the Kolmogorov- Smirnov test was statistically significant ( $p < .05$ ), confirming that the score of the scale variables used were not normally distributed (Field, 2013).

#### **6.4.1 Satisfaction with the CSI investigation- the dependent variable:**

Victims' satisfaction with CSIs was measured with a general question 'How satisfied were you with the way that the crime scene investigators handled your burglary incident?' Victims were asked to respond on a four-point Likert scale (1=very dissatisfied and 4= very satisfied). Due to the fact that there was insufficient variability in the satisfaction scale for performing multinomial logistic regression, (very dissatisfied=3.7%, dissatisfied=18.3%, satisfied=46.3% and very satisfied=31.7%,  $n=82$ ), the variable was collapsed to a dichotomous variable indicating whether the victim was satisfied or dissatisfied with the CSIs, and used as such for bivariate and multivariate analysis. Regarding multivariate analysis, the appropriate regression is binary logistic regression since the dependent variable is dichotomous (Tabachnick and Fidell, 2007). The VIF values were checked for each regression, and unless otherwise stated they were less than 10, confirming that multicollinearity was not an issue (Pallant, 2013).

*Hypothesis Satisfaction with the CSI investigation will be associated with satisfaction with the police investigation*

To test this hypothesis a chi-square for independence (with Yates Continuity Correction) was conducted. The test indicated that there was a significant association between satisfaction with the CSI investigation and victims' satisfaction with the police,  $\chi^2(1, n=82) = 30.36$ ,  $p < .001$ ,  $\phi = .64$ . If victims were dissatisfied with the CSIs then only 27.8% of them were satisfied with the police while if victims were satisfied with the CSIs then 92.2% were satisfied with the police. However, a causal relationship between these two variables could not be assessed due to the research design. This result will be further discussed in chapter 10 in relation with the qualitative findings.

#### **6.4.2 The role of demographics in explaining satisfaction with the CSI investigation:**

Logistic regression was performed to assess the predictive role of several demographic variables (gender, age, ethnicity, previous victimisation) on the likelihood that respondents would report being satisfied. The full model containing all predictors was not statistically significant, [ $\chi^2(4, N=80, 2 \text{ missing cases})= 4.31, p= .37$ ], indicating that the model was not able to distinguish between respondents who reported to be satisfied and dissatisfied. Demographic variables did not have any effect on their satisfaction with the CSI investigation. Consequently, these variables were not included in the subsequent multivariate models and also in the next chapter, which will utilise the EDM, established in this chapter.

##### **6.4.2.1 The role of the source of forensic knowledge in explaining satisfaction with CSI investigation:**

Logistic regression was performed to assess the predictive role of the participants' source of forensic knowledge on the likelihood that respondents would report being satisfied. The full model containing all predictors was not statistically significant, [ $\chi^2(1, N=80, 2 \text{ missing cases})= 1.56, p= .21$ ], indicating that the model was not able to distinguish between respondents who reported to be satisfied and dissatisfied. The source of forensic knowledge, namely whether participants' knowledge came from professional or non-professional sources did not have any effect on their satisfaction with the CSI investigation. Consequently, this variable was not included in the subsequent multivariate models and also in the next chapter, which will utilise the EDM, established in this chapter.

#### **6.4.3 Expectations, Performance and Disconfirmation:**

Participants were asked to report their initial expectations before CSI attendance and the CSI's perceived performance on five items related to crime scene investigators' actions: CSIs would perform/ performed the following actions:

- 1) search for forensic evidence
- 2) recover some types of forensic evidence
- 3) courteous or respectful
- 4) walk with you through the crime scene in order to determine the route taken by the offender

5) collect additional forensic evidence at your request

All questions were answered by yes/no responses regarding expectations and by yes/no/N/A responses regarding perceived CSI performance. The N/A option was available, as some participants did not have a CSI attend their crime scene. The last item 'collect additional forensic evidence at your request' was excluded from the analysis since there were some participants (N=20) who answered N/A. The participants also reported their subjective disconfirmation, namely the difference between their initial expectations and perceived CSI performance on a 7-item Likert scale (1=worse than expected, 4= just as expected and 7 =better than expected) regarding the above four items.

As table 26 indicates, the majority of victims had high expectations (min.= 64% - max. =79%) for most of the CSIs' actions, apart from the item 'collect additional evidence at your request' where only half of the sample expected this action to happen, which will be further discussed in the chapter 10 in relation to the qualitative data. The CSI performance (100%) exceeded victims' expectations (79%) only for the item 'search for forensic evidence' and CSI performance (92.7%) just met their expectations (93%) for the item 'courteous or respectful'. However, CSI performance did not exceed victims' expectations for the items 'recover forensic evidence' or 'walk with them to determine the route taken by the offender', as the percentages of perceived performance are lower than their expectations. In summary, victims had high expectations regarding CSIs' actions in general and this degree varied across the different actions unlike their initial expectations for the police, which were all very high (chapter 5).

**Table 26 Descriptive statistics for victims' expectations and perceived performance of the CSIs**

	Value	Victims' Expectations		Victims' Perceived performance	
		n	%	n	%
Search for forensic evidence	No	21	21	0	0
	Yes	79	79	82	100
	Missing	-		18	
Recover forensic evidence	No	30	30	32	39
	Yes	70	70	50	61
	Missing	-		18	
Courteous or respectful	No	7	7	6	7.30
	Yes	93	93	76	92.70
	Missing	-		18	
Walk with you to determine the offender route	No	36	36	35	42.70
	Yes	64	64	47	57.30
	Missing	-		18	
Collect additional evidence	No	45	45	45	54.90
	Yes	55	55	17	20.70
	N/A	-		20	24.40
	Missing	-		18	

**6.4.3.1 Bivariate analyses:**

A Chi-square test for independence was conducted in order to determine whether victims' initial expectations and victims' perceived performance regarding different CSIs' actions were associated with their satisfaction with the CSI investigation of their burglary. The Yates Correction for Continuity is reported (instead of the chi-square) as it compensates for the overestimate of the chi-square value when using a 2 by 2 table (Pallant, 2013). The Fisher's exact test is reported (instead of the Asymp. Sig.), when the assumption that all the expected cell sizes should be greater than 5 was violated (Field, 2013). As table 27 demonstrates, none of the victims' expectations variables were significantly related with satisfaction.

**Table 27 Bivariate results for victims' expectations of the CSIs actions and satisfaction with the CSIs**

		CSI Satisfaction		Total	Continuity Correction	Asymp. Sig. (2-sided)	Fisher Exact Test	Phi
		Dissatisfied	Satisfied					
Search for forensic evidence	No	1	11	12	1.52	-	0.29	0.14
	%	8.30%	91.70%	100%				
	Yes	17	53	70				
	%	24.30%	75.70%	100%				
Recover forensic evidence	No	1	18	19	4.02	-	0.06	0.22
	%	5.30%	94.70%	100%				
	Yes	17	46	63				
	%	27%	73%	100%				
Courteous or respectful	No	1	2	3	0.24	-	0.53	0.63
	%	33.30%	66.70%	100%				
	Yes	17	62	79				
	%	21.50%	78.50%	100%				
Walk with you to determine the offender route	No	8	20	28	1.09	0.3	-	0.12
	%	28.60%	71.40%	100%				
	Yes	10	44	54				
	%	18.50%	81.50%	100%				

*Note. Fisher Exact test is provided only for the variables that have 2 or 1 cell with expected count less than 5. Asymp. Sig. (2-sided) is provided when 0 cells have expected count less than 5.*

Table 28 provides the results for the relationship between the different items of perceived performance of the CSI and satisfaction. Regarding the actions related to CSI performance only the item ‘walk with you to determine the route taken by the offender had a statistically significant impact on satisfaction with the CSIs’ investigation [ $\chi^2(1, n=82)=8.23, p=.001, \phi=.32$ ]. When the CSIs did not walk with the victim to determine the route taken by the offender only 62.9% of them were satisfied while when they did so 89.4% of them were satisfied.

**Table 28 Bivariate results for victims perceived performance of the CSIs and satisfaction with the CSIs**

		CSI Satisfaction		Total	Continuity Correction	Asymp. Sig. (2-sided)	Fisher Exact Test	Phi
		Dissatisfied	Satisfied					
Searched for forensic evidence	No	18	64	82	1.52	-	0.27	0.14
	%	8.30%	91.70%	100%				
	Yes	17	53	70				
	%	24.30%	75.70%	100%				
Recovered forensic evidence	No	7	25	32	.00	0.99	-	0.001
	%	21.90%	78.10%	100%				
	Yes	11	39	50				
	%	22%	78%	100%				
Courteous or respectful	No	3	3	6	2.97	-	0.12	0.19
	%	50%	50%	100%				
	Yes	15	61	76				
	%	19.70%	80.30%	100%				
Walked with you to determine the offender route	No	13	22	35	8.23	0.001	-	0.32
	%	37.10%	62.90%	100%				
	Yes	5	42	47				
	%	10.60%	89.40%	100%				

*Note. Fisher Exact test is provided only for the variables that have 2 or 1 cell with expected count less than 5. Asymp. Sig. (2-sided) is provided when 0 cells have expected count less than 5.*

*Hypothesis: Satisfied victims will differ from dissatisfied victims, tending to have a higher score in each of the disconfirmation variables*

The difference between satisfied and dissatisfied victims in terms of their scores on the disconfirmation variables were assessed (table 29), using a non-parametric test, since the results of exploratory analyses indicated that the normality assumption was violated. A Mann – Whitney U test revealed victims who were satisfied had a higher score in all the disconfirmation variables compared to dissatisfied ones, apart from the item ‘the CSI was courteous or respectful’ where this difference was not statistically significant. Apart from this item, using the Cohen criteria, the effect sizes were medium for each of the four items.

**Table 29 Differences between satisfied and dissatisfied victims with the CSIs in terms of the disconfirmation items**

	Police Satisfaction	N	Mean Rank	Median	Mann-U Whitney	Z	Asymp. Sig. (2-tailed)	r
Searched for forensic evidence	Dissatisfied	18	26.33	4	303	-3.22	.001	0.36
	Satisfied	64	45.77	5				
Recovered forensic evidence	Dissatisfied	18	22.97	3	242.50	-3.92	.00	0.43
	Satisfied	64	46.71	4				
Courteous or respectful	Dissatisfied	18	32.25	4	409.50	-1.94	.05	0.21
	Satisfied	64	44.1	5				
Walked with you to determine the offender route	Dissatisfied	18	23.14	2	245.50	-3.82	.00	0.42
	Satisfied	64	46.66	4				

#### **6.4.4 Expectancy disconfirmation model – analysis on unidimensional level:**

Total expectations and total performance were computed by adding the scores of the four CSI items (search for forensic evidence, recover some types of forensic evidence, courteous or respectful, walk with you through the crime scene in order to determine the route taken by the offender). Total (subjective) disconfirmation was computed by adding the scores of the disconfirmation scales regarding these four items.

##### **6.4.4.1 Bivariate analysis:**

*Hypothesis: Satisfied victims will differ from dissatisfied victims in terms of their total performance and disconfirmation scores but not in terms of their total expectation score*

The differences between satisfied and dissatisfied victims regarding their total expectations, performance and disconfirmation scores were assessed (table 30). Due to the fact that the results of exploratory analyses indicated that the normality assumption was violated, a non-parametric test was used. A Mann-Whitney U test revealed no significant difference in the total expectations score of victims who were satisfied (Md=4, n=64) and dissatisfied (Md=4, n=18), (U= 529.50, z= - 0.57, p= .57, r=0.06). The median scores indicate that all the participants of this sample had very high expectations about the items related to CSI activities. Victims who were satisfied (Md=3, n=64) had a higher score in total performance difference compared to

dissatisfied ones (Md=3, n=18), (U= 387.50, z= - 2.27, p< .05, r = 0.25). Also, the difference was statistically significant for satisfied victims (Md=4.5, n=64) compared to dissatisfied victims (Md=3.25, n=18) in total disconfirmation score (U= 182, z= -4.44, p< .001, r= 0.49). As expected, dissatisfied victims had a lower score in the total disconfirmation scale than the satisfied ones.

**Table 30 Differences between satisfied and dissatisfied victims with the CSIs in terms of total expectation, performance and disconfirmation score**

	Police Satisfaction	N	Mean Rank	Median	Mann- U Whitney	Z	Asymp. Sig. (2-tailed)	r
Total Expectation	Dissatisfied	18	44.08	4	529.50	-0.57	0.57	0.06
	Satisfied	64	40.77	4				
Total Performance	Dissatisfied	18	31.03	3	387.50	-2.29	0.02	0.25
	Satisfied	64	44.45	3				
Total Disconfirmation	Dissatisfied	18	19.61	3.25	182	-4.44	0.00	0.49
	Satisfied	64	47.66	4.50				

#### **6.4.4.2 Multivariate analysis- EDM:**

Logistic regression was performed to assess the impact of total expectations, performance and disconfirmation regarding CSIs' actions on the likelihood that respondents would report being satisfied or dissatisfied (table 31). The full model containing all predictors was statistically significant, ( $\chi^2(3, N=82) = 23.81$  p< .001), indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 25.2% (Cox and Snell R square) and 38.7% (Nagelkerker R squared) of the variance in satisfaction and correctly classified 85.4% of cases and the Hosmer and Lemeshow Test was statistically significant ( $\chi^2=31.89$ , p<.001). Only total disconfirmation made a statistically significant contribution to the model. The higher the score of total disconfirmation the more likely (odds ratio=1.44, p< .01) the respondents were to be satisfied with the CSI investigation.

**Table 31 Logistic regression analysis to predict satisfaction with the CSI investigation using total expectations, performance and disconfirmation**

CSI: Total	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	-.24	.42	.33	1	.57	.79	.34	1.80
Performance	.15	.51	.09	1	.77	1.16	.43	3.15
Disconfirmation	.37	.12	9.26	1	.00	1.44	1.14	1.82
Constant	-4.32	2.09	4.26	1	.04	.01		

#### **6.4.5 Nature of Disconfirmation:**

Due to the fact that only disconfirmation made a significant contribution to explaining satisfaction, it is interesting to further explore the nature of disconfirmation regarding CSIs. For this reason disconfirmation was recoded into three categories; negative disconfirmation (n=23), zero disconfirmation (n=16) and positive disconfirmation (n=43). A Kruskal- Wallis test was used in order to assess whether these three groups differ significantly regarding their total expectations and performance scores due to the fact that the normality assumption was violated (Field, 2013). Regarding total expectations, there was no statistically significant differences between the three groups, ( $H(2) = 1.01, p=.60$ ). However, there was a statistically significant difference in the score of total performance between some of the three groups ( $H(2)= 18.14, p< .01$ ). Step-down post-hoc analysis was used in order to determine which groups differed significantly (Field, 2013). The analysis indicated that the total performance score for those who experienced negative disconfirmation was significantly lower than those who experienced zero and positive disconfirmation. Those who experienced zero disconfirmation did not differ significantly from those who experienced positive disconfirmation.

#### **6.4.6 Time spent in the crime scene:**

The participants were asked to report the expected and perceived amount of time the CSI spent in the crime scene in minutes, and their disconfirmation of the time spent on a 7-item Likert scale, (1=much less than expected, 4= just as expected and 7 =much more than expected). Table 32 provides the descriptive statistics for the time spent in the crime scene.

**Table 32 Descriptive statistics for the time spent in the crime scene**

Time Spent in the crime scene (min.)	Mean	Std. deviation	Minimum	Maximum
Expectations	44.79	29.482	0	120
Performance	47.52	39.399	4	180
Disconfirmation	4.33	2.019	1	7

*Hypothesis: Satisfied victims will differ from dissatisfied victims in terms of perceived time spent in crime scene and disconfirmation of the time spent but not in terms of the expected time*

A Mann-Whitney U test revealed no significant difference in the expectations of the time spent in the crime scene between victims who were satisfied (Md=30, n=64) and dissatisfied (Md=42.50, n=18), (U= 508.50, z= - .77, p= .44, r=0.09). Victims who were satisfied (Md=42.50, n=64) reported a longer perceived time spent in the crime scene compared to dissatisfied ones (Md=20, n=18) (U= 341.50, z= - 2.65, p< .01, r=0.29). Also, the difference was statistically significant for satisfied victims (Md=5 n=64) compared to dissatisfied victims (Md=2, n=18) in disconfirmation of the time spent in the crime scene score (U= 255.50, z= -3.37, p< .001, r=0.37). As expected, dissatisfied victims had a significantly lower score on total disconfirmation than the satisfied ones.

Logistic regression was performed to assess the impact of expected, perceived time spent in the crime scene and the disconfirmation of the time spent on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 33). The full model containing all predictors was statistically significant, [ $\chi^2(3, N=82)= 16.88$  p= .001], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 18.6%(Cox and Snell R square) and 28.6% (Nagelkerker R squared) of the variance in satisfaction and correctly classified 84.1% of cases. Only the disconfirmation of the time spent in the crime scene CSI made a statistically significant contribution to the model. The higher is the score in the disconfirmation of the time spent in the crime scene, the more likely (odds ratio=1.94, p= .01) were the respondents to be satisfied with the CSI investigation.

**Table 33 Logistic regression analysis to predict satisfaction with the CSIs using expected and perceived time spent in the crime scene**

CSI: Total	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	-.01	.01	.21	1	.65	1.00	.97	1.02
Performance	.01	.01	.31	1	.58	.99	.97	1.02
Disconfirmation	.66	.24	7.52	1	.01	1.94	1.21	3.11
Constant	-.63	.92	.47	1	.49	.53		

### 6.5 Discussion:

The logistic regression model indicated that demographic variables (gender, age, ethnicity and previous victimisation) did not have any significant effect on satisfaction with the CSI investigation. This is in contrast with the previous chapter, where age had a significant impact on satisfaction with the police. Similarly, the source of forensic knowledge (professional, non-professional) did not affect satisfaction with the CSI investigation. Moreover, this study found that victims had high expectations regarding CSI performance in general and this degree varied more across the different items of performance compared to the police actions, which were very high for all the items of police performance (see chapter 5). CSI perceived performance exceeded or met victims' expectations regarding the items 'search for forensic evidence' and 'CSI was courteous or respectful' respectively while it was lower for their expectations regarding the items; 'recover forensic evidence' and 'walk with you to determine the route taken by the offender' unlike the police performance which did not exceed any of the victims expectations.

Similar to the findings for the police investigation, none of the CSI expectation variables had a significant relationship with CSI satisfaction. Regarding the perceived performance items, only the item 'walk with you to determine the route taken by the offender' was associated with satisfaction. It is not clear why the other CSI actions were not related with satisfaction, although this could be explained by the sample size of this study, as a bigger sample would increase the ability to detect a small effect by increasing the statistical power. Nevertheless, satisfied victims differed significantly from the dissatisfied ones in terms of their scores in all the disconfirmation variables, apart from the disconfirmation regarding the item 'the CSI was courteous or respectful'.

Satisfied victims tended to report that the CSI activities ('search for forensic evidence', 'recover some types of forensic evidence', 'walk with you to determine the route taken by the offender') were far better than expected, compared to the dissatisfied ones. These results suggest that all these actions seem to be important to consider when measuring satisfaction with the CSIs.

It is worth mentioning that most of the victims had high expectations about the recovery of forensic evidence. This suggests that victims in this study are not aware of the limitations that policy poses in forensic investigations. Chapter 1 argued that police responses are dynamic and therefore forensic investigations depend on a number of factors (e.g. budget cuts, extended response times, crime scene management) affecting further the actual limits of forensic evidence in solving crime. Consequently, one could argue that victims realistically should have low expectations of the recovery and use of forensic evidence in detecting directly burglaries. However, as most of the victims do not have extensive first-hand experience with the police and CSI investigation, their expectations may not be consistent with such limitations in practice. Although expectations of recovery of forensic evidence did not affect satisfaction, the disconfirmation of this action had an impact on satisfaction. The implications of this in policy will be discussed further in chapter 10.

This study is exploratory and there is no other previous research on satisfaction with the CSI investigation, therefore the effect of the aforementioned CSI actions should be further investigated. Previous research on victim satisfaction examined only a few of these actions (mainly 'examine the crime scene' or 'search for evidence') as indicators of police performance and found them generally to be related to satisfaction with the police (Brandl and Horvarth, 1991; Chandek and Porter, 1998; Hirschel, Lumb and Johnson, 1998; Braithwaite and Yeboah, 2004). Regarding CSI demeanour, this study considered only one action related to it, which was not associated with satisfaction. Nevertheless, the findings of this study, as well as previous research on victim satisfaction, support the view that demeanour variables are important in explaining satisfaction with the police (chapter 5). Consequently, it could be suggested that other actions of CSI demeanour should be explored as they may have an effect on satisfaction with the CSIs.

### **6.5.1 Expectancy disconfirmation model (EDM) on a unidimensional level and satisfaction:**

Bivariate analysis demonstrated that satisfied victims differed significantly in terms of their total performance and disconfirmation scores, but not in terms of their total expectation score. Similar to the operation of the EDM in police satisfaction, the logistic regression model indicated that total expectations and CSI perceived performance did not influence satisfaction with the CSI investigation unlike total disconfirmation, which had a significant effect on satisfaction. Higher scores on total disconfirmation corresponded with being more likely to be satisfied with the CSI investigation. These results support the assumption that it is the discrepancy between expectations and perceived performance that is important for understanding satisfaction, rather than initial expectations or performance. As discussed in the previous chapter not finding a direct effect of expectations could be attributed to measuring expectations retrospectively, which leads to domination of satisfaction by disconfirmation instead of expectations (Oliver, 2010). Although perceived total performance was significantly associated with satisfaction, it lost its impact when considering disconfirmation and expectations together in explaining satisfaction. However, using a bigger sample may indicate that performance could have a significant role in the expectancy disconfirmation model along with disconfirmation.

Overall, as the findings support the role of disconfirmation in victim satisfaction with the CSIs, the implications of this in policy are similar to the ones suggested in the previous chapter. Disconfirmation is the gap between the comparison of perceived performance with prior expectations (Oliver, 2010), which further highlights the indirect role of both victims' expectations and performance in satisfaction with the CSIs. As certain CSI activities during the actual investigation can be hard to change due to situational factors, emphasis should be given to the role of expectations. It is important for the CSIs as well to recognise the role of victims' expectations and accordingly attempt to manage such expectations. Training programmes for informing the CSIs about burglary victims' expectations could also improve the performance of the CSIs, as they will be aware of what victims expect and they can respond more effectively. Policy implications will be discussed further in chapter 10, which will consider the findings of both quantitative and qualitative studies (chapters 8 and 9) used in this thesis.

Since disconfirmation was the only significant predictor of satisfaction the study explored its nature by identifying its three states (negative, zero and positive disconfirmation) as the theory suggests (Oliver, 2010) and how they differ in terms of expectations and performance scores, as disconfirmation is conceptually the difference between perceived performance and prior expectation. The results indicated that these three disconfirmation groups did not differ significantly regarding their total expectations scores but they differed only in the score of total performance, indicating that only the latter played a role in determining these groups. It is not clear why these groups did not differ in terms of expectations but it could be explained by the fact that expectations were measured retrospectively, a condition that favours a performance effect over the prior expectations (Oliver, 2010). Moreover, the total performance score for those who experienced negative disconfirmation was significantly lower from those who experienced zero and positive disconfirmation. This indicates that a lower number of CSI activities was associated with negative disconfirmation and a higher with zero or positive disconfirmation, and has two implications.

Firstly, as only the performance level differed across the three disconfirmation groups, a higher number of CSI actions was perceived as a better CSI performance, and was related to positive disconfirmation which is closer to satisfaction compared to the negative disconfirmation which is related to dissatisfaction (Oliver, Balakrishnan and Barry, 1994). Secondly, those who experienced zero disconfirmation did not differ significantly from those who experienced positive disconfirmation, but differed only to those belonging to the negative disconfirmation group. This sheds more light in the role of zero disconfirmation, which occurs when performance confirmed prior expectations (e.g. 'just as expected'), while its impact on satisfaction is not clear. Confirming or meeting expectations is not the key to satisfaction because if consumers expect to be satisfied or dissatisfied with a product/service and the experience is in accordance to these expectations, they will report 'just as expected' for both scenarios (Oliver, 1997). This demonstrates that the role of zero disconfirmation in satisfaction is unknown a priori. However, this study found that for this sample zero disconfirmation was more similar to positive disconfirmation and consequently to satisfaction.

### **6.5.2 Time spent in the crime scene:**

Satisfied victims did not differ in terms of their expectations of the amount of time spent in the crime scene, compared to the dissatisfied ones. However, satisfied victims tended to perceive that the CSIs spent more time in the crime scene. This is somewhat similar to the findings of Coupe and Griffiths (1999) with burglary victims, who found that victims' perceptions of the SOCO were affected by the amount of time spent in the crime scene but they did not examine satisfaction with the SOCO. Also, satisfied victims had a higher score in the respective disconfirmation variables compared to the dissatisfied victims, tending to report that they experienced positive disconfirmation, in accordance with expectancy disconfirmation theory which suggests that this type of disconfirmation is closer to satisfaction (Oliver, Balakrishnan and Barry, 1994).

The logistic regression model demonstrated that when considering expected, perceived time in the crime scene and the disconfirmation of the time spent only the disconfirmation had an effect on satisfaction. The higher the disconfirmation of the time spent in the crime scene score the more likely it was for the victims to feel satisfied. It is not clear why only the expected time was important in explaining satisfaction. As discussed in previous section these results support the assumption that it is the discrepancy between expectations and perceived performance that is important for understanding satisfaction, rather than initial expectations or performance. The disconfirmation of the time spent in the crime scene will be further discussed in chapter 10, in relation with the qualitative data which will shed more light on this topic.

In summary this chapter explored how different activities of the CSIs under the concept of expectations, performance and disconfirmation can explain satisfaction with the CSI investigation. The analysis was mainly exploratory as this approach is novel, and considered satisfaction with the CSI investigations separately from the police. The results supported that only disconfirmation had a significant effect on satisfaction similar to what was found in the previous chapter in regards to victims' satisfaction with the police. Having established how the expectancy disconfirmation model operates in explaining satisfaction with the CSI investigation, the next chapter will use this model in order to examine how victims' perceptions of forensic evidence can affect satisfaction with the CSIs.

## **Chapter 7: The Role of Victims' Perceptions of Forensic Evidence in Assessing Victim Satisfaction**

### **7.1 Abstract:**

The previous chapter demonstrated how the expectancy disconfirmation model (EDM) operates in explaining satisfaction with the Crime Scene Investigator (CSI). This chapter will explore victims' perceptions of forensic evidence and will use the EDM, as established in the previous chapter, to demonstrate whether such perceptions can have an impact on victim satisfaction with the CSI investigation. This study presents the results of the fourth section of the burglary victim survey, designed to measure victims' perceptions of forensic evidence. The results suggest that some victims hold unrealistic perceptions of forensic evidence in the directions that the CSI effect literature suggests. Moreover some of these perceptions can affect victims' satisfaction with the CSI investigation. Furthermore, this research will contribute to the CSI effect literature by providing insights about whether a new type of CSI effect (e.g. involving victims) exists. These findings are discussed with reference to the previous literature and theory and provide the basis for further discussion in the final chapter which will consider victims' perceptions of forensic evidence as perceived by the forensic investigators.

### **7.2 Introduction:**

CSI effect theory suggests that television programmes like *CSI* depict forensic and criminal investigations unrealistically, and consequently provide the public with a distorted perspective concerning forensic science and its application in investigations by police personnel (Houck, 2006). This theory can shed light on how victims perceive forensic evidence as it has examined the perceptions of the general public (mainly potential jurors) about forensic evidence in order to determine whether the CSI effect exists. Although this literature has neglected the impact of the CSI effect on victims' perceptions of forensic evidence, this thesis argues that victims as members of the public may hold similar attitudes to jurors and the general public. Within the CSI effect literature there are three effects of CSI that are relevant for understanding victims' perceptions of forensic evidence; the Victim's effect and two to jurors; Strong Prosecutor's effect and the Defendant's effect (Cole and Dioso-Villa, 2009). All of these effects emphasise the concept of unrealistic expectations or perceptions of forensic evidence which are attributed to watching CSI or similar programmes.

The Victim's effect refers to victims having raised expectations that police personnel will collect forensic evidence at every crime scene, or in another words victims expect that all crimes will be forensically tested (Cole and Dioso-Villa, 2009). This was the first time that the CSI effect literature suggested that there is an impact of CSI on victims of crime. Nevertheless, this effect is not clearly defined and whether such an impact exists and can affect victim satisfaction with the police has been ignored in the literature thus far. For this reason, this study considers whether victims hold such expectations in line with this effect, and whether they can have an impact on their satisfaction with the CSI investigation.

According to the Strong Prosecutor's effect, *CSI* and similar programmes create unreasonable expectations for jurors for the presence of forensic evidence in every case in trials, and therefore it constitutes a burden for prosecutors to secure convictions, in the absence of such evidence (Podlas, 2006). The Defendant's effect posits that *CSI* and similar programmes may lead to jurors having an over-belief in the abilities of forensic evidence to identify the offender. As a result jurors tend to convict when there is forensic evidence of guilt, even if this evidence is of a weak standard, by disregarding the actual reliability of the evidence (Podlas, 2006). Empirical CSI effect literature has focused mainly on testing these two effects, and despite the fact that they produced equivocal results on whether watching crime shows can have an impact on jurors' decisions, they have consistently found that jurors can hold two types of perceptions of forensic evidence (chapter 1). More recent studies affirmed that these two types of perceptions exist in accordance to the CSI effect literature, by measuring attitudes about forensic evidence themselves, instead of trying to identify potential sources of jurors' beliefs like specific television programmes. These attitudes were measured by developing and testing the Forensic Evidence Evaluation Bias Scale (FEEBS) and validating its effectiveness in two subsequent studies (Smith and Bull, 2012 and 2014). Since the FEEBS is a reliable scale in measuring perceptions of forensic evidence, the current study will use some items of this scale, which could measure victims' perceptions of forensic evidence, and be utilised in order to subsequently predict victims' satisfaction. The selection and the reasoning of using these items will be explained in detail during the presentation of the results.

As previously stated victims, as members of the public may hold similar attitudes to jurors and the general public. For this reason, based on the two types of perceptions about forensic evidence, which the CSI effect describes, and the expectancy disconfirmation theory some hypotheses can be made for victims' perceptions and their potential effect on satisfaction with the police, which will be further assessed in this chapter. The expectancy disconfirmation theory suggests that consumers whose experience with the service/product is lower than initially expected tend to be dissatisfied (Oliver, 2010).

*Hypotheses:*

Similar to the Strong Prosecutor's version of the CSI effect, victims may hold unrealistic expectations about the presence of forensic evidence in the crime scene, as they cannot understand the strengths and limitations of forensic science and its application in forensic investigations;

*In the absence of forensic evidence, victims will feel dissatisfied with the CSIs while in presence of this evidence they may feel satisfied.*

Like the Defendant's version of the CSI effect, victims may have an unrealistic amount of faith in the ability of forensic evidence to identify reliably the offender.

*If the CSIs recover any type of evidence (irrespective of whether it is strong or weak), victims will feel satisfied.*

*If the CSIs recover strong evidence, victims who have higher expectations about the quality of evidence, will feel satisfied while in absence of such evidence they will feel dissatisfied.*

At this point it is worth making a clarification point. When applied to the criminal investigation context, the Strong Prosecutor's effect is conceptually similar to the Victim's effect in terms of the type of perceptions of forensic evidence; raised expectations for the presence of forensic evidence (Strong Prosecutor's effect) or for collection of evidence in crime scenes (Victim's effect). The Defendant's effect gives a further insight into the perceptions of forensic evidence, namely victims can have an unrealistic amount of faith in the ability of forensic evidence to identify reliably the offender. This chapter examines the application of the different CSI effects in the context of criminal investigations, and argues that the type of perceptions as described

in the Strong Prosecutor's effect and the Victim's effect are the same. Nevertheless, in an attempt to capture their definitions coming from the CSI effect literature, these effects were measured differently in this study, with the first giving emphasis to raised expectations about the collection of evidence (Victim's effect) and the second one to expectations about the presence of evidence in crime scene (Strong Prosecutor's effect).

It should be clarified that victims' perceptions/ expectations of forensic evidence should not be confused with victims' expectations of CSI activities that were explored in the previous chapter. Victims can have high or low expectations regarding different CSI activities (e.g. search or recover evidence) resulting in negative or positive disconfirmation, based on whether the CSI performance was perceived as better or worse than expected. Perceptions of forensic evidence can be realistic or unrealistic based on victims' knowledge about forensics and its use in forensic investigations. In this sense, negative disconfirmation cannot always be attributed to victims' unrealistic perceptions of forensic evidence but it may result from low CSI performance. This study does not directly assess the impact of victims' perceptions of forensic evidence on disconfirmation. This was not possible, as disconfirmation cannot be measured directly for such perceptions, using Likert scales (worse/just as/ better than expected). Instead this study utilised EDM theory to underpin the abovementioned hypotheses, with reference to the CSI effect literature in order to predict victims' perceptions of forensic evidence effect on satisfaction.

Overall, this chapter explores whether victims hold perceptions of forensic evidence in line with the CSI effect literature irrespective of their potential source (Victim's, Strong Prosecutor's, Defendant's effects). It should be highlighted that the thesis is not interested in the source of these perceptions, but rather focuses on the perceptions themselves, following the same approach as Smith and Bull (2012). Secondly the chapter examines whether such perceptions can have an impact on victims' satisfaction with the CSI investigation. In doing so these perceptions are incorporated into the expectancy disconfirmation model as established in the previous chapter (table 31).

### **7.3 Method:**

The fourth section of the burglary victim survey measured respondents' perceptions of forensic evidence. This section included questions regarding the effectiveness of different types of forensic evidence to identify the offender (Defendant's effect). These questions were measured using a 10-point Likert scale (coded as 1 = not at all effective, 5 = effective and 10 = extremely effective). Some items were taken from the Forensic Evidence Evaluation Bias Scale (FEEBS) (Smith and Bull, 2012). The respondents indicated their level of their agreement to the FEEBS items, using a four point Likert scale format coded as strongly disagree (1) to strongly agree (4). Three further questions related to the 'Victim's effect' that Cole and DiosoVilla (2009) proposed in the CSI effect literature were also included. Finally, a question designed to measure whether the participants believed that the CSIs recovered all the available forensic evidence from their crime incident was also included (see Appendix A).

### **7.4 Results:**

Regarding bivariate analyses, different non-parametric tests (i.e. Spearman's rho correlation, Mann-Whitney U test) were utilised due to the fact that the normality assumption was violated, as indicated by exploratory analysis. Moreover, the Kolmogorov- Smirnov test was statistically significant ( $p < .05$ ), confirming that the score of the scale variables used were not normally distributed (Field, 2013). This study uses the same sample as the previous chapter (6), ( $N=82$ ).

#### **7.4.1 FEEBS items:**

The participants were asked to indicate the degree to which they agree with the following items on a Likert scale from 1(=strongly disagree) to 4 (strongly agree). These items were taken from the Forensic Evidence Evaluation Bias Scale (FEEBS) for measuring jurors' pre-trial attitudes towards forensic evidence as developed and validated by Smith and Bull (2012 and 2014). The selection of the items was based on their relevance to victims, including a few items from the initial 31 items of FEEBS and the final version of the scale, while items related directly to juror decision-making were excluded. Below are the FEEBS items used in order to measure victims' attitudes about forensic evidence. The FEEBpd subscale corresponds with the Strong Prosecutor's version of the CSI effect and the FEEBpp subscale corresponds with the Defendant's version of the CSI effect (Cole and Dioso-Villa, 2007). FEEBS items are phrased in a

way to measure biased perceptions about forensic evidence. Therefore, participants answering strongly agree or agree indicate unrealistic perceptions of forensic evidence while disagree or strongly disagree demonstrate realistic perceptions (the only exception was for the item 'It is possible that scientific evidence can identify an innocent person as the perpetrator of the crime', where strongly agree or agree indicate realistic perceptions. For the purposes of statistical analysis, this item was reversely coded in order that strongly disagree or disagree demonstrate realistic perceptions of forensic evidence, see also table 34). To demonstrate this better and for the purposes of descriptive statistics the four point Likert scale was collapsed into two categories, namely agree and disagree.

1. Forensic evidence always identifies the guilty person (FEEBpp)
2. Every crime can be solved with forensic science (FEEBpp)
3. The real strength of scientific evidence is that it is not affected by human error
4. One big advantage to scientific evidence -as opposed to other types of evidence is that it provides a conclusive answer (FEEBpp)
5. It is possible that scientific evidence can identify an innocent person as the perpetrator of the crime
6. If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough (FEEBpd)
7. Crime- related TV programmes provide a realistic look at what happens during criminal investigations
8. If police have forensic evidence, which suggests a suspect is guilty, then that suspect will usually confess

Table 34 demonstrates that most of the victims disagreed with most of FEEBS items (six out of the eight), showing that on average they hold realistic perceptions of forensic evidence, although across these items there were still a considerable number of victims who held unrealistic perceptions as evidenced by their agreement with these items. Moreover, the sample had almost an equal split between agree and disagree regarding the other three items ('Forensic evidence always identifies the guilty person', 'One big advantage to scientific evidence -as opposed to other types of evidence and 'The real strength of scientific evidence is that it is not affected by human error' is that it provides a conclusive answer'). Overall, it can be argued that most of the victims held realistic

perceptions. However, the considerable variation across the FEEBS items shows that a fair proportion of respondents have unrealistic perceptions of forensic evidence.

**Table 34 Descriptive Statistics for the FEEBS items**

		N	%	Mean
FE always identifies the guilty person	Disagree	45	54.87	2.5
	Agree	37	45.12	
Every crime can be solved with forensic science	Disagree	63	76.82	2.15
	Agree	19	23.17	
The real strength of scientific evidence is that it is not affected by human error	Disagree	36	43.90	2.56
	Agree	46	56.09	
One big advantage to scientific evidence -as opposed to other types of evidence is that it provides a conclusive answer	Disagree	45	54.87	2.43
	Agree	37	45.12	
It is possible that scientific evidence can identify an innocent person as the perpetrator of the crime*	Disagree	57	69.51	2.76
	Agree	25	30.48	
If no FE is recovered from a crime scene, it means that the investigators did not look hard enough	Disagree	60	73.17	2.18
	Agree	22	26.82	
Crime- related TV programmes provide a realistic look at what happens during criminal investigations	Disagree	58	70.73	2.12
	Agree	24	29.26	
If police have FE which suggests a suspect is guilty, then that suspect will usually confess	Disagree	58	70.73	2.24
	Agree	24	29.26	

\* The score was reversed for this item (reverse coding) in order that Disagree indicates realistic perceptions

*Hypothesis: satisfied victims will have lower scores on the FEEBS items compared to the dissatisfied victims*

To test this hypothesis a series of Mann-Whitney U tests were conducted in order to determine whether satisfied victims differed significantly from dissatisfied victims in

terms of their scores on each of the FEEBS items. The tests showed that this difference was significant only for one item 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough'. Victims who were satisfied (Md=2, n=64) were significantly more likely to disagree with this statement compared to the dissatisfied ones (Md=3, n=18), (U= 309, z= - 3.34, p= .001, r = .37). The section that follows explores whether the items of FEEBS are associated with victims' expectations regarding the following four CSI activities; 'CSI attendance', 'search for forensic evidence', 'recover some types of forensic evidence' and 'walk with you to determine the route taken by the offender', as described in chapter 6.

*Hypothesis: Victims who hold expectations for different CSI activities will tend to agree with the items of the FEEBS, compared to those who do not hold such expectations*

A series of Mann-Whitney U tests were conducted in order to determine whether victims who expected each of the four CSI activity variables significantly differed from those who did not have these expectations in terms of their score for each of the FEEBS items. Victims who expected that a CSI would attend their crime scene or search for forensic evidence did not have any significant difference compared to those who did not have these expectations in terms of their score in any of the FEEBS items. Regarding the other two expectations, the significant results are, as follows;

A Mann-Whitney U test revealed that victims who expected recovery of some types of forensic evidence (Md=3, n=63) were more likely to agree with the statement 'forensic evidence always identify the guilty person', compared to those who did not have this expectation (Md=2, n=19), (U= 338, z= - 2.56, p= .01, r = .28). In addition, victims who expected forensic evidence recovery (Md=2, n=63) were more likely to agree more with the statement 'if no forensic evidence is recovered, the investigators did not look hard' compared to those who did not (Md=2, n=19), (U= 407, z= - 2.35, p< .05, r = .26).

Moreover, victims who expected that that the CSI will walk with them in order to determine the route taken by the offender (Md=3, n=54) were more likely to agree with the statement 'forensic evidence always identify the guilty person' (U= 523, z= - 2.52, p< .05, r = .28) and the statement 'The real strength of scientific evidence is that it is not affected by human error' (U= 529, z= - 2.45, p< .05, r = .27), compared to those who did not have this expectation (Md=2, n=28).

#### 7.4.2 The Victim's effect:

The Victim's effect refers to victims having raised expectations that police personnel will collect forensic evidence at every crime scene (Cole and Dioso-Villa, 2009). This new effect is not clearly defined in the literature and whether such an impact exists and can affect victim satisfaction with the police has been ignored thus far. For this reason, three items were utilised which were thought to be relevant to this effect. Firstly, respondents were asked whether they expect collection of forensic evidence from all burglary crime scenes, (yes/no). A positive answer demonstrates raised or unrealistic expectations, as in reality not all burglary crime scenes are forensically tested or yield viable forensic evidence for collection. Secondly, participants were asked to indicate the degree to which they agree with the following two items on a scale from 1(=strongly disagree) to 4 (strongly agree). A positive level of agreement (strongly agree or agree) to these items demonstrates raised or unrealistic expectations of forensic evidence, for the same reasons explained in the first question.

1. Every crime scene should be examined by crime scene officers in order to recover forensic evidence
2. Crime scene officers always collect forensic evidence at a crime scene

Table 35 indicates that most of the victims had raised expectations about the collection of forensic evidence as the Victim's effect suggests. However, this was not the case for the statement 'Crime scene officers always collect forensic evidence at a crime scene' where most of the victims disagreed with it (67.10%), indicating lower expectations.

**Table 35 Descriptive Statistics for the Victim's effect items**

		N	%	Mean
Every crime scene should be examined by crime scene officers in order to recover FE	Disagree	21	25.60	2.95
	Agree	61	74.40	
Crime scene officers always collect FE at a crime scene	Disagree	55	67.10	2.30
	Agree	27	32.90	
Do you expect collection of FE from all burglary crime scenes	No	32	61	
	Yes	50	39	

#### **7.4.2.1 Satisfaction and the Victim's effect:**

*Hypothesis: Victims who expect that the CSIs will collect forensic evidence from all burglary crime scenes will be dissatisfied, if no/insufficient evidence had been recovered*

To test this hypothesis a chi-square for independence (with Yates Continuity Correction) was conducted and indicated that there was no significant association between victims' expectation of collection of evidence at every burglary crime scene and their satisfaction with the CSIs,  $\chi^2(1, n=82) = .00$ ,  $p=1$ ,  $\phi = -.001$ .

*Hypothesis: Satisfied victims will differ from dissatisfied victims in terms of their score on the Victim's effect items; 'Every crime scene should be examined by crime scene officers in order to recover forensic evidence' and 'Crime scene officers always collect forensic evidence at a crime scene', if no/insufficient evidence had been recovered*

A Mann-Whitney U test revealed no statistical difference between dissatisfied victims and satisfied victims in their score regarding both items, namely, 'Every crime scene should be examined by crime scene officers in order to recover forensic evidence' and 'Crime scene officers always collect forensic evidence at a crime scene'.

#### **7.4.2.2 Victims' initial expectations of CSI activities and the Victim's effect:**

This section explores whether the three variables related to the Victim's effect are associated with victims' expectations regarding four CSI activities; CSI attendance, search for forensic evidence, recover some types of forensic evidence and walk with you to determine the route taken by the offender (as described in chapter 6).

*Hypothesis: Victims' expectations for collection of evidence at every burglary crime scene will be associated with victims' expectations of the four CSI activities*

A series of chi-square for independence tests were conducted for the item 'expectation of collection of evidence at every burglary crime scene' and victims' expectations variables. None of the expectations variables were associated with the expectation of collection of evidence at every burglary crime scene, apart from victims' expectations of recovery of some types of forensic evidence,  $\chi^2(1, n=82) = 7.45$ ,  $p < .01$ ,  $\phi = .33$ . If

victims did not expect collection of forensic evidence from all burglary crime scenes, then 59.4% of them expected that the CSIs would recover some forensic evidence at their incident while if victims did expect collection of forensic evidence from all burglary crime scenes, then 88% expected that the CSIs would recover some forensic evidence at their incident (table 36).

**Table 36 Bivariate results for expectations of recovery of forensic evidence and perceptions related to Victim's effect**

Victim's Effect		Expectations of recovery of FE		Total	Continuity Correction	Asymp. Sig. (2-sided)	Phi
		No	Yes				
Do you expect collection of FE from all burglaries	No:	13	19	32	7.45	.01	.33
	%	40.60%	59.40%	100%			
	Yes:	6	44	50			
	%	12%	88%	100%			

*Hypothesis: Victims who expected each of the four CSI activities will differ in their scores regarding the Victim's effect items; 'Every crime scene should be examined by crime scene officers in order to recover forensic evidence' and 'Crime scene officers always collect forensic evidence at a crime*

A series of Mann-Whitney U tests demonstrated victims who held these expectations did not significantly differed from those who did not in terms of their score in any of the scale variables related to the Victim's effect.

#### **7.4.3 Strong Prosecutor's effect:**

*Hypothesis: In the absence of evidence recovered from their crime scenes, victims will feel dissatisfied with the police, while in the presence of evidence victims will feel satisfied*

To test this hypothesis a chi-square for independence (with Yates Continuity Correction) was conducted and indicated that there was no significant association between the recovery of forensic evidence at the burglary incident and victims' satisfaction with the CSIs,  $\chi^2(1, n=82) = .00$ ,  $p=1$ ,  $\phi = -.001$ . Nevertheless, a statistically

significant relationship was found between whether victims believed that the CSIs recovered all the available forensic evidence in their incident and their satisfaction with the CSIs,  $\chi^2(1, n=82)=22.89, p<.001, \phi=.56$ . If victims believed that the CSIs did not recover all the available forensic evidence in their crime scene then 48.4% of them were satisfied while if they believed that all the available evidence was recovered then 96.1% were satisfied with the CSIs (table 37). These findings demonstrate that the although victims' perceptions of the actual recovery of forensic evidence did not affect satisfaction with the CSIs, their belief of whether the CSIs recovered all the available evidence was associated with their satisfaction. The victims' belief that the CSIs did not recover all the available forensic evidence may demonstrate that these victims have unrealistic perceptions of forensic evidence, given that CSIs would have explained the available evidence recovered and the reasons of recovery or not during the investigation, as will be discussed in chapter 9 (management of expectations). Nevertheless, one cannot be sure that the CSIs provide always such explanations, although this practice seems to be within their duties (chapters 9 and 10).

**Table 37 Bivariate results for satisfaction and belief in recovery of all available forensic evidence**

		CSI Satisfaction		Total	Continuity Correction	Asymp. Sig. (2-sided)	Phi
		Dissatisfied	Satisfied				
Do you believe that the CSI recovered all the available FE?	No:	16	15	31	22.88	.00	.56
	%	51.60%	48.40%	100%			
	Yes:	2	49	51			
	%	3.90%	96.10%	100%			

The belief of whether CSIs recovered all the available evidence was significantly associated with the recovery of forensic evidence [ $\chi^2(1)=4.23, p<.05, \phi=.25$ ]. If the CSIs did not recover forensic evidence, then 53.1% believed that the CSIs did not recover all the available forensic evidence at the crime scene, while if the CSIs recovered some types of evidence then 28% had the same belief (table 38).

**Table 38 Bivariate results for recovery of forensic evidence and victims' belief in recovery of all available forensic evidence**

		Do you believe that the CSI recovered all the available FE?		Total	Continuity Correction	Asymp. Sig. (2-sided)	Phi
		No	Yes				
Recovery of FE	No:	17	15	32	4.23	.04	.25
	%	53.1%	46.9%	100%			
	Yes:	14	36	50			
	%	29.4%	70.6%	100%			

A Mann-Whitney U test revealed that victims who believed that CSIs did not recover all the available evidence (Md=3, n=31) were more likely to agree with the statement ‘if no forensic evidence is recovered then the CSIs did not look hard enough’ compared to those who held the opposite belief (Md=2, n=51), (U= 442, z= - 3.73, p< .001, r = .41).

#### **7.4.3.1 Expectancy Disconfirmation Model and perceptions of forensic evidence:**

The expectancy disconfirmation theory suggests that other variables can also affect satisfaction and can operate in tandem with the elements of the EDM in explaining satisfaction. For this reason, it was important to explore whether the perceptions of forensic evidence which were found to be associated with satisfaction would still be significant after considering the elements of EDM.

Logistic regression was performed to assess the impact of total expectations, performance and disconfirmation (see also chapter 6 table 39) along with the FEEBS item ‘If no forensic evidence is recovered form a crime scene, it means that the investigators did not look hard enough’ on the likelihood that respondents would report whether they are satisfied or dissatisfied (table 34). The full model containing all predictors was statistically significant,  $\chi^2(4, N=82) = 31.55$  p< .001, indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 31.9% (Cox and Snell R square) and 49.1% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 87.8% of cases. Although total disconfirmation is still the most important predictor, the FEEBs item also significantly contributed to the model. The higher the score on total disconfirmation, the more likely (odds ratio=1.43, p= .001) respondents were to be satisfied with the CSI investigation. The more the respondents tended to

agree with the FEEBS item ‘If no forensic evidence is recovered form a crime scene, it means that the investigators did not look hard enough’, the less likely (odds ratio= .26, p= .01) they were to be satisfied with the CSI investigation.

**Table 39 Logistic regression analysis predicting satisfaction using EDM and FEEBS item; ‘If no forensic evidence is recovered form a crime scene, it means that the investigators did not look hard enough’**

CSI- Total scores	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	-.09	.44	.04	1	.84	.91	.39	2.17
Performance	-.03	.55	.00	1	.95	.97	.33	2.86
Disconfirmation	.36	.12	9.42	1	.001	1.43	1.14	1.80
If no FE is recovered, the investigators did not look hard	-1.37	.52	6.77	1	.01	.26	.09	.71
Constant	-.90	2.25	.16	1	.69	.41		

A subsequent logistic regression was performed to assess the impact of the elements of the EDM along with the belief of whether the CSI recovered all the available evidence from the crime scene on the likelihood that respondents would report whether they are satisfied or dissatisfied (see table 40). The full model containing all predictors was statistically significant [ $\chi^2(4, N=82) = 39.17$  p < .001], indicating that the model was able to distinguish between respondents who reported to be satisfied and dissatisfied. The model as a whole explained between 38% (Cox and Snell R square) and 58.3% (Nagelkerke R squared) of the variance in satisfaction and correctly classified 86.6% of cases. The belief of victims regarding whether the CSI recovered all the available evidence was the most important predictor, while the effect of disconfirmation was still significant. The higher the score on total disconfirmation, the more likely (odds ratio=1.43, p= .01) respondents were to be satisfied with the CSI investigation. Victims who believed that the CSIs recovered all the available evidence were almost 27 times (odds ratio=26.71, p=.001) more likely to be satisfied with the CSI investigation.

**Table 40 Logistic regression analysis predicting satisfaction, using EDM and victims' belief in recovery of all available forensic evidence**

CSI- Total scores	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							lower	upper
Expectations	-.29	.51	.32	1	.57	.75	.28	2.03
Performance	-.79	.68	1.36	1	.24	.45	.12	1.72
Disconfirmation	.36	.13	7.15	1	.01	1.43	1.10	1.85
Belief that the CSI recovered all the available evidence from the crime scene	3.29	1.00	10.75	1	.001	26.71	3.75	190.31
Constant	-2.54	2.24	1.29	1	.26	.08		

#### **7.4.4 The Defendant's effect:**

*Hypothesis: Victims who have an unrealistic amount of faith in the ability of forensic evidence to lead to the offender (FEEBS items related to the Defendant's effect) will feel satisfied, if the CSIs recover any type of evidence from their crime scene*

A series of Mann-Whitney U test revealed that satisfied victims did not significantly differ with dissatisfied victims in terms of their scores of the FEEBS items; 'Forensic evidence always identifies the guilty person' 'Every crime can be solved with forensic science' and 'One big advantage to scientific evidence -as opposed to other types of evidence is that it provides a conclusive answer'. Victims who reported that CSIs recovered some types of evidence did not significantly differed with victims who reported the opposite in terms of their score on these FEEBS items. Similarly victims who believed that the CSIs did not recover all available forensic evidence in their incident did not significantly differ with victims who held the opposite belief in terms of their score on these FEEBS items.

##### **7.4.4.1 Effectiveness of forensic evidence to lead to the offender:**

Victims perceptions of effectiveness of several forensic evidence was measured on a scale from 1(=not at all effective), 5(=effective) to 10 (=extremely effective). Table 41 shows the descriptive statistics for these items.

**Table 41 Descriptive statistics for victims' perceptions of effectiveness of several types of forensic evidence**

	Mean	Std. Deviation
DNA	6.20	3.35
Fingerprints	6.59	2.97
Footprints	4.90	2.57
Tool marks	3.78	2.50
Pieces of glass	3.54	2.46
Fibres	4.29	2.76
Hairs	5.33	3.19

*Hypothesis: Victims' unrealistic amount of faith in the ability of forensic evidence to lead to the offender will be related to their perceptions of effectiveness of different types of forensic evidence to lead to the offender*

A series of Spearman correlations were conducted among the perceptions of effectiveness of the different forensic evidence to lead to the offender (DNA, fingerprints, footprints, tool marks, pieces of glass, fibres and hairs) and FEEBS item; 'Forensic evidence always identifies the guilty person'. The only statistically significant relationships between this item and perceptions of effectiveness of some types of forensic evidence; footprints ( $\rho=.28, p=.01$ ), tool marks ( $\rho=.34, p=.001$ ), pieces of glass ( $\rho=.31, p=.01$ ) and fibres ( $\rho=.25, p=.03$ ). The more victims tended to agree with the perception that 'Forensic evidence always identifies the guilty person', the more they tended to perceive these types of forensic evidence as effective to lead to the offender.

## **7.5 Discussion- The role of victims' perceptions of forensic evidence in satisfaction with the CSIs:**

### **7.5.1 Victims' perceptions of forensic evidence- FEEBS:**

Most of the victims disagreed with most of FEEBS items (six out of the eight), showing that they hold realistic perceptions of forensic evidence, although across these items there were still a considerable number of victims who held unrealistic perceptions as evidenced by their agreement with these items. Moreover, the sample had almost an equal split between agree and disagree regarding the other three items ('Forensic

evidence always identifies the guilty person’, ‘One big advantage to scientific evidence -as opposed to other types of evidence and ‘The real strength of scientific evidence is that it is not affected by human error’ is that it provides a conclusive answer’). Overall, it can be argued that a fair proportion of respondents have unrealistic perceptions of forensic evidence. This is consistent with previous studies which used FEEBS (Smith and Bull, 2012 and 2014). This topic will be further discussed in chapter 10 in relation with the qualitative data, which sheds more light on victims’ unrealistic perceptions of forensic evidence.

Only one of the FEEBS items was related to victim satisfaction. Victims who were dissatisfied were more likely to agree with the statement ‘If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough’ compared to the satisfied ones. This item comes from the pro-defence attitudes subscale of the FEEBS (Smith and Bull, 2012) and is relevant to the Strong Prosecutor’s effect which will be discussed further in section 7.5.3. Some FEEBS items were related to initial victims’ expectations of specific CSI activities, suggesting that they may play an indirect role in satisfaction, as will be further analysed in section 7.5.5.

Overall, these results show that, similar to jurors, some victims seem to have two types of perceptions of forensic evidence as suggested by the CSI Effect literature, which are unrealistic expectations about the presence of forensic evidence and an unrealistic amount of faith in the ability of evidence to identify the offender. These two types of perceptions were related to some expectations of certain CSI activities, indicating that they may play a role in victim satisfaction. The fact that the first type of perception is related to the Strong Prosecutor’s effect and the second to the Defendant’s effect supports the idea that a similar effect to both exists for victims as well. This idea will be further discussed in sections 7.5.3 and 7.5.4.

As argued in chapter 5, the educational level of participants in this particular study is disproportionately high compared to the one of the burglary victims in the general population. This high educational attainment might impact on victims’ expectations of the potential and limits of forensic science/ investigation and consequently these results may not be representative of the general population. However, such a speculation is not necessarily valid, as there is no previous research examining how the educational level

affects victims' expectations of forensic evidence. The abovementioned results demonstrate that some victims have unrealistic expectations despite coming from a sample which tended to have a high educational level. Thus, one could reasonably argue that victims may have unrealistic expectations irrespective of their education, except if their education is related to forensic science. For this reason, future research with a more representative sample is essential in order to assess such an assumption.

### **7.5.2 Perceptions of forensic evidence related to the Victim's effect:**

This study found that the majority of victims expected collection of forensic evidence from all burglary crime scenes but most of them disagreed with the statement 'Crime scene officers always collect forensic evidence at a crime scene'. Although, this may sound contradictory, it can be explained by the argument that victims reported in the first item their expectations irrespective of performance while the answer to the second item was likely to be influenced by their own experience. Another explanation could be the first item refers specifically to burglaries while the second refers generally to every crime, and therefore participants may have thought that collecting evidence is not appropriate for every crime. Moreover, most of the victims agreed with the statement 'every crime scene should be examined by crime scene officers in order to recover forensic evidence'.

These findings provide some support for the existence of the Victim's effect as suggested by Cole and Dioso-Villa (2009) according to which, victims have raised expectations that police personnel will collect forensic evidence at every crime scene. However, the previous literature has ignored whether the impact of this effect exists and can affect victim satisfaction. For this reason, this study explored whether the Victim's effect can be related to satisfaction. None of the Victim's effect variables were significantly associated with satisfaction. Consequently, this study does not provide support for an impact of this effect on satisfaction, however this may be due to the way that this effect was measured. As this effect was not clearly defined in the previous literature this study used multiple measurements attempting to capture the definition given by Cole and Dioso-Villa (2009). These measurements were related only to victims' raised expectations of the collection of forensic evidence and did not consider the absence of evidence. Although the Victim's effect and the Strong Prosecutor's effect resemble one another conceptually, this study measured these effects differently

with the Strong Prosecutor's effect considering victims' expectations in relation to absence of evidence. The Strong Prosecutor's effect will be further discussed in the next section.

### **7.5.3 Perceptions of forensic evidence related to the Strong Prosecutor's effect:**

Contrary to the initial hypothesis, this study found that there was no significant relationship between the recovery of forensic evidence and satisfaction with the CSIs. This might be the case because of the small sample of this study. Using a bigger sample would increase the ability to detect a small effect by increasing the statistical power. However, victims' belief that the CSIs recovered all the available forensic evidence in their incident was significantly associated with their satisfaction with the CSIs. The belief that all available evidence was recovered was positively related to satisfaction. Moreover, the actual recovery of forensic evidence, as perceived by the victims, tended to reinforce their belief that all the available evidence was recovered. Also victims who believed that the CSIs did not recover all the available evidence tended to agree more with the statement that 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough', indicating that this belief was associated with the pro-defence attitudes subscale of FEEBS (Smith and Bull, 2012) which is relevant to the Strong Prosecutor's effect.

These results provide some support for the existence of a Victim's effect, which is conceptually similar to the Strong Prosecutor's effect. According to the Strong Prosecutor's effect jurors will expect forensic evidence in trials in order to convict and therefore it constitutes a burden for the prosecutors to secure convictions, in the absence of such evidence (Cole and Dioso-Villa, 2007). Although the exact scope of this effect is not clear, CSI effect empirical literature provides support for one component of it, namely that jurors have high/unrealistic expectations about the presence of forensic evidence in trials, which applied in the context of criminal investigations is very similar to the Victim's effect according to which victims have raised expectations for the collection of forensic evidence (Cole and Dioso-Villa, 2009). Unlike the Victim's effect as defined by Cole and Dioso-Villa (2009), the Strong Prosecutor's effect emphasizes also the role of the absence of evidence, which can be used in the context of victim satisfaction.

Based on the Strong Prosecutor's effect, and the argument that victims may hold similar perceptions to jurors as they are also lay people, this thesis hypothesized that, victims will hold raised expectations about the presence of forensic evidence in their crime scene. In turn this could constitute a burden for the CSIs to find and recover evidence so as to make the victims feel satisfied with their investigation. Nevertheless, as previously discussed the actual recovery of evidence was not found to be associated with satisfaction. However, the belief that CSIs recovered all available evidence was associated with satisfaction. Therefore, this may constitute a version of the Victim's effect, which predicts satisfaction.

These findings were further confirmed when items related to the Strong Prosecutor effect were incorporated into the expectancy disconfirmation model as established in chapter 6. The logistic regression models indicated that both the FEEBS item 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough' and the belief that the CSI 'recovered all the available evidence from the crime scene' operate in tandem with the elements of EDM to explain satisfaction. In both models the disconfirmation effect on satisfaction was still significant and it was the most important predictor in the first model, so victims who tend to score higher on the disconfirmation scale were more likely to feel satisfied. The addition of these items improved the variance explained by the initial model (chapter 6), which included only the elements of the EDM. This finding indicates the importance of these two items in explaining satisfaction. The implications of holding such unrealistic perceptions of forensic evidence in policy will be further discussed in chapter 10 with reference to the qualitative data.

#### **7.5.4 Perceptions of forensic evidence related to the Defendant's effect:**

A substantial number of victims agreed with the statement that forensic evidence always identifies the guilty person, supporting the argument that victims can have an unrealistic amount of faith in the ability of forensic evidence to lead to the offender. However, this perception was not associated with satisfaction, and it was also not related to the belief of whether the CSIs recovered all the available forensic evidence in their crime scene. Thus, these findings could not support the existence of an effect on victims similar to the Defendant's effect on jurors. However, as will be explained it was not possible to explore this effect as initially planned due to this study's design. Like the Defendant's

version of the CSI effect, this thesis hypothesized that victims have an unrealistic amount of faith in the ability of forensic evidence to identify the offender.

The way to assess this effect was to attempt to find a relationship between victims' perceptions of the effectiveness of seven types of forensic evidence to lead to the offender and the actual recovery of these types of evidence and then examine whether such a relationship could affect satisfaction with the CSIs. Unfortunately, it was not possible to measure the actual recovery of the different types of forensic evidence as many victims answered N/A in many instances when asked a series of questions about the recovery of the seven different types of forensic evidence, because they did not know whether the CSIs actually recovered them. It is essential that future research when examining this topic should cross-examine victims' responses with data from the police records which explain which types of evidence were collected.

Although this study could not assess the existence of a similar effect to the Defendant's effects on victims, it provides some preliminary evidence which may imply that such an effect exists. Firstly, a substantial number of victims agreed with the FEEBS item that 'Forensic evidence always identifies the guilty person'. This supports the initial hypothesis that victims can have an unrealistic amount of faith in the ability of forensic evidence to lead to the offender. This item was also related to two expectations of CSIs activities; 'recover some types of forensic evidence' and 'walk with you to determine the route taken by the offender', suggesting that these may play a role in satisfaction, which will be further discussed in the next section. Secondly, there was a statistically significant relationships between the item 'Forensic evidence always identifies the guilty person' and perceptions of effectiveness of some types of forensic evidence; footprints, tool marks, pieces of glass and fibres. So, the more victims tended to agree with this item, the more effective they tended to perceive these types of forensic evidence to lead to the offender. This finding supports the assumption of this effect that some victims can have an unrealistic amount of faith in the ability of evidence to lead to the offender, which makes them perceive even weak evidence like tool marks, pieces of glass or fibres as more effective. Thus, it is worth exploring this effect through a future study with a different design.

### **7.5.5 Victims' initial expectations of CSI activities and perceptions of forensic evidence:**

Victims' initial expectations of certain CSI activities was thought to be related to their perceptions of forensic evidence in line with the CSI effect literature for two reasons. Firstly, in consumer's behaviour literature expectations are not only restricted to predicting performance but they have a broader definition to include also other comparative standards (Oliver, 2010). Expectations may have many comparison levels such as of level of desire regarding performance, concrete or ambiguous level of abstraction related to the outcome and other comparison referents such as other products, people, situations internal standards and external claims (e.g. advertising) (Oliver, 1997). Secondly, consumers transform available information into expectations due to external sources, among them media which work as comparative data and internal sources related to retrieval mechanisms such as ease and vividness of recall.

Many heuristics and other factors can influence expectations directly or the process of retrieval of relevant material which are used for the formation of expectation (Oliver, 2010). Based on these two reasons victims' perceptions of forensic evidence could operate as comparative standards or as heuristics, which may affect the retrieval of relevant material and consequently affect the formation of their initial expectations of CSI activities, given that victims are lay people and most of the time they do not have actual knowledge to assess information sources on forensics. This study did not test whether there is a cause- effect relationship between victims' perceptions of forensic evidence and their initial expectations of CSI activities but rather only if these two variables are related.

The results indicated that victims who expected that CSIs will perform certain activities tended to have unrealistic perceptions of forensic evidence related to the Victim's, Strong Prosecutor's and Defendant's effects. For example, the expectation of collection of evidence at every burglary crime scene (Victim's effect) was related to victim's initial expectation of recovery of forensic evidence in their incident. The percentage of victims who expected that the CSIs will recover some types of forensic evidence in their incident substantially increased when victims expected collection of forensic evidence from all burglary crime scenes compared to victims who did not expect collection of forensic evidence from all burglary crime scenes.

Expectations of certain CSI activities were related to some of the FEEBS items, which reflect jurors' perceptions of forensic evidence within the CSI effect literature, similar to the Strong Prosecutor's and Defendant's effects (Smith and Bull, 2012). For example, victims who expected recovery of some types of forensic evidence tend to agree with the statement 'Forensic evidence always identify the guilty person' (Defendant's effect) and the statement 'if no forensic evidence is recovered, the investigators did not look hard' (Strong Prosecutor's effect), compared to those who did not have this expectation. Also, victims who expected that that the CSI would walk with them in order to determine the route taken by the offender tended to agree with the statement 'forensic evidence always identify the guilty person' (Defendant's effect) and the statement 'The real strength of scientific evidence is that it is not affected by human error', compared to those who did not have this expectation.

Although most of these perceptions of forensic evidence were not significantly related to satisfaction, based on the expectancy disconfirmation theory one could argue that they may play an indirect role in satisfaction because they were related to some victims' initial expectations of CSI activities. In turn such initial expectations can either directly affect satisfaction or have an indirect effect through disconfirmation because they provide the basis to assess performance (Oliver, 2010). It is worth mentioning that although disconfirmation had an impact on satisfaction, expectations of certain CSI activities were not related to disconfirmation or to satisfaction in this particular study (chapter 6). Nevertheless, this could be attributed to measuring expectations retrospectively which involves recalled bias in favour of performance (Oliver, 2010).

Overall, these results show that, similar to jurors, some victims seem to have two types of unrealistic perceptions of forensic evidence, in line with the CSI effect literature suggestions (Victim's, Strong Prosecutor's and Defendant's effects). From these two types of perceptions only the one related to victims' unrealistic expectations for the presence of forensic evidence was associated to victims' satisfaction. The findings broaden the definition of the Victim's effect as initially proposed by Cole and Dioso-Villa (2009) to suggest that not only victims do have raised expectations of collections of evidence but also such expectations can have a negative impact on satisfaction with the CSI investigation. Based on the expectancy disconfirmation theory, it was suggested that these two types of perceptions were related to some expectations of certain CSI

activities, indicating that they may play a role in victims' satisfaction. These findings will be discussed further in chapter 10 in relation with the qualitative data. In an attempt to shed more light on victims perceptions of forensic evidence the next two chapters (qualitative studies) explore how the CSIs perceive victims' expectations of forensic evidence, and whether they have an impact on victim satisfaction.

## **Chapter 8: Victims' Expectations of Forensic Evidence and Investigation- The Crime Scene Investigator Perspective**

### **8.1 Abstract:**

The previous chapter examined victims' perceptions of forensic evidence and their role in their satisfaction with the CSIs, using quantitative data gathered from burglary victims. To complement these findings, this chapter further explores these perceptions, and specifically whether victims hold unrealistic expectations of forensic evidence and investigations, using qualitative data from two studies involving Crime Scene Investigators (CSIs). CSIs can shed light on victims' expectations since they interact with the victims when collecting evidence. As experts in their field who come into contact with victims, they can evaluate whether a victim holds unrealistic expectations of forensic investigations. The chapter is divided into four sections. The first section explores how the CSIs perceive victims' expectations regarding burglary investigations and forensic evidence by examining whether victims hold unrealistic expectations about burglary investigations. Emphasis is given to understanding unrealistic expectations of forensic evidence and investigations and whether they are in line with the suggestions of the CSI effect literature (chapter 1). The discussion continues with the second section, which examines how victims' unrealistic expectations are reflected in victims' common attitudes and their impact on the forensic investigations, focusing on those mainly related to watching *CSI* or similar programmes. The third section provides an evaluation of the CSIs' perceptions of victims' unrealistic expectations and attitudes. This is essential in order to understand better unrealistic expectations, because they were explored through the perspectives of the CSIs without asking directly the victims. Finally, the potential source of these unrealistic expectations as perceived by the CSIs is discussed.

### **8.2 Sample characteristics:**

In order to explore this topic, data obtained from two separate qualitative studies were considered. Firstly, semi-structured interviews were conducted with 6 CSIs working for an English shire police force. The interview sample comprised 4 female and 2 male CSIs. The majority were fully qualified for attending all crime scenes. One CSI was qualified only for attending volume crime scenes but assisted in major crime scenes. Another was a Crime Scene Manager as well as a CSI. The experience of the CSIs

ranged from 8 to 27 years. All the participants confirmed that burglary was the most common type of crime that they attended.

Secondly, an online survey was conducted with 24 CSIs working for an English suburban police force. This online survey contained open questions, similar to the ones used in the interviews (see Appendix B). Regarding the online survey, 16 participants were female and 8 male. Most of the CSIs reported that they received training which allows them to attend all types of crime. Seven respondents mentioned that they can attend only volume crime. Moreover, one participant mentioned that was very experienced working at a senior level. The experience of the participants ranged from 11 months to 30 years, while there was a good dispersion within this range. Similar to the interviewees, burglary was the most common crime attended by the participants of the online survey (N=23).

In the text that follows, the data are referenced as follows. Extracts from the interviews are referenced as (I3, 11/5/2015) where 'I' stands for interview followed by the number of the participant and the date that the interview took place. Similarly extracts from the online survey were coded as (S5) where 'S' stands for survey, followed by the number of the participant.

### **8.3 Methodology - Thematic analysis:**

The ultimate aim of conducting the qualitative studies was to use qualitative data to complement the quantitative study, which asked the victims directly about their perceptions of forensic evidence and assessed its role in victim satisfaction. Thematic analysis was employed as a method to analyse the data obtained from the two studies. This method enables the researcher to identify, analyse and report patterns or themes within data, by organising and describing the data set in rich detail (Braun and Clarke, 2006). Although thematic analysis is widely utilised, there is no clear agreement about the way that it is conducted (Boyatzis, 1998). This research followed Braun and Clarke's (2006) process of thematic analysis. Thus, interviews were transcribed and then printed along with the answers of the online survey. All these transcripts were read in order to get the researcher familiar with the data followed by generating initial codes to the extracts manually, which enabled searching for themes and different level of themes (sub-themes). These themes were reviewed so as data within themes are

coherent and simultaneously distinctive between other themes, producing a thematic map. This map was further assessed by writing a detailed analysis of each theme while identifying its theme story and how it fits into the broader story that the data tell, involving a refinement of themes and producing further sub-themes. It is worth mentioning that conducting thematic analysis suggests a constant moving back and forward between the data set, the coded extracts and the final analysis produced (Braun and Clarke, 2006).

An issue of this analysis that has to be addressed is related to what constitutes a theme. 'A theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set' (Braun and Clarke, 2006: 82). Thus, although repetition is important in identifying themes it is not the only way, as understanding in depth the meaning behind people's action is essential as well (Seal, 2016). Due to the fact that thematic analysis is a flexible method in terms of determining themes and their prevalence, it is essential that the researcher maintains consistency. In an attempt to remain consistent, this research used some of the conventions for demonstrating prevalence which are not quantified measures, such as the majority of the participants, few participants etc. (Braun and Clarke, 2006). Also the prevalence of a theme is determined by the research questions but it is acknowledged accordingly during the discussion.

The themes utilised were mainly driven from answering two main questions: firstly how victims perceive forensic evidence and specifically whether they hold unrealistic expectations (this chapter); and secondly how victims' unrealistic expectations can affect their satisfaction with the police (chapter 9). Regarding the first question, the main themes identified were related to victims' expectations of burglary investigations and evidence, victims' common attitudes along with their impact on investigations and whether they reflect unrealistic expectations. The evaluation of CSIs' perceptions of victims' expectations emerged from the data such that the researcher did not aim to explore this issue when designing the qualitative studies. However, this theme provides a critical assessment of the findings related to victims' expectations and for this reason it was included in the discussion. The last theme for this question related to the source of the unrealistic expectations and was theory driven from the CSI effect literature. It was useful to include for assessing the impact the CSI effect has on CSIs, which will be

further discussed in the next chapter along with the management of the unrealistic expectations. Regarding the second question the main themes identified were related to the management of expectations, the role of the unrealistic expectations and factors related to victim satisfaction. Both questions involved also the use of sub-themes, which were essential for providing structure to a large and complex theme (Braun and Clarke, 2006).

Overall, it is acknowledged that the analysis is mainly exploratory as there are few studies on this topic and most of the information comes from studies related to jurors or public perceptions of forensic evidence. For this reason, and in order to understand specifically unrealistic expectations about forensic evidence and investigations, the researcher attempted not to predispose the answers of the participants towards any direction, namely whether they are realistic or not realistic. To achieve this, this research used questions like ‘which is the extent that victims’ expectations of forensic evidence and investigations are realistic’. Likewise, the question about the primary source of these expectations was asked after the questions related to victims’ expectations and attitudes. Thus, having finished with the questions relevant to expectations, the researcher asked the participants questions about the management of the unrealistic expectations and satisfaction with the police and CSI investigation. This order was kept also for the online survey while the participants did not have the option to go back after answering one question.

#### **8.4 Victims’ expectations of forensic evidence and investigations:**

As stated in chapter 1, the CSI effect literature can shed light on victims’ perceptions of forensic evidence as it has examined the perceptions of the general public (mainly potential jurors) about forensic evidence in order to determine whether the CSI effect exists. Although this literature has almost neglected the impact of CSI effect on victims’ perceptions, this thesis argues that victims, as members of the public, can hold similar attitudes with jurors and the general public. CSI effect literature states that *CSI* and similar programmes depict forensic investigations and evidence in an unrealistic way and provide the public with a distorted perspective concerning forensic science and its application in investigations by police personnel (Houck, 2006). Due to the fact that the average viewer is not likely to have actual knowledge about law, crime and forensic science, media representations play an important role in the formation of this

knowledge of the average viewer (Podlas, 2006; Hayes and Levett, 2013). The CSI effect empirical literature has demonstrated that jurors can have unrealistic expectations for the availability of evidence (Strong Prosecutor's effect) or an over-belief in the ability of evidence to lead to the offender (Defendant's effect). Thus, this section examines whether victims hold similar attitudes with jurors and the general public through the experiences of CSIs. Moreover, this study is the first to explore whether victims have unrealistic expectations regarding the collection of forensic evidence and forensic testing at every crime scene as suggested by Victim's effect, which constitutes the first attempt of the CSI effect literature to recognise an impact on victims.

Research on prosecutors and lawyers indicates that legal professionals believe that the CSI effect exists and creates unrealistic expectations in jurors (Maricopa, 2005; Robbers, 2008). Similar to the legal practitioners' perceptions of the CSI effect, the only three existing studies on police and forensic investigators demonstrated to some extent that police personnel believe that the public and victims hold unrealistic expectations about forensic evidence due to CSI and similar programmes (Stinson, Patry and Smith, 2007; Huey, 2010). Based on these findings, this section will explore further whether the CSI participants in this study perceive that victims have unrealistic expectations of investigations and forensic evidence.

Theoretical discussions and content analysis of *CSI* reveal that the line between the reality and fiction related to forensic science and police is blurred. Typical *CSI* episodes portray crimes that are solved due to the application of forensic tests which can always lead to the offender without inculcating the wrong person. The show promotes the idea that forensic evidence exists in every crime scene and is infallible and accurate to lead to the offender (Podlas, 2006). It shows forensic techniques that do not exist or even in cases where they are real, the way that collection, processing and analysis of evidence is depicted, does not correspond with the reality (Cole and Dioso- Villa, 2005). Forensic scientists are depicted as having plenty of time to dedicate in every case and as giving their full attention to only one investigation at a time in these television programmes (Houck, 2006) and police agencies have seemingly unlimited resources (Robbers, 2008). Moreover, the multi-task role of the investigators blurred with police duties does not correspond with the reality (Cavender and Deutch, 2007; Cole, 2015).

Some of the unrealistic depictions of the aforementioned aspects of forensic investigations were also reflected in victims' and public's expectations as perceived by police officers and forensic investigators in the study by Stinson, Patry and Smith (2007). For example, the most common comments were that the public has increased expectations in terms of time spent on investigation, type and availability of evidence, the investigative process, time taken in solving the crime and the use of sophisticated investigations in every case. Most of the police officers agreed that these programmes oversimplify the way that the police investigate crimes. However, as these studies were mainly quantitative, they did not explore further these comments provided by the participants, which seem to reflect crime shows depictions on expectations. To examine this further, irrespective of the source of these unrealistic expectations this section will attempt to identify whether there is any correspondence between the depiction of aspects of the investigations on crime shows and victims unrealistic expectations.

Overall, this section explores how CSIs perceive victim expectations regarding burglary investigations and forensic evidence by examining whether victims hold unrealistic expectations about burglary investigations and whether they are in line with the suggestions of the CSI effect literature. CSIs can shed light on victims' expectations since they interact with the victims when collecting evidence. As experts in their field who come into contact with victims, they can evaluate whether a victim holds unrealistic expectations of forensic investigations. The discussion starts with the CSIs perceptions about whether victims' expectations are unrealistic.

Based on CSIs perceptions about whether victims hold unrealistic expectations regarding burglary investigations and specifically evidence collection, three categories were identified through the interviews and the online survey. Firstly, there were CSIs who perceived that victims have realistic expectations in general (n=4), as the following quotes demonstrate:

‘Fairly realistic, many understand the limitations and often expect offenders to be wearing gloves’ (S5).

or

‘More are understanding of what we can realistically do, and are often just grateful someone is investigating’ (S6).

or

‘For the most part, their expectations are usually realistic and they are just appreciative that we are attending and generally interested in what we are doing’ (S7).

Secondly, there were CSIs who reported that victims generally have distorted or very high expectations (n=8). Unfortunately, most of the participants who belonged to this group did not report any specific reason for their answer and they just mentioned words like ‘not realistic at all’ or ‘totally unrealistic’ or ‘quite unrealistic’. Only one CSI gave an explanation attributing victims’ unrealistic expectations to watching TV. In his own words: ‘no very. Distorted by TV programmes’ (S9). However, the concept of unrealistic expectations will be further explained later within the discussion.

The third category was the most commonly identified in this study and it constitutes those CSIs who believe that the answer to this question varies from victim to victim and depends on several reasons (n=18). Firstly, it depends on the victims’ personality, their knowledge, experience or what they have heard in the past. For example some victims understand what the investigators can do, especially after the CSIs’ explanations while other victims ‘the odd ones or affluent or less intelligent’ (S6, S22, I3, 11/3/2015) continue to hold unrealistic expectations even after the explanations. Also, some CSIs reported that they come in contact with victims who are negative from the beginning, believing that there is no reason for the police to conduct investigations since they are not going to recover anything or apprehend the offender. These victims have very low expectations regarding forensic investigations. However, this seems to be related to their previous experiences with the police and their perceptions of police effectiveness in solving the crime.

Secondly, it depends on victims’ viewing habits. Victims who watch CSI or similar TV programmes tend to have unrealistic expectations regarding forensic evidence or investigation. As many participants mentioned these victims expect to find all evidence

types, to solve the crime immediately, that fingerprints can be developed on any item or surface. Comparisons between the CSI job with the TV portrayals of it, is not so uncommon as well. Very few CSIs associated believing that CSI or similar TV programmes are realistic, with low intelligence. One participant mentioned:

‘The less intelligent people watch such programmes, believe it is true so when you turn up they believe that whatever they do on CSI you are going to do the same and it is like No CSI is not real’ (I3, 11/3/2015).

Moreover the extent to which victims hold unrealistic expectations varies also across the different aspects of forensic investigations, as they have different understandings of forensic evidence and the procedure of forensic investigations. These expectations were classified into the following categories, which reflect different aspects of criminal and forensic investigations; expectations related to the availability of forensic evidence and its likelihood to lead to an offender, the time needed for the police to conduct the forensic investigations and solve the crime, the use of sophisticated techniques and to the role of the CSIs during investigations. The examples given by the participants demonstrate that victims tend to have a lower understanding of several issues related to the availability of evidence and its likelihood to lead to the offender compared to the other aspects of criminal and forensic investigations, even after CSIs’ explanations. The analysis next considers whether victims hold unrealistic expectations regarding several aspects of the investigations as identified in the two quantitative studies of Stinson, Patry and Smith (2007) building further on understanding such types of expectations.

#### **8.4.1 Expectations about the availability of evidence:**

Victims can hold unrealistic expectations about the availability of evidence. A very common example of this was that victims expect that the CSIs can recover more evidence than is actually possible and that investigators should examine the whole property instead of taking a proportionate targeted approach. One participant commented:

‘They generally think that you can get fingerprints off absolutely everything. You should recover 100s or so. They do question quite a

lot why you are not looking for certain things and things like that then they request that you fingerprint absolutely everything in the house' (I5, 11/3/2015).

Another participant mentioned:

'So if I go to a crime scene and I am fingerprinting the point of entry and I found glove marks, I know the likelihood is that all the way through the house, everything I fingerprint is going to have a glove mark. If a criminal wears gloves to break into, he will not take them off and touch everything else' (I5, 11/3/2015).

She went on, emphasising the difficulty to convince the victims about the availability of fingerprints:

'Sometimes it is difficult to make a victim understand that, you can say "I found glove marks at the point of entry"'  
and they say "they touched that"  
but [I say] "they wore gloves"  
and [they say] "what about this?"  
but [I say] "they wore gloves"' (I1, 5/3/2015).

Furthermore, victims can expect that every surface is suitable for recovery of evidence.

One participant mentioned:

'[Victim says] "Yes you can get fingerprints on this" no because it is not the right surface it is a dirty surface, [Victim says] "oh yes you can get fingerprints off anything"' (I3, 11/3/2015).

Another CSI reported:

'I explained to the victim the processes of fingerprinting and how we need smooth shiny surfaces to fingerprint and that's why the window was not suitable. She kept pointing out absurd things to fingerprint -

like the carpet and was constantly interrupting my examination’ (S23).

In some cases victims are not able to recognise what constitutes proper forensic evidence:

‘The thing is that a lot of the time people see a smear and say that’s a fingerprint. This is not a fingerprint, it is an impression of a finger that may be left but it is not a fingerprint’ (I1, 5/3/2015).

Unrealistic expectations about the availability of evidence become more prevalent in cases with a negative result namely when either no evidence or little evidence is recovered. One CSI commented:

‘Its always fine when you get some evidence, they are happy with that, but when it is a negative examination they think it is because you don't know what you're doing’ (S23).

In such a scenario, these expectations seem to persist sometimes even after the CSIs explain why there is a negative outcome.

‘Victim's expectations can often be unrealistic. They often can't understand why we have had a negative result at a crime scene. Majority seem to understand why, this is a little better, once we have explained (but not all)’ (S8).

This is a very interesting finding as a negative outcome is not uncommon in reality. Also, as the majority of the interviewees and the participants of the online survey (table 42) perceive some victims believe that less evidence is recovered than available and useful. This belief can be reinforced by a negative outcome as the interviews revealed. An interviewee commented:

‘That is particularly pertinent when you do not recover anything because realistically there is nothing to recover, then they think that

there would be more evidence to recover. I am not going to recover rubbish, I could spend a week in somebody's house and all that I could get is the family fingerprints, nothing of the offender' (I6, 17/3/2015).

The belief of whether CSIs recovered all the available evidence depends also on victims' perceptions of the suitability of forensic evidence for recovery. One CSI commented:

'I went to a burglary yesterday where the offender came over a fence onto a flowerbed and there was a footmark impression in the soil but the soil was very wet, so you got the outline of the foot and the indentation into the mud but there was no pattern of the tread inside the footwear. There was nothing I could do because all it was, it was an indentation in the mud. The gentleman told me there is a footwear there and I told him unfortunately this is insufficient. [He said] "What do you mean? I can see it, I can tell it is a print". Yes it is a print but there is no details ... A lot of the time I think that they think that we recover less, not necessarily that they think when we go away that we should have done that' (I1, 5/3/2015).

This suggests that if victims perceive that a type of evidence is suitable for recovery, they may continue to hold the belief that less evidence was recovered, despite the explanations given by the CSIs. Another interviewee believed that few victims do not accept the explanations of the CSIs in cases of a negative outcome:

'As we go to recover evidence, it is only a small percentage who are like "what do you mean you have not find anything?" (I3, 11/3/2015).

She went on to mention that generally victims expect that the CSIs will show that they make an effort during investigations rather than recover evidence:

‘The majority appreciate your level of expertise, that you know what you do, so they leave you, if you do not find anything again, I always give them an explanation... Generally people do not expect you to recover evidence from all, they expect you to try and if you do not, then is only a small percentage who are a bit disappointed’ (I3, 11/3/2015).

However, when CSIs recover latent evidence (namely evidence which is not obvious without using some recovery techniques), the reactions are opposite. Victims become more confident and are amazed with the forensic techniques. One CSI mentioned:

‘Sometimes CSIs find latent forensic evidence that people do not know, when this happens people get more confident and react positively’ (I2, 6/3/2015).

From the data obtained one could observe that there are some victims who have very high or unrealistic expectations for the availability of evidence. This resonates with the type of expectation as described in the Strong Prosecutor’s effect, namely that jurors have unreasonable expectations for the presence of forensic evidence in every case. The *CSI* programme promotes the idea that forensic evidence exists in every crime scene and that every crime can be solved by forensic evidence. Thus, jurors tend to believe that evidence can solve every case and evidence of guilt can be found in every crime scene in the form of forensic evidence (Podlas, 2006).

Moreover, both the interviewees and the participants of the online survey agreed that there are victims who have raised expectations that the police personnel will collect forensic evidence at every crime scene or victims expect that all crimes will be forensically tested. Furthermore, the majority of the CSIs who completed the online survey believed that most of the victims hold this expectation (table 42). One interviewee commented:

‘Yes I think they do [have raised expectations about the collection of forensic evidence]. When you are a victim in your own personal sphere this is the most important thing that happened to you. I paid

my taxes, I expect a service, we do attend all burglaries' (II, 5/3/2015).

This finding gives some support for the existence of the Victim's effect as suggested by Cole and Dioso-Villa (2009). According to this effect victims have raised expectations that police personnel will collect forensic evidence at every crime scene. Moreover, this finding suggests that victims may not always be aware of the limitations that policy poses in forensic investigations, which results in high expectations about evidence collection. As argued in chapter 1, victims may not understand that police responses are dynamic and therefore forensic investigations depend on a number of factors (e.g. budget cuts, extended response times, crime scene management). Such factors affect the effectiveness of forensic evidence in solving crime. Consequently, chapter 1 argued that victims realistically should have low expectations for the recovery of forensic evidence. However, victims' raised expectations about forensic evidence collection, as perceived by the CSIs demonstrate that their expectations seem not to be consistent with such limitations in practice. These findings about victims' expectations of the availability of evidence will be used also to complement the data obtained from the victim satisfaction survey in chapter 10.

**Table 42 Online survey: CSI perceptions about victims' expectations of the availability of evidence**

	All of the victims	Most of the victims	Some victims	Few victims	No victim
Do you believe that victims expect collection of forensic evidence to be undertaken for all burglary crime scenes	4	13	7	0	0
Do you believe that victims think that you recover less evidence than the amount that is available and useful for the investigation of a burglary	1	3	12	8	0

**8.4.2 Expectations about the ability/likelihood of forensic evidence to lead to the offender:**

Regarding the ability of evidence to lead to the offender, victims can believe that only the offender leaves evidence. One CSI stated:

‘Everyone outside the forensic investigation world believes only an offender leaves evidence. i.e. any fingerprints must be from the offender. In short, all need it explaining at every crime scene’ (S10).

Nevertheless, this is not always the case as another CSI stated:

‘They do not expect you to find the offender straight away. They almost go the other way because they say that can be my fingerprint, not of the offenders’ (15, 11/3/2015).

This may suggest the extent of their realistic expectations depends on the type of evidence, as their understanding varies across the different types of forensic evidence. Another participant mentioned:

‘They are quite realistic regarding fingerprints and footwear evidence. However, DNA evidence they think that it will always lead to the offender. They do not seem to understand issues of contamination either by themselves or background contamination’ (I4, 11/3/2015).

Moreover, several CSIs mentioned cases where victims expected to recover weak or unsuitable evidence for the investigation believing that this evidence can lead to the offender e.g. soil samples, tyre marks, fibres, moss. This is very well demonstrated in the following quote:

‘ “Yes you can get DNA sample because it is in your eyes, they left breathing in here”, what do you expect me to do, take a DNA swab of the air, whereas you can get DNA from cutting themselves or a cig end, tools. “No they left breathing on the air (a couple of people said this), the burglars were breathing what do you mean that you cannot take DNA of it?” This is totally unrealistic it makes you smile sometimes’ (I3, 11/3/2015).

Another CSI mentioned:

‘I was requested to recover a piece of moss from a carpet as it must have come from the offender and therefore if we found someone with the same moss on their clothes then they must have committed the crime’ (S18).

This is consistent with the depictions of *CSI* regarding the use of weak or ambiguous types of evidence. For example a study on the content analysis of *CSI* found various kinds of forensic evidence were present in 39 out of 46 episodes. DNA, fingerprints, metal and glass fragments, paint chips, shoeprints hair and fibres were presented as

evidence in these episodes. However, apart from DNA and fingerprints all the others constitute very weak evidence and are not capable of identifying the offender (Podlas, 2006). The programme presents an overreliance on such types of evidence which may contribute to viewers' impressions that these evidence types are more useful than they are in reality.

The ability of evidence to lead to the offender depends also on the relevance of evidence, as evidence will be excluded if it cannot be linked to a crime scene. In this sense, this can be an issue because victims do not always understand relevance, as a CSI mentioned:

‘For example a dirty screwdriver is found on a pavement outside a burglary dwelling and they expected us to process the screwdriver and try to get some DNA from it and that is unrealistic because the screwdriver is in a public place, may not even being linked to the burglary and, if it is dirty, the likelihood to get DNA from it is quite slim. So, we have to link that screwdriver to the burglary and to an offender and they do not seem to understand that sometimes’ (I4, 11/3/2015).

These findings demonstrate that there are victims who have an over-belief in the ability of evidence to lead to the offender, by disregarding the actual reliability of evidence as the Defendant's effect suggests. *CSI* depicts forensic evidence as infallible and accurate. In *CSI* episodes, forensic evidence leads easily to the offender while it never inculcates the wrong person. Due to this, jurors may believe that evidence is always accurate and reliable without considering the limitations of science itself, junk science and human error. In other words, *CSI* may lead to jurors having an over-belief in the abilities of forensic evidence to identify the offender even if this evidence is of a weak standard by disregarding the actual reliability of evidence (Podlas, 2006). These findings about the over- belief of victims in the ability of evidence to lead to the offender will be used also to complement the data obtained from the victim satisfaction survey in chapter 10.

Regarding other aspects of the investigations (the time needed for the police to conduct the forensic investigations and solve the crime, the use of sophisticated techniques and

to the role of the CSIs during investigations), the responses suggest that most of the victims seem to have a better understanding of them especially because they accept CSIs explanations more readily compared to the first two aspects related to the availability of evidence and its ability to lead to the offender. However, the participants provided some examples of unrealistic expectations regarding these aspects. Consequently, the discussion that follows will present mainly the cases where victims had unrealistic expectations in respect with each category, mainly prior to CSIs explanations.

#### **8.4.3 Expectations about the time needed for the police to conduct the forensic investigations and solve the crime:**

Victims seem to better understand this aspect of criminal investigation. Nevertheless, there were a few participants who reported that there are victims who expect that the CSIs will produce immediate results after the collection of evidence. A participant mentioned:

‘Some victims think that we can look at a fingerprint from a scene and will know immediately whether it belongs to an offender, when in fact all fingerprint comparisons are carried out by our specialist fingerprint department’ (S16).

Another further commented:

‘The turnaround is slower than expected by the victims. A turn around on a fingerprint is quite quick depending if somebody is on the database. If it is a previous offender who leaves marks, it will get a hit quite quickly, sometimes within 24 hours but if that criminal has never being caught, is not in a database, that is not going to be solved. Fingerprints are quick turnaround. Things like DNA, we do not do this in the force, it goes to external labs. It takes up to 2 weeks turnaround on a bit of blood or cig or any other DNA source’ (I1, 5/3/2015).

This type of unrealistic expectation is reminiscent of how *CSI* depicts the time frame for conducting scientific tests, which does not correspond with the reality (Robbers, 2008). For example, DNA results are available to prosecutors in a 44- minute episode (Mann, 2006). Such depictions can lead victims to believe that immediate results can be produced after the recovery of evidence. Another participant attributed victims' expectations about the time needed for the police to solve the crime to watching *CSI*:

'Yes some will think that you can solve it in 40 minutes as they do on *CSI*. No you cannot it is not magic' (I3, 11/3/2015).

*CSI* implies that crimes can be solved in 48 minutes and scientific tests will produce results immediately. Cole and Dioso- Villa (2007) argue that this is a very common but curious complaint, as *CSI* does not claim to operate in real time. Nevertheless, this complaint was evident in this study. Moreover, victims may expect that the CSIs and police will attend the crime scene immediately after they report the crime. One CSI commented:

'They want you there as fast as possible. Sometimes, logistically you cannot go there first. I have a burglary dwelling and a shop burglary, I need realistically to go the shop first because when it opens all the evidence is going to be compromised. You have to manage your work load according to sort of priority and you need to explain this to the victims when you ring them up. Generally their expectations are unrealistic regarding the time' (I1, 5/3/2015).

There is also a correspondence between victims' expectations that the police attend immediately the crime and depictions of crime shows. Television programmes falsely depict that detectives, technicians or scientists have plenty of time for every case and they dedicate their full attention to one investigation (Houck, 2006).

#### **8.4.4 Expectations about the use of sophisticated techniques:**

There are some victims who expect that the CSIs will use sophisticated techniques and special equipment. A CSI mentioned:

‘They are always amazed at how simple our techniques are. E.g. if I take my torch out they believe “is this a special forensic torch?” it is because we buy this from a forensic company. The reality is that it is just a pure white light, it can be used in engineering or medicine or different areas, we used in the forensics. E.g. we cast marks. You get a powder mix it up, pour it in and you make a mould. They think that this is a special cast mixture, the reality is that it is the same product that we use in dentistry for casting teeth or in a house the same product for plaster in the walls, it the same powder just of a different grade, there is nothing fantastic about it ...’

He went on:

‘yes, they comment “it is really expensive and special” – I usually say it is not that special. On the other side we have full face respirators. If I start wearing my mask and protective goggles when I powder “what’s that, what happening?” There is a balance. They believe we have every technical kit, the reality is we do not’ (I6, 17/3/2015).

The expectation of using specialized equipment resembles *CSI*’s portrayals, where the actors utilise specialized equipment to validate their expert status and explain its purposes using scientific jargon (Cavender and Deutch, 2007).

Moreover there are some victims who get disappointed when they realise that techniques are not sophisticated. A participant stated:

‘Yes their expectations are really high in terms of that and our methods are not really sophisticated at all and to a certain degree you see they get quite disappointed when we turn up with what we got really. Fingerprints techniques have not really advanced that much at all, we still use powders from when they were invented. DNA techniques have become a little bit more advanced but this is not

something that the victims can see in front of them, this happens away from the scene' (I1, 5/3/2015).

This quote highlights the mismatch between reality and fiction, which results in disappointment for the victims. This was further explained by another CSI who emphasized how TV programmes influence victims' expectations regarding the use of sophisticated techniques:

'On TV they turn off all the lights in the room for effect and they wear special glasses because it deals with light with the spectrum, we go and they want to close the curtains and turn off the light and we say to open the curtains, we need to visually see. They get disappointed when they realise that it is not like TV or using sophisticated equipment' (I6, 17/3/2015).

Another CSI explained how victims become familiar with certain techniques that cannot be always used through TV programmes:

'Because it is on TV channels, they are bombarded with that. They do not mention specific programmes but they label sort of certain process that you cannot use what they say. E.g. blue star is a chemical that you can use to put on surfaces to see if there is any blood. You spray it on and then you shine a UV light to see if there is blood there even if it has been cleaned, there should be still traces left behind and they think that we can do this in some scenes, very rarely they expect us to do this in burglary scenes. Blue star is the trade name for fluorosis/ fluorescent dime. They mention techniques that they see on these programmes' (I4, 11/3/2015).

This is particularly reminiscent of the *CSI* programme where the investigators 'use chemicals like luminol, which when illuminated with a special blue light, causes invisible traces to glow' (Cavender and Deutch, 2007: 74) The above quotes demonstrate also how victims expect to see forensic techniques as portrayed on television the application of which may not even exist in reality. This is not so

surprising if one considers that *CSI* depicts the use of imaginary forensic procedures (Houck, 2006).

#### **8.4.5 Expectations about the role of the CSIs during investigations:**

Victims can expect that a CSI team will arrive dressed up with their job clothes. One CSI stated:

‘They are always surprised when only one of us turn up. They expect you to be in your white crime suit with the mask. “Oh is it only you just with your little van?” ’ (I6, 17/3/2015).

This question shows how differently *CSI* depicts the arrival of the investigators at a crime scene. More specifically, ‘when the forensic investigators first appear at a crime scene, background effects including squawking police radios and the flashing of police car blue lights’ (Cavender and Deutch, 2007: 76). In *CSI*, a team of investigators arrives at the crime scene and they work together which leads to the solution of the crime (Cavender and Deutch, 2007). Another participant commented on the effect of TV programmes on victims’ expectations:

‘Yes they think that it will be a lot more of us than it really is and because the problem is that they see this on TV that there is a team of CSIs’ (I5, 11/3/2015).

Victims often confuse the role of the CSIs. They may believe that a CSI will perform everything from evidence collection to lab examination. One CSI mentioned:

‘Some victims think that we can look at a fingerprint from a scene and will know immediately whether it belongs to an offender, when in fact all fingerprint comparisons are carried out by our specialist fingerprint department’ (S16).

However, victims understand immediately the CSI role after the CSI’s explanation, as one participant commented:

‘They seem to think if I go to the scene I will then do everything, carry out everything (i.e. the whole burglary investigation) but again after you explain to them, it is fine. Probably, because they have never thought about it. When you explain to them they say “oh yes of course you are not a fingerprint expert, you are not in the lab doing DNA” ’ (I4, 11/3/2015).

Moreover, victims may believe that the CSI is a police officer as well, which reminds the *CSI* actors who carry weapons and make arrests while in reality CSIs are civilians in the UK. One participant mentioned:

‘I had a victim that thought I could identify who the suspect was there and then based on the fingerprints I had recovered. They then expected me to go arrest them straight away’ (S15).

The expectations of the victims that CSIs have a multi-task role to perform, from examination of the crime scene to lab examination and arrest of the offender are mirrored also in the television portrayals. As Houck (2006) argues, television depicts the job of the forensic personnel as an amalgam of police officer, detective and forensic scientist. However, in reality these roles are separated, performed by different professionals and require different education and training.

As indicated the degree to which victims’ expectations are realistic varies across the different aspects of the investigations. This is supported further by table 43 which summarises the answers of the CSIs who participated in the on-line survey. The majority of the participants believed that victims have mainly realistic expectations regarding most of the aspects of forensic investigations. This was not the case only for the availability of evidence for which most of the CSIs believed that victims have unrealistic expectations. Regarding the use of sophisticated techniques during investigations of burglary crime scenes the sample was divided equally in two parts.

**Table 43 Online Survey: CSI perceptions about victims' expectations of different aspects of forensic investigations**

	Always unrealistic	Unrealistic most of the time	Realistic most of the time	Always realistic
The time needed to conduct the forensic investigations	1	6	17	0
The time needed for the police to solve crimes	2	10	12	0
The availability of forensic evidence in a burglary crime scene	3	14	7	0
The ability/likelihood of forensic evidence to lead to the offender	2	7	15	0
The use of sophisticated techniques during burglary investigations (e.g. techniques that they do not exist in reality)	2	10	12	0
The Crime Scene Investigators' role	1	7	16	0

Overall, this section has shed light on how victims perceive forensic evidence and specifically whether they hold unrealistic expectations of forensic evidence and investigations. Based on CSIs perceptions about whether victims hold unrealistic expectations regarding the burglary investigations and specifically evidence collection, three categories were identified through their responses in interviews and the online survey. There were CSIs who perceived that victims have realistic expectations in general, a few who reported the opposite. Nevertheless, the majority felt that the extent to which expectations are realistic varies from victim to victim and depends on several reasons. It depends on victims' personalities, previous experience, knowledge, and on whether they watch CSI-type programmes. Also it depends on victims' understanding

of the different aspects of the investigations, which varies across these aspects as they have a different understanding of forensic evidence and the procedure of investigations. Although emphasis in the analysis was given to the unrealistic expectations, one cannot disregard the fact that there are also victims who hold generally realistic expectations or very low expectations. Moreover, the majority of the CSIs who participated in the on-line survey demonstrated that victims tend to have realistic expectations for most of aspects of the investigations. However, the frequency that victims hold realistic or unrealistic expectations cannot be determined from this specific study. Nevertheless, this study indicated that CSIs come in contact with some victims who have unrealistic expectations of forensic evidence and investigations.

The analysis considered whether victims hold unrealistic expectations regarding several aspects of the investigations as identified in the two quantitative studies of Stinson, Patry and Smith (2007) building further on understanding unrealistic expectations. Irrespective of their source, these unrealistic expectations are in line with what the CSI effect literature suggests; victims can hold unrealistic expectations regarding the availability of evidence, the ability of evidence to lead to the offender and the collection of forensic evidence as the Strong Prosecutor's effect, the Defendant's effect and the Victim's effect suggest respectively. Moreover, unrealistic expectations about the availability of evidence seem to become more prevalent in cases with a negative result, namely when no or less evidence is recovered. This was a very interesting finding as a negative outcome is not uncommon in reality while the majority of the interviewees and the participants of the online survey (table 42) perceive that some victims believe that less evidence is recovered than available and useful. The interviews revealed that a negative outcome can reinforce this belief of the victims. All these topics will be further discussed in comparison with the victim survey findings in chapter 10.

Moreover, victims can hold unrealistic expectations for other aspects of the investigation related to the time needed to conduct the forensic investigations and solve the crime, the use of the sophisticated techniques and the role of the CSIs during investigations. Nevertheless, the majority of the CSIs who participated in the on-line survey demonstrated that victims tend to have realistic expectations for most of these aspects. Victims seem to tend to have a better understanding of these investigation aspects compared to the availability and ability of evidence to lead to the offender, as

they accept more readily CSIs explanations. Another point made was that such expectations are reminiscent of the unrealistic depictions of TV programmes like *CSI*, which may suggest a potential connection of watching *CSI* and similar programmes with such expectations to some extent. This will be explicitly explored in the last section. However, before this, the next section considers how unrealistic expectations, related mainly to watching *CSI* and similar programmes, are reflected in victims' attitudes during investigations.

### **8.5 Victims' attitudes during forensic investigations:**

The aim of this section is to examine how victims' unrealistic expectations are reflected in victims' attitudes, and their impact on the forensic investigations. In doing so the analysis will explore the most common attitudes of victims during investigations through the experience of the CSIs and emphasis will be given to those which reflect the unrealistic expectations mainly related to watching *CSI* or similar programmes. This section helps in understanding further victims' unrealistic expectations of forensic evidence and investigations.

The most common attitude identified was related to the way that victims get involved in the investigation and interact with the CSIs. Within this category victims can either leave the CSI to get on with his/her role or can adopt the opposite behaviour namely follow the CSI around and watch over the investigation. There are some victims who will guide the CSIs through the scene, show what has been disturbed and then leave the CSIs alone to carry out the examination or 'leave you to get on [with] your role'(S4) This kind of attitude has a positive impact on the investigation according to the participants. CSIs prefer to notify the victims and explain the evidence recovered after the end of the examination. One CSI explained:

'Taking the time afterwards to go through where you've been and what you've found usually helps everyone, and can calm those that think you should have done more' (S21).

Talking is perceived as a positive behaviour when it is about what has happened, since victims can mention some useful information that they did not think that relevant for the investigation. Also, some of the participants mentioned that it is fine when victims like

to observe the examination asking clever questions because they are genuinely interested about the forensic investigation.

In contrast, when victims ‘follow the CSIs around and watch them closely’, this is perceived as having a negative on the investigative process by the majority of the respondents. The reason is that this is very distracting, which can result in missing some evidence or slowing down the examination. One CSI explained:

‘It needs a bit of concentration to do our job. It is quite difficult to remain concentrated if somebody asks constantly questions all the time, with constant references to CSI’ (I1 5/3/2015).

or

‘The most distracting behaviour is when a victim hovers over you to see what you're doing while you are working, as this slows the examination’ (S2).

More specifically victims who exhibit this behaviour tend to ask repeated questions about the CSI role, pointing out things that the offender might have touched or even touch the evidence.

‘Type 2 victim has a tendency to be very hands on, either picking up evidence despite you asking them not to, and following you round the scene pointing out everything (often in a random order) that they believe you should examine. These can be an issue, as you have to take time to constantly explain what you are doing, why you can't examine certain areas and answer lots of questions’ (S21).

Also, these victims tend to ask unrealistic questions about the evidence or try to tell to the CSIs how to conduct their job by making reference to *CSI* TV programmes (S17). Another CSI explained:

‘Occasionally victims follow me around and keep asking unrealistic questions like getting a fingerprint off carpet even though I have already explained the process. This obviously slows me down and could potentially miss stuff’ (S23).

Sometimes these victims may even challenge the knowledge or experience of the investigator. For example:

‘Yes, because you always get the comment; “it is just like CSI isn’t it? I have seen that on CSI, they do that on CSI, can you do this now?”’ (I5, 11/3/2015).

or

‘Yes, people want to know why you do something or not because mainly of the TV, e.g. why you do not wear the white suit? Or expect fluorescing the house...People occasionally think that they know more things than the CSIs, e.g. one told me that I should have looked at this, are you not DNA-ing this?’ (I2, 6/5/2015).

Another one commented:

‘I was challenged after I’d completed a scene, where the occupier had recovered glass from a smashed window with blood on it. I had already recovered blood from the safe door, which would link a suspect to the safe, and would forensically place them inside the scene. The smashed glass would only suggest who may have smashed the window, and not necessarily put them inside the scene. I decided not to re attend and pick up the glass. I completed a statement for the case, interpreting the blood patterns, and the suspect gave a guilty plea. The occupier was contacted randomly to give his feedback about his experience and gave negative feedback as I didn’t pick up the glass, even though the burglar was caught and convicted due to my attendance’ (S5).

Telling lies was mentioned by a few CSIs as victims' common attitude, which has an obvious negative effect on the investigations. Victims may even manufacture a burglary either because they want to get a compensation or because they are burglars themselves and they are interested in knowing how the CSIs will conduct the forensic investigation in order to learn their techniques and avoid future detection (I1 5/3/2015; I6, 17/3/2015). Also, there are instances where victims tell lies because the burglary happened due to their negligence so as not to lose the compensation from their insurance company (I6, 17/3/2015).

Interestingly it seems that there are victims who are ignorant or underestimate the ability of forensic evidence to lead to the offender. This is opposite to victims' unrealistic expectations according to which victims have an over belief in the ability of evidence to lead to the offender (as described in the previous section). Manufacturing burglaries or telling lies about the point of entry indicates that there are also victims who do not understand the ability of evidence to explain how a crime took place while this topic was not identified in the previous section. Nevertheless, the existence of these types of attitudes broadens the concept about unrealistic expectations of forensic evidence to encompass the opposite scenario which is ignorance of the ability of evidence.

Another category of victims' attitudes was related to victims' emotions which can have a positive or negative impact on the investigations. For example, CSIs perceive a positive attitude when victims feel grateful for having a CSI attendance 'victims are thankful to see us' (S17). However, most of the burglary victims feel upset due to the traumatic effect of the burglary, which can negatively affect the investigation. One CSI mentioned:

'Some victims are emotionally upset or angry and consequently more time is spent trying to help and reassure them' (S5).

However, CSIs seems to understand this as a normal attitude due to the traumatic effect of the burglary and it is within their role to deal with it. Upset is more manageable for the CSIs while anger can be frustrating as they are only trying to do their job. Moreover,

victims' emotional states do not have always a negative effect on the investigation as one CSI explained:

‘Most people are upset and shaken, but are calm and will respond to reassurance and advice’ (S2).

The final common attitude was related to victims' actions prior the arrival of the CSI in regards of preserving evidence and the crime scene. Tidying up or not preserving evidence has an obvious negative impact on the investigations, as investigators are not able to examine the crime scene and useful forensic evidence may have been destroyed. This attitude was attributed either to the fact that victims received incorrect preservation advice from the police or that they did not want to bother the police. Sometimes also, it is difficult to preserve some forensic evidence for instance shoe marks on the floor. Most of the interviewees mentioned that although victims usually will not clean the whole crime scene, they will not preserve specific evidence. Interestingly, this was the first time that a victim attitude with a positive effect on the investigation was associated with watching *CSI* or similar programmes. One participant explained:

‘Regarding cleaning up, people did this more in the past. So this is a good point of *CSI*. “I watch *CSI*, so I have not touched anything”’  
(I1 5/3/2015).

All of the participants agreed that some of the negative attitudes are attributable to watching *CSI*-type programmes. More specifically, ‘following the CSIs around’, ‘watch the CSIs and questioning or challenging them’ have been associated to some extent to unrealistic expectations and to watching *CSI* or similar programmes. According to the participants, these negative attitudes were attributed to victims' beliefs that *CSI* or similar programmes are realistic, their lack of specialised knowledge and the fact that the victims mention these TV programmes during investigations. These attitudes are distracting, not helpful, can slow down the examination and potentially lead to miss evidence, having a negative impact on forensic investigations. It is not clear whether these negative attitudes have an emotional impact on the CSIs, for example, strain or irritation, but two CSIs said that the asking of repeated questions to examine items can

be annoying and the anger of the victims towards them is frustrating. Huey (2010) found that only a few investigators experienced a type of strain but most of them felt that this is within their role and that they were able to manage it. Unfortunately, this issue could not be explored further, as the question regarding the impact on the investigators was excluded from the online survey by the CSI manager. Nevertheless watching *CSI* may have a positive impact, as it educates the victims regarding the importance of preserving evidence by avoiding the cleaning of crimes scenes. This is reminiscent of the producer's effect which holds that the show raises public awareness about forensic science and has an educational effect on the public and juries (Cole and Dioso-Villa, 2009).

The previous discussion explored how CSIs perceive victims' expectations of forensic investigations and evidence, and specifically whether victims hold unrealistic expectations and how these unrealistic expectations are reflected in victims' attitudes. It was demonstrated that CSIs come in contact with victims who have unrealistic expectations of forensic investigations while some of these attitudes during investigations reflected these unrealistic expectations and were attributed to watching *CSI*. The next section evaluates these perceptions of the CSIs about victims' unrealistic expectations and attitudes. This is important in order to understand better victims' unrealistic expectations, because this topic was examined in the previous discussion through the perspectives of the CSIs without asking directly the victims.

### **8.6 Evaluation of CSIs' perceptions about victims' expectations/attitudes:**

The way that the CSIs understand victims' expectations or attitudes and perceive them as being closer to reality or not seems to depend on several reasons, including CSIs' individual characteristics and attitudes (related to managing expectations), language issues, victims' characteristics, along with the interactions of CSIs' and the victims' characteristics. This theme emerged through the interviews and the discussion that follows presents these reasons, identified in the data.

The first reason is related to the attitudes of the CSIs. As some CSIs reported, they try to explain immediately to the victims the different aspects relevant to investigations e.g. the ability of forensic evidence to lead to an offender, or the CSIs role. Reasonably, by acting in this way CSIs cannot be sure about whether victims' expectations are realistic

or not regarding specific aspects of the investigation. Moreover, this CSIs' attitude can also imply that they believe that victims have unrealistic expectations so they have to manage these expectations from the beginning.

Another factor that can affect CSIs perceptions on victims' expectation is language, which can be a barrier to understanding in a multicultural context. Victims seem to hold unrealistic expectations but the reason can be that they just do not understand CSIs' explanation due to language issues, as one CSI stated:

‘One of the big thing that we have is a multicultural society in ... There are always communication/ language concerns. It is very hard the times when you tell, you have a family of 5-6 people and only two or three will speak good English. And you try to tell them that the burglar wore gloves, so you do not get any fingerprints and they say yes, and then they say but they touched that and they go through all the house’ (I6, 17/3/2015).

The gender of the investigator especially in relation to specific religious group seems also to affect the way that the CSIs perceive victims' expectations. Especially male victims within specific religious or ethnicity groups e.g. there were reported examples of Muslims and Indians asking female CSIs to recover more evidence or questioning why they do not recover some evidence. One participant gave the following answer as an example of unrealistic expectations:

‘You do get quite often in Asian houses they ask you to fingerprint absolutely everything, generally the Muslim households and it is generally the males but I do not know if it is that because religion comes to that a bit maybe. They want you to fingerprint absolutely everything, so they touch this and that (3 times) and you have almost explained for every single item why you are not examining it ... Sometimes it is a constant barrage of questions of why you are not doing something ...’

She went on, mentioning the frequency of meeting victims with unrealistic expectations:

‘It is massively frequent, I would say probably not that [frequent] but it is very frequent with certain religious groups. It is just different cultures. This attitude within certain religious groups was reported by some participants and this issue is also mentioned by other female colleagues during the CSI meetings in the office’ (I5, 11/3/2015).

However, the above example implies that it is not clear that male victims within certain religions or ethnicity hold unrealistic expectations. They may demonstrate attitudes similar to those holding unrealistic expectations mainly because they do not trust that women can be effective as well in this job, due to their religion or culture.

The experience and age of the investigators can affect also the way that they perceive victims expectations. Victims feel less confident with CSIs who have less experience, which leads victims to question or challenge their ability. Thus, questioning or challenging is not necessarily driven by victims’ unrealistic expectations, but possibly by the lack of confidence. One participant reported:

‘I have some examples (of unrealistic expectations) probably when I was much younger I had quite a few people questioning my experience because I was not fingerprinting everything. You do get sometimes “How long you have been in the job, why you do not do this and this?” ’ (I5, 11/3/2015).

She went on mentioning that this happens even now, as she looks younger:

‘Yes I had people questioning or challenging me, I suppose I do get this more regularly than a lot people because I look younger than I am, so they think that I have no so much experience, so they are usually quite shocked when I tell them that I’ve got 8 years’ (I5, 11/3/2015).

Another participant recognised that victims' unrealistic expectations were more prevalent when he was younger with less experience, but he explains how he manages with it:

'It is not so frequent –finding victims with unrealistic expectations- because I am experienced and it has to do with the CSI's personality, it could be also age and gender. I can compare this with when I was younger. More people approached me. You learn how to deal with it. You can sense this. Some people start following, so you feel this and you manage the expectations' (I2, 6/3/2015).

The CSIs' personality also plays an important role in the way that they perceive victims expectations. CSIs with stronger personality tend to put more restrictions to victims' behaviours and as a result victims negative behaviours or unrealistic expectations may not become prevalent. One participant stated:

'On occasion I had to stop a victim and say: "with the greatest respect I have got 15 years of experience, I know how to do this, the best thing that you can do is let me do my job." You have to be a quite strong personality to do our job. You have to be able to manage a scene, able to instruct people on what you want in order to get the best out of a scene. Sometimes you need to explain what you require from a victim to do' (I1, 5/3/2015).

or

'It is important how they interact with you as a person, if they feel confident with you' (I2, 6/3/2015).

Consequently, CSIs with stronger personalities will not come so frequently across victims who hold unrealistic expectations as they manage to deal with these expectations before they become prevalent.

This theme highlights the importance of considering CSIs' individual characteristics and attitudes along with their interactions with the victims in order to better understand how the CSIs perceive victims' expectations and attitudes. The way that the CSIs understand victims expectations or attitudes and perceive them as being closer to reality or not seems to depend on whether CSIs provide immediately explanations to the victims about the different aspects of the investigations, language issues, the gender of the investigator in relation to specific victims' religions or ethnicity, age, experience and personality of the investigator. Due to the fact that this study asked the opinion of the CSIs regarding victims' unrealistic expectations and attitudes, one should consider all these factors in an attempt to understand better victims' expectations. It seems that the extent that victims' expectations are realistic or the prevalence of the unrealistic expectations as perceived by the CSIs differs when these factors are present. Although CSIs as experts in their field who come into contact with victims they can evaluate whether a victim holds unrealistic expectations of forensic investigations, their perceptions can be influenced also by the abovementioned factors. These factors can also conversely affect victims' perceptions of the ability of the CSIs to conduct the investigation and specifically recover evidence and should be examined by future research when assessing victim satisfaction with the CSIs. With this point in mind and having found that CSIs come in contact with victims who have unrealistic expectations to some extent and are reflected in their attitudes, the next section examines where they come from.

### **8.7 Source of unrealistic expectations:**

The aim of this section is to explore the potential source of victims' unrealistic expectations as perceived by the CSIs. The CSI effect theory proposes that viewing *CSI* and similar programmes is the main source of the unrealistic expectations about forensic evidence. Studies on the impact of the CSI effect on jurors' verdicts supported the idea that forensic fiction television shows can affect, to some extent, the way that jurors perceive forensic evidence by either creating an unrealistic expectations or unrealistic amount of faith in the forensic evidence ability to identify the perpetrator. Nevertheless, this extent is not clear due to methodological inconsistencies among these studies while other potential sources of these perceptions apart from crime shows were not examined with the exception of one study. Kim, Shelton and Barak (2009) suggested that the source of expectations can be attributed to individual characteristics, and other relevant

sources about science and forensic technology along with *CSI* dramas. Thus, they concluded that a 'Tech effect' is a more possible explanation for the origin of the expectations since the advances of technology combined with the increased public awareness about forensic science in recent years influences jurors' behaviour and verdicts rather than *CSI* viewing alone as the CSI effect hypothesises. It is worth mentioning that as no other study examined the Tech effect, this thesis utilises the CSI effect throughout rather than the broader Tech effect. However, the Tech effect is considered in the analysis of this section, as this section examines the CSIs' perceptions about the potential sources of victims' unrealistic expectations of forensic evidence.

On the contrary, research on legal personnel found that legal professionals attributed jurors' unrealistic expectations to viewing *CSI* or similar programmes (Maricopa, 2005; Robbers, 2008). Similar to the legal practitioners' perceptions of the CSI effect, the only three existing studies on police and forensic investigators demonstrated to some extent that police personnel believe that the public and victims hold unrealistic expectations about forensic evidence due to *CSI* and similar programmes. Based on these findings this section examines whether the participants of this study attributed unrealistic expectations to watching *CSI* or similar programmes.

Regarding the source of the unrealistic expectations, there was a general consensus among the participants. Almost all the CSIs who took part in the interviews and in the online survey identified TV programmes such as *CSI* as the primary source of victims' unrealistic expectations. Apart from one, all the CSIs who took part in this study used the words TV or *CSI* programmes as the potential source of unrealistic expectations. One respondent explained how TV programmes glamorises the CSI job:

'TV programmes do glamorise the job and they always find evidence and catch the offender. They have technology not available to us and the offenders on TV are always a lot dumber than in real life who know to wear gloves' (S23).

Moreover, several participants reported that some victims sometimes make references to *CSI* or similar programmes which depict the use of forensic evidence during the investigations. For example, one CSI conveyed the words of a victim:

‘I remember on East Enders they said they found prints on a steering wheel and on CSI on a filthy engine’ (S14).

It is worth mentioning that some CSIs made use of the term ‘CSI effect’ as the source of these expectations. Along with *CSI* programmes on TV, media, books, Internet and films were also reported as potential sources of these expectations. A few respondents gave emphasis on the fact that victims do not have specialised knowledge about forensics and as their only available source is the distorted depictions of it in media, it leads to the creation of these unrealistic expectations. One participant stated:

‘Through a general lack of understanding and as a result of the televised CSI effect’ (S24).

This is in line with the argument that media’s representations play an important role in the formation of this knowledge of the average viewer, who is likely not have actual knowledge about law, crime and forensic science (Mawby, 2003; Hayes and Levett, 2013).

However, a few participants attributed the source of these expectations to a combination of watching *CSI* programmes and victims’/ families’ hope that someone will be caught or the fact that victims feel distressed and therefore they cannot think clearly. A CSI mentioned:

‘Possibly from the media or television. It is a common misconception that forensic officers will locate fingerprints, DNA, fibres etc. on every item, every time. I also think in this instance she was distressed at what had happened and was too focussed on finding the culprit to think clearly’ (S21).

Another example:

A burglary victim when she realised that there was a burglary in the house, she called the 911 which the American emergency number instead of the British one. The victim later explained to the CSI that

she loved watching CSI or similar programmes and she was so distressed that she confused the emergency number and it took her a while to realise this. (I3,11/3/2015)

This is a very interesting finding as it suggests that victims' emotional state plays an important role, as victims are not able to assess their knowledge coming from *CSI* or similar programmes when they are distressed. This will not be discussed further, as it is not in the scope of this thesis, however it requires further research. Only one participant attributed unrealistic expectations to victims' stress or trauma. Victims, they argued, are traumatised and they want to solve the crime, they may not be thinking straight and may not understand the explanations of the CSIs e.g. "Can you fingerprint this?" "Can you fingerprint that?" But it is the same surface that you cannot recover fingerprints from' (I4, 11/3/2015). Thus victims' trauma and willingness to solve their crime could also create to them unrealistic expectations or make them to behave as holding unrealistic expectations.

These findings support the idea that the primary source of the unrealistic expectations is viewing *CSI* or similar programmes, as suggested by the CSI effect theory and the studies with legal and police personnel. Interestingly, it seems that criminal justice personnel attribute unrealistic expectations mainly to watching these types of programmes when asked about the source of jurors' or victims' unrealistic expectations. Nevertheless, it is difficult to determine the real source of the expectations especially by asking only the opinion of the CSIs.

Although determining the real source of these expectations is not within the aim of this thesis, the data suggest that the origins of such expectations seem to have a greater scope than viewing only *CSI* or similar TV programmes. Other secondary sources were also identified e.g. media, Internet, victims' hope to catch the offender, mental and emotional state, or a combined effect of all the sources along with watching *CSI* or similar programmes. Thus, although it is difficult to identify a specific source one can observe a wider variety of potential sources which may be responsible for the creation of these expectations. This relates to the findings of Kim, Barak and Shelton (2009) who found that jurors' expectations about scientific evidence were affected by three factors, namely exposure to CSI dramas, individual characteristics and other relevant

sources about science and forensic technology. They also concluded that the ‘Tech effect’ which refers to the advances of technology combined with the increased public awareness about forensic science in recent years, is a more possible explanation for the origin of the expectations, rather than *CSI* viewing alone as the CSI effect hypothesises. Despite the fact that the CSIs did not mention the advances of technology as a potential source, some of them mentioned a wider variety of sources along with watching *CSI* or similar programmes which suggests that the origins of these expectations have a wider scope. This study also indicated that, especially when considering victims’ unrealistic expectations, the role of their emotional state is worth further consideration in the formation of these expectations or as potential source of them.

### **8.8 Conclusion:**

This chapter explored how victims perceive forensic evidence and specifically whether they hold unrealistic expectations about evidence and investigations, aiming to understand victims’ unrealistic expectations, discussing also how these are reflected in victims’ attitudes and their potential source, through the CSIs perspective. The chapter was divided into four sections. The first section indicated that although the degree to which victims’ expectations are realistic varies and depends on several reasons, it seems that CSIs come in contact with some victims who have unrealistic expectations of forensic evidence and investigations. Moreover, several types of unrealistic expectations reflecting different aspects of the investigations were explored and found to be in line with the CSI effect literature suggestions, bringing to mind the unrealistic depictions of TV programmes like *CSI*. This may suggest a potential connection between watching *CSI* and similar programmes with such expectations. Interesting findings emerged regarding the role of the negative outcome (i.e. when no or less forensic evidence is recovered) in relation to the prevalence of victims’ unrealistic expectations about the availability of evidence and victims’ beliefs that less evidence is recovered than available and useful.

The second section examined how unrealistic expectations are reflected in victims’ common attitudes and their impact on the investigations. This topic helps in understanding further the concept of unrealistic expectations. It was argued that some of the victims’ attitudes during investigations were driven from unrealistic expectations, which were attributed to watching *CSI* or similar programmes. These attitudes were

considered to have a negative impact on the investigations apart from in one area (preserving evidence), which has a positive impact. To better understand unrealistic expectations, the third section evaluated the way that the CSIs perceive victims' expectations and attitudes as being closer to reality or not, as this study explored them through the CSIs perspective. Five factors related to these CSIs perceptions were identified. It was argued that these factors should also be considered in order to understand victims' expectations, as it seems that the extent that victims' expectations are realistic or the prevalence of the unrealistic expectations as perceived by the CSIs differs when these factors are present.

The final section examined the potential source of the unrealistic expectations. According to the participants the primary source of such expectations is viewing *CSI* or similar programmes, as suggested by the CSI effect literature. Nevertheless, it was argued that it is difficult to determine the precise source of the expectations, especially by asking only the opinion of the CSIs. The data suggest that the origins of such expectations seem to have a greater scope than viewing only *CSI* or similar TV programmes as other secondary sources were also identified (e.g. media, Internet, victims' hope to catch the offender, mental and emotional state, or a combined effect of all the sources with watching *CSI* or similar programmes). As identified especially when considering victims' unrealistic expectations, the role of their emotional state is worth further consideration in the formation of these expectations or as potential source of them. The findings of this chapter will be further discussed in comparison with the results of the victim satisfaction survey in chapter 10, and will be also taken into account in next chapter, which discusses the management of the unrealistic expectations and their role in victim satisfaction with the police and CSI investigation.

## **Chapter 9: Managing Victims' Expectations and the Role of Victims' Unrealistic Expectations in Satisfaction**

### **9.1 Abstract:**

The previous chapter indicated that CSIs come into contact with some victims who have unrealistic expectations regarding forensic investigations, which have mainly a negative impact on the investigations, and they attribute the source of these expectations primarily to watching CSI or similar programmes. Continuing this discussion, this chapter explores the impact of the unrealistic expectations on the way that the CSIs conduct their job, by examining how and why the CSIs manage them, and the role of these expectations in victim satisfaction with the police and CSI investigation, considering also other factors that contribute towards satisfaction. This chapter is divided into three sections. The first section identifies the techniques that CSIs employ in order to deal with these expectations by considering whether the management of expectations is perceived as a change in the job of the CSIs and the importance of managing such expectations. As indicated in chapter 1 (CSI effect literature), if CSIs have to change the way that they conduct their job by taking extra measures in order to deal with these expectations, this would support the existence of a new CSI effect, which is similar to the Weak Prosecutor's effect. This section suggests that CSIs' perceptions of the importance of managing these expectations imply a potential link for the effect of unrealistic expectations on victim satisfaction. This is further discussed in the second section, which examines the role of unrealistic expectations about the investigative process and forensic evidence in victim satisfaction with the CSIs and police. The final section considers the factors that contribute to victim satisfaction with the police investigations, assessing the role of unrealistic expectations among these factors.

## **9.2 Management of expectations:**

According to the Weak Prosecutor's effect criminal justice personnel perceive that *CSI* or similar programmes create unrealistic expectations of forensic evidence to jurors, and for this reason they have to change the way that they conduct their job by taking extra measures in order to mitigate jurors' expectations for the presence of forensic evidence at trials and secure convictions (Cole and Dioso-Villa, 2009). Empirical studies support the existence of this effect (Maricopa, 2005; Robbers, 2008). Chapter 1 argued that similar to the Weak Prosecutor's effect, a new *CSI* effect related to the CSIs' job might exist, referred to as the *Investigator effect*. According to this new effect, CSIs may also feel that they have to change the way that they conduct their job (by adopting some techniques) in order to manage victims' unrealistic expectations due to watching *CSI* or similar programmes and potentially make the victims feel satisfied. To date there are very few studies on this topic. Two studies found some evidence, which suggests that forensic and law enforcement personnel believe that their job is affected by victims' unrealistic expectations due to these programmes to some extent (Stinson, Patry and Smith, 2007). Unlike the majority of police officers, most forensic investigators perceived that such programmes have changed the way that they conducted their job and interact with the public. Nevertheless, these studies are quantitative and consequently do not provide any further explanations for this effect on the job. Another study identified three strategies that forensic professionals employ in order to manage victims' expectations in relation to those perceived as coming from media sources (Huey, 2010). The first strategy was appeasement; 'police members seek to silence potential or real evaluations and/or complaints about their performance by responding to, or pretending to respond to queries and demands as means of giving citizens the impression that they are doing everything to solve a case' (Huey, 2010: 60). Secondly, CSIs can perceive managing the expectations as an opportunity to educate the victims about reality of policing procedures. The last strategy is related to resorting to professional authority, where CSIs refer to their expert status to deal with unrealistic expectations. However, Huey's study does not address the question of whether the management of expectations could be perceived as a change in the job of professionals.

Another issue related to the management of expectations is collecting more evidence at the request of the victim. This is mainly supported by anecdotal accounts and one existing study which suggested that CSIs change the way that they conduct their job by

collecting more evidence at the request of victim due to the CSI effect (Makin, 2012). For this reason, this research explores how CSIs manage unrealistic expectations, focusing mainly to those attributed to watching CSI or similar programmes. Having demonstrated in the previous chapter that CSIs come in contact with victims who hold unrealistic expectations about forensic evidence and investigations due to watching *CSI* or similar programmes, this section explores the impact of such expectations on the way that the CSIs conduct their job. More specifically, it examines how and why the CSIs manage victims' unrealistic expectations. In doing so, it will discuss firstly the importance of managing expectations and whether managing expectations is perceived as a change in the job.

All of the CSIs recognised the importance of managing unrealistic expectations. Some participants mentioned that this is important in order to avoid disappointment with the outcome of the investigation. One CSI explained:

‘If they are suggesting very unrealistic, lengthy or costly things for me to do then I need to explain to them so they are not left expecting that I will definitely get a positive result from the evidence seized to later be left feeling very disappointed and let-down’ (S8).

Other participants perceived that dealing with unrealistic expectations is important for making the victims feel that they received a good a service, for raising confidence with the police and avoiding disappointment with the police or CSIs, potential official complaints, and future negative attitudes towards the police. Most of these reasons are well reflected in the following quote:

‘Firstly, as a matter of professional pride you want to leave that scene knowing that the victim feels you've done as much as you can to help. Second, your examination may have an effect on how they view the police in general (we all wear the uniform after all). Third, if they feel you've not done a good job they're less likely to report a crime in the future. They may even tell many other people which could mean they also have a negative attitude towards the police’ (S21).

All these reasons are associated with victim satisfaction and others mentioned words like ‘Yes - customer service’ (S17) or ‘ It’s what the force wants us to do. Victim surveys etc.’ (S22), while some participants mentioned explicitly the importance of the management of unrealistic expectations in order to avoid dissatisfaction. For example:

‘Yes, because victims may become disappointed otherwise and be unsatisfied with a job which was otherwise well carried out. This is avoidable by being open and honest and managing these expectations’ (S11).

A general impression from the data is that the CSIs try their best to show to the victims that they provide a good service so as to avoid complaints, and some of them seem to understand that the management of these expectations is within their role. There were several comments about this within their answers regarding the management of the expectations and some of them perceive the victims as customers who require a professional approach or satisfaction with the service. This is consistent with the argument that police investigations are a service and victims are considered to be consumers of the criminal justice system (Mawby, 2007) and further justifies the applicability of the expectancy disconfirmation model (EDM), used in this thesis.

Most of the participants felt that they do not have to change how they conduct their job but they have to change the way that they communicate with the victims, by mainly providing more explanations about the investigation and evidence or adapt to the victims communication level in order to manage unrealistic expectations. For most of them changing the way of communicating with the victims is perceived as a change in their job while for others this does not constitute an issue as it is a part of their role. However, a few of them felt that they need to change also the way that they conduct the investigations by examining items that will yield no results only to show victims that they tried instead of providing only explanations. To the extent that changing the way of communication with the victims is perceived as a change in the job along with the cases where the CSIs change the way that they conduct their job gives supports for the existence of an effect similar to the Weak Prosecutor’s Effect (Cole and Dioso-Villa, 2009). Irrespective of whether managing expectations is perceived as a change in the job or not, all of them felt the need to adopt some techniques in order to deal with

victims either low or unrealistic expectations. Based on the data the following six techniques emerged:

### **9.2.1 Communication Skills:**

#### *i) Adapt communication*

Some of the participants reported building a good communication, and especially adapting the communication to the victims' emotional state, personality and expectations play an important role when dealing with expectations. There were several comments affirming this argument such as 'I tend to gauge how the victims are on first approach and change my approach and conduct accordingly' (S20) or 'You learn to adjust your communication style to the individual' (S18). Another respondent explained in more detail how the communication should change in accordance to victims' characters and state:

'The most important aspect of the examination is about how you communicate with the victim and how you act according to their attitudes and emotions. Once you're experienced, examining a burglary is very straight forward, so that part is easy. The harder part is making sure the victim understands what you're doing, and that you are sympathetic and professional. ... For example, some victims can be distressed or upset and this requires a more compassionate approach. Other victims are pragmatic and make light of an otherwise unpleasant experience and appreciate a more friendly upbeat manner' (S21).

Although adopting this technique as a mean to manage expectations was mentioned explicitly by some CSIs, it underlies all the other techniques that are presented here.

#### *ii) Providing more explanations of the investigation process and the evidence recovered*

Almost all the participants mentioned that they have to take time to provide some explanations prior, during or after the investigation regarding the investigative process and evidence recovered. The CSIs have to explain their role, why they are there, what they can do or not do and why, the investigative process, their reasoning and actions

and how exactly the evidence recovered can help the investigation. As one participant commented:

‘All these are in accordance with a set of ‘service standards’ that the police force adopted in order to deal with victims expectations’ (S4).

Such explanations constitute the most common technique to manage victims’ expectations. Moreover, for some participants it is important also to provide explanations about the forensic portrayals on TV. In this way they educate the victims by explaining that ‘crime dramas are fiction based on some part of the real world and some are what we would all like to happen, given time and endless money’ (S10) and that offenders have learned how to avoid detection due to these TV programmes (I1, 5/3/2015). Another participant emphasized how providing explanations of the procedure can be helpful in dealing with the disappointment coming from unrealistic expectations due to *CSI* programmes:

‘I ensure I take time to explain what I am doing and what my next steps will be. This provides clear guidance and allows me to manage any unrealistic expectations immediately. This therefore prevents the victim feeling disappointed if I do not undertake a task they felt was available and often allows for a chance of light hearted commentary at *CSI* programmes and helps improve the mood of the victim’ (S18).

Providing such explanations is consistent with the second strategy mentioned in Huey’s study (2010) where some CSIs perceived managing the expectations as an opportunity to educate the victims about reality of policing procedures. Nevertheless, it seems that the CSIs in this research perceive these explanations as an opportunity to inform the victims about the investigative procedure rather than as an opportunity to educate, apart from the explanations regarding the forensic portrayals on TV. This technique was also the most commonly identified in the study by Stinson, Patry and Smith (2007) when they asked the forensic investigators how television crime dramas affect the way that they interact with the public.

### **9.2.2 Demonstration:**

If providing explanations does not work and the victims insist on asking questions, some CSIs adopt the technique of visual demonstration to prove their points. One CSI reported:

‘if someone is adamant I should be able to find a fingerprint on a particular surface and I don't, at the end of the examination I'll put my own fingerprint on the surface and demonstrate that it's either a rubbish surface for marks, or that it's a great surface for marks but there just weren't any (glove used, or not handled etc.)’ (S13).

or as another participant explained:

‘I explain as fully as I can exactly what we do and how we do it as well as what we can't do. I also demonstrate sometimes by asking them to place a finger on an object and showing that it either will or won't come up with powder’ (S12).

This technique is similar to appeasement as CSIs use it mainly to silence victims' negative evaluations. However, one could also consider this as an opportunity to educate victims about the suitability of surfaces to recover evidence.

### **9.2.3 Authority:**

One of the interviewees explained that he prefers to state his authority or expert status to confront unrealistic expectations. As he stated:

‘People want to solve the burglary so they press the CSIs; “Have you seen this? Have you done that?” they think that they know the same as the CSIs. When you see this situation you try to control it quite quickly. I may tell them; what job do you do? “Butcher”, I do not know anything about butchery but I am a CSI’ (I2, 6/3/2015).

This was the only case found to explicitly use this technique as a means to confront unrealistic expectations. However, several participants mentioned that victims recognise their expert status and consequently they accept their explanations. One CSI mentioned:

‘Once I have explained the reasons for what I am doing, I feel victims accept my explanations as a professional person’ (S2).

This technique is the same as the one identified by Huey (2010) who found that some investigators had to resort to their expert status in order to avoid future complaints or to shut down victims’ opposition for the way that the investigation was conducted.

#### **9.2.4 Search for more evidence (mainly at the request of the victim):**

Some of the CSIs resort to searching for more evidence instead of providing only explanations. More specifically they examine more items mainly because the victims requested this, despite the fact that they feel confident that these surfaces will not yield any results. One participant stated:

‘You end up examining items you wouldn't otherwise do because they think they know better than you due to a TV programme’ (S14).

The CSIs employ this technique because they desire to show the victims that they are really making an effort in conducting the examination. A CSI mentioned:

‘Many examinations lead to nothing, but if you can show them you've done everything you can, it leaves them with a positive impression. For example, you may actually examine some items you know aren't going to yield results because it will help the victim to see that you've tried rather than just telling them’ (S21).

Another CSI commented:

‘When victims watch, I will powder things that I KNOW will not give a result, just to show them I am actually trying. A lot of what we do is a PR exercise’ (S12).

Also this technique can be used directly instead of providing an explanation since it works better and saves time. A CSI explained:

‘It may only take a extra minute or two and usually means that the victim will be left feeling happier and satisfied that I have listened and completed a good examination’ (S7).

Or only to keep the victims positive:

‘Sometimes I am searching for more. I examined some things and I knew that will not give me something in order to keep positive the victim. E.g. when you find glove marks you know that they are not fingerprints but you do more’ (I2, 6/3/2015).

This technique is also similar to appeasement (Huey, 2010) as CSIs demonstrate that they do everything possible to solve the case by responding or pretending to respond to victims queries in order to silence potential evaluations or complaints.

#### **9.2.5 Collecting evidence which is not useful for the investigation, at the request of a victim:**

A few CSIs reported that they collect evidence at the request of the victim even if it is unlikely to be useful for the investigation. However, many of the respondents mentioned that they do so occasionally or rarely, depending on the situation or ‘occasionally as a PR exercise’ (S5). Also, most of them had heard stories where other CSIs adopted this technique. Those CSIs who made use of this technique justified their decision by highlighting the circumstances that they used it and its benefits. The advantages of this technique are that it does not take too much time compared to getting into lengthy discussions and that it is likely to satisfy or appease the victims, allowing them to feel that the CSIs have investigated fully. Consequently, some CSIs who employ this practice explained that they do so when the victim is very negative or persistent. Moreover this technique helps in avoiding victims’ complaints to a higher authority for not collecting evidence. One participant stated:

‘We all take it, rather than face the discipline investigation which results from the complaint being received’ (S20).

and another one mentioned:

‘Because they have always complained to a higher authority when I have decided to not collect the item’ (S10).

This technique can be beneficial when victims are particularly upset because it gives hope, as one of the interviewees stated:

‘I have done it occasionally, but I try not to do. If somebody is really upset. Yes. I think that sometimes it is just giving to them a little bit of hope, a little bit of positive out of it’ (I4, 11/3/2015).

Similar to this, another CSI explained how the use of this practice is within the CSI role and helps in cases where victims are vulnerable or there is a negative outcome:

‘Our role is not just to find evidence but to help the public. In cases such as the victims are elderly and vulnerable victims or if you are leaving with very little evidence it may be suitable to recover items to provide hope and reassurance’ (S18)

Speaking about adopting this technique was a ‘taboo’ topic during the interviews, as the impression was that some participants were uncomfortable when asked directly. All the interviewees made clear that they never used this practice and only one admitted to using it occasionally. Nevertheless, almost all of them had heard stories involving other CSIs who used this technique. The data coming from the survey shed more light on this topic, probably due to lack of interaction of the participants with the researcher or the anonymous nature of the survey. Almost all the respondents who used this technique felt the need to explain either that they do so occasionally or rarely or provided some justifications for the use of it. However, the CSIs who do not employ this practice, prefer to justify their reasoning for collection or not of evidence by providing

explanations and they heavily criticized this practice for being unprofessional and raising the expectations of the victims.

These findings affirm that there are CSIs who collect evidence at the request of the victims, which is not useful for the investigation as suggested, by the anecdotal accounts and Makin's study (2012). Makin found that 33% of the respondents would collect evidence at the request of the victim. The most common reason was that the CSI effect influences the decision of the investigator, especially in property crimes where evidence is collected for PR purposes. Also, this can keep the victims satisfied or avoid complaints as they have very high expectations due to *CSI* or similar programmes, especially in smaller communities. Similar to Makin's study, this research found that CSIs collect evidence not useful for the investigation at the request of the victim to appease negative victims, avoid complaints and keep them satisfied. However, CSIs adopt this technique also to keep positive the victims by giving the some hope.

Finally, most of the participants believed, it is not difficult for them to deal with the unrealistic expectations, apart from a few cases where victims are very adamant or upset. This may imply that after leaving the crime scene most of the victims have realistic expectations since CSIs are able to manage with these expectations. This was directly argued by the interviewees. Whether victims hold more realistic expectations after the investigations was further examined in chapter 5, where victims' expectations were measured directly after the investigation of their crime. It will be interesting to determine whether victims obtain more realistic expectations after their contact with the CSIs, as the participants of this study implied and the interviewees suggested. This topic will be discussed in chapter 10 by considering the results of both studies.

In summary, this section identified several techniques that CSIs adopt in order to manage victims' expectations. These techniques had elements of the three strategies as found by Huey (2010). Providing such explanations about the investigative process and forensic portrayals on TV is consistent with the second strategy; opportunity to educate the victims about the reality of policing procedures. Nevertheless, it seems that the CSIs in this research perceived these explanations as an opportunity to inform the victims about the investigative procedure rather than as an opportunity to educate, apart from the explanations regarding the forensic portrayals on TV. Demonstration, searching for

more evidence and collecting evidence which is not useful for the investigation, at the request of a victim are similar to appeasement as CSIs use it mainly to silence victims' negative evaluations. However, in some instances one could perceive demonstration as an opportunity to educate victims about the suitability of surfaces to recover evidence. CSIs may also resort to their expert status in order to confront unrealistic expectations.

When asked directly, most of the CSIs perceived the way to communicate with the victims firstly by providing more explanations of the investigative process and secondly adapting the communication to the victims' level and examining items that will yield no results as a change in their job. The need of the CSIs to change the way that they conduct the job, including the way that they interact with the victims in order to manage these expectations which were attributed primarily to watching *CSI* or similar programmes seem to give support for the existence of a new CSI effect, referred to as the *Investigator effect*, which is similar to the Weak Prosecutor's effect (Cole and Dios-Villa, 2009). However, adopting techniques like demonstration and collecting evidence not useful for the investigation at the request of the victim could also be perceived as a change in the job as they do not seem to be within the CSI duties, although this was not reported directly by the participants.

Irrespective of whether managing expectations is perceived as a change in the job or not, all of the participants felt the need to adopt some of the above mentioned techniques in order to deal with victims' unrealistic expectations. Thus, the impact of the unrealistic expectations on the CSIs job is that the CSIs feel the need to manage them or have to change the way that they conduct their job by using the techniques identified in this section. Moreover, all the CSIs recognised the importance of managing unrealistic expectations by employing all the aforementioned techniques in order to make the victims understand that they provide a good service, to avoid complaints, raise confidence in the police, avoid disappointment with the final outcome or future negative attitudes towards the police and make the victims feel satisfied with the CSI and police investigation. This last finding can imply that there is a potential link between unrealistic expectations of investigations and evidence and victim satisfaction with the police and that CSIs need to manage unrealistic expectations in order to avoid their effect on victims' satisfaction. Having considered the above discussion, this new CSI effect, which is referred to as the *Investigator effect*, could be defined as;

CSIs need to manage unrealistic expectations, which were attributed primarily to watching *CSI* or similar programmes, by adopting one or more techniques that change the way that they would normally and ideally conduct the job, in order to manage these expectations, aiming potentially to make the victims feel satisfied. Finally, this potential link between the unrealistic expectations and their management with satisfaction will be examined further in the next section.

### **9.3 Burglary victim satisfaction:**

#### **9.3.1 The role of unrealistic expectations in satisfaction:**

This section explores the role of unrealistic expectations about the investigative process and forensic evidence in victim satisfaction with the CSIs and police. Exploring this topic is particularly useful in order to complement the data obtained from the study of victims' satisfaction with the police (chapter 10). Most of the participants believed that these types of expectations can affect satisfaction to some extent. The extent to which unrealistic expectations affect satisfaction depends firstly on whether victims hold certain unrealistic expectations, secondly on the fact that such expectations cannot be met and thirdly on the management of the expectations. Within this group, there were CSIs who emphasized the management of expectations as a necessary condition to stop their effect on satisfaction and other participants who perceived that specific expectations can directly influence satisfaction when there is a negative result or indirectly because they cannot be met. However, a few of them mentioned that it is the performance of the CSIs, which is more important in satisfaction rather than unrealistic expectations.

Some of the CSIs believed that specific unrealistic expectations may have a direct effect on victim satisfaction. The data revealed three types of such expectations. The first type is related to expectations regarding the ability of evidence to solve the crime. Victims who have an over-belief in this ability will feel dissatisfied especially when there is a negative outcome in the investigation. One CSI explained:

‘Yes. They think that forensics will solve a case alone so if we can’t do anything they think it’s all over’ (S12).

Similar to this, another CSI explained that victims may perceive the recovery of evidence as the only way to progress the investigation:

‘Yes - sometimes it seems that a lot of pressure is put on the SOCO exam - sometimes the victim's are aware that a forensic lead is the only way the investigation will progress any further. If we leave the scene with little or no evidence, the victim will seem disappointed and therefore think the police were useless’ (S7).

Also, high expectations for the recovery of certain types of forensic evidence can affect satisfaction. One CSI explained:

‘If a victim has high expectations it depends on what we recovered, what the outcome of the investigation is, if they have high expectations they will want to have results... Those with higher expectations, they are happier if you recovered something significant like blood, DNA, fingerprints’ (I3, 11/3/2015).

The second type of expectations that can affect satisfaction is related to unrealistic expectations regarding the availability of evidence. These victims may expect that there is available evidence for recovery:

‘Definitely, if they assume you'll find something and you don't they can often feel you didn't try hard enough, or didn't think their crime was important. In reality we can't get evidence from every scene’ (S21).

The third category of unrealistic expectations, which can influence satisfaction is associated to the ability of the CSIs and the solving of the crime. For example, there are victims who believe that the CSIs can do more than they actually can:

‘Yes, because they feel that police are not doing their jobs properly if they think we can do more than is actually possible’ (S15).

or

‘Yes, if they expect the moon and we don't deliver then we get bad press’ (S13).

or

‘Yes, some will be disappointed no matter what we do’ (S18).

Moreover, victims who have unrealistic expectations about the solving of the crime will not feel satisfied with the investigation, if there is no apprehension of the offender. One participant mentioned:

‘Yes, because ultimately every victim wants their crime solved to be completely satisfied’ (S5).

or another CSI explained:

‘Yes. Its personal to them, they want 'closure' which they cannot get if no one is caught’ (S22).

These quotes may demonstrate that unrealistic expectations about the ability of the CSIs and the solving of the crime can directly affect satisfaction irrespective of the performance of the CSIs.

Secondly, some participants emphasised the fact that unrealistic expectations cannot be met, which consequently will lead to dissatisfaction. ‘Yes they won’t be as satisfied if they feel that their expectations were not met’ (S20). This links back to the concept of negative disconfirmation as explained in the expectancy disconfirmation theory, according to which, the product’s performance is lower than originally expected and the individual reports lower level of satisfaction and possibly dissatisfaction (Erevelles and Leavitt, 1992). Few CSIs highlighted that not only unrealistic expectations that cannot be met can influence satisfaction, but also they may lead to victims making an official complaint or unwilling to report future crime. One participant mentioned:

‘Yes. They may end up making a complaint due to expectations not being met’ (S23).

Another said:

‘Yes, because if we are unable to deliver on their high expectations, they may not be satisfied with the service that we provide and this can sometimes lead to them not calling us in the future’ (S16).

Thirdly, some CSIs recognised that unrealistic expectations can affect satisfaction if there is no management of expectations. Victims with unrealistic or high expectations will feel dissatisfied in cases where these expectations are not managed. In participants’ words: ‘Yes, if the expectations are not managed by those who attend’ (S19) or ‘Yes, very much so unless they are managed by CSI or other people’ (S11). Within this group, one interviewee highlighted the importance of the management of expectations in satisfaction by using all the available techniques:

‘Showing to them that you exhausted all the techniques that you have, showing care and that you provide a good service’ (I1, 5/3/2015).

Other CSIs made reference to a specific technique of managing expectations in order to demonstrate how it can prevent unrealistic expectations from affecting satisfaction. This technique was providing more explanations about the investigation process and recovery of evidence. One CSI stated:

‘[Unrealistic expectations will not affect satisfaction] if the purpose of the examination, explanation of what is being done and what if anything has been recovered is explained’ (S4).

or

‘If you are not explaining why you are not doing things they have got this idea what you should be doing and then you just leave they

are going to be dissatisfied because they think you should be doing a lot more, I think that is why it is important to explain to them why you are doing or not something' (I5, 11/3/2015).

Although most of the CSIs believed that unrealistic or high expectations can influence satisfaction, a few of them reported that it is exclusively the performance of the CSIs which is more important in satisfaction rather than unrealistic expectations. For example:

'I feel if I show the victim I have done all I can, and exhausted all techniques I have, then they will feel positively about the police. Showing someone that you care, will show them you are there to give them a good service. If they cannot be satisfied, then I would imagine this would affect their view towards the police' (S6).

Nevertheless, within this category a few participants believed that police performance plays a greater role in satisfaction than the CSI performance or unrealistic expectations. For example:

'Expectations probably play a small part... But a lot of people are more concerned with police response than they are with what we get from the crime scene. I think they are more bothered about having a police presence and police shows care about what happened to them' (11, 5/3/2015).

Or giving a result will make the victims feel satisfied:

'Police performance is more important. In a lot of cases it does not matter what the victims expect, they can want the moon, they will not get it but if the police perform, give them a result they are still satisfied, you can give them the smallest little bit of hope and suddenly they become very satisfied customers' (I6, 17/03/2015).

Also, the overall experience with the police service seems to be more important, as one CSI commented:

‘As the forensic examination is only a small part of the investigation, it depends upon the overall experience of police service as to how dissatisfied they may feel’ (S2).

For example as one participant stated:

‘Not really - people are generally aware of limitations in relation to policing and people are usually are just really happy at having had a response’ (S3).

This section explored the role of unrealistic expectations about the investigative process and forensic evidence in victim satisfaction with the CSIs and police. Most of the participants believed that these types of expectations can affect satisfaction to some extent. The extent to which unrealistic expectations affect satisfaction depends on whether victims hold certain unrealistic expectations, on the fact that they cannot be met and on the management of the expectations. Firstly, certain unrealistic expectations can have an effect on satisfaction. Unrealistic expectations regarding specific aspects of the investigation, such as the ability of evidence to lead to the offender or availability of evidence, can affect satisfaction especially when there is a negative outcome in the forensic investigation (i.e. no or little evidence is recovered). Moreover, if victims hold unrealistic expectations about the ability of the CSIs and the solving of the crime, they will feel dissatisfied, irrespective of the performance of the CSIs. Secondly, some participants emphasised the fact that unrealistic expectations cannot be met, which consequently will lead to dissatisfaction. This is similar to the concept of negative disconfirmation as explained in the expectancy disconfirmation theory, according to which, the product’s performance is lower than originally expected and the individual reports lower level of satisfaction and possibly dissatisfaction. Thirdly, unrealistic expectations can lead to dissatisfaction if they are not properly managed, using the techniques identified in the previous section. Overall, the responses about the impact of the unrealistic expectations link to the expectancy disconfirmation theory where expectations can have a double role in the formation of satisfaction. Firstly, they

predispose a consumer's response to a specific way regardless of performance and secondly consumers use them as basis for assessing performance (Oliver, 2010).

Nevertheless, a few participants highlighted that the performance of the CSIs and police is more important in determining satisfaction rather than unrealistic expectations. Within this category some CSIs mentioned that police performance and the overall experience is the most significant factor in explaining satisfaction compared to unrealistic expectations or the performance of the CSIs. The role of the performance in victim satisfaction is examined in the next section.

### **9.3.2 What contributes to satisfaction?**

As indicated in chapter 3 the review of victim satisfaction with the police literature shows that the way that victims are treated (police demeanour) and whether the police demonstrated different activities during the investigation of the crime (police behaviour) were related to satisfaction. This literature, generally supports that police demeanour is an essential determinant of satisfaction while the different actions of police behaviour produced mixed results. However, this literature examined different types of crime, ignoring the fact that victims of different crimes may have different needs. Also the role of CSIs has been neglected, with emphasis given to only limited CSI actions, mainly 'examine the crime scene' or 'search for evidence' as indicators of police performance. A study on burglary victims considered other variables like the visit and the manner of both a SOCO and CID and the time spent by each of them at the crime scene as actions that could influence police satisfaction. This research concluded that receiving a SOCO or a CID visit did not alter satisfaction with the police service. If burglary victims were satisfied or dissatisfied with the first officer's visit, then they tended to keep the same view with any subsequent visit (Coupe and Griffiths, 1999). Nevertheless, CSI actions constitute an important part of the investigation of a burglary, which need to be considered also in order to understand satisfaction with the investigation of burglaries.

For all these reasons, the aim of this section is to explore the factors that contribute to, and enhance, burglary victim satisfaction with the police and the CSIs, through the experience of the CSIs. The findings will be used in chapter 10 in conjunction with the victim's satisfaction with the police study in an attempt to understand the factors that play an important role in satisfaction.

The respondents were asked to give their opinion about what can contribute to victim satisfaction with the police and to suggest what can be done in order to enhance it. Most of the CSIs mentioned a combination of actions either related to the police or CSIs or both, which can lead to satisfaction. The following analysis will be focused on specific actions related to police and CSI behaviour and demeanour which can positively contribute in satisfaction.

#### **9.3.2.1 Police and CSI behaviour:**

A swift police response and keeping victims updated were the most frequent themes regarding police performance as having a key role in satisfaction. One CSI stated:

‘Police should follow up with them, let them know how the investigation is going, to give them some kind of closure even if the investigation is not going anywhere, to say we did this and that to show that there is a process after we visited them. I think this is where the satisfaction lies. Because they pay their taxes for that’

and went on:

‘They want quick response, they do not want to wait for hours for a police visit, so they can tidy up, show genuine interest in their crime and show that we are endeavouring to solve their crime’ (I1, 5/3/2015).

Generally the interviewees emphasized the importance of fast and prompt attendance (while also expressing concerns regarding ‘diary appointment,’ a new system adopted by their police force). This finding is consistent with the previous literature, which found that victims who perceived that the police arrived faster than expected tended to be more satisfied. Moreover, updating the case status was also related to satisfaction (Brandl and Horvarth, 1999; Coupe and Griffiths, 1999).

‘You need faster responses from the police in attending. I think it basically goes down to faster response times, we are not bad, it is the

police officers. They complain more about them than with us ‘ oh it took them two days to come, it is absolutely ridiculous’ (this is loss of faith)’

The CSI went on explaining why police do not always attend burglaries quickly:

‘I think the diary appointment is wrong... If a burglary needs an immediate response, the call taker will dispatch a police officer if it is not they will say to the victim to fix a diary appointment (it is not always the same day). Somebody should visit them as soon as possible except if the victims requested an appointment. It is the diary’s fault if they do not have a visit for 2-3 days. To my opinion this is not good enough’ (I3, 11/3/2015).

Another interviewee highlighted that victims prefer to see a police officer first:

‘Now that the rules have changed, the public do not like that we go first, they want the police there first and they like to be informed of what is going to happen next, procedure. They like to be told who is going to call them, who is attending when’ (I4, 11/3/2015).

This is a very interesting finding if one considers the study of Coupe and Griffiths, (1999) who found that burglary victims who were satisfied or dissatisfied with the first officer’s visit, tended to keep the same view after any subsequent visit from a SOCO or CID. As the first officer’s visit was from the police, they concluded that receiving a visit from a SOCO or CID did not change victims’ satisfaction with the police. However, as the interviewees indicated, policy rules can change in some police forces and consequently victims are very likely to receive their first visit from the CSIs. Although this was a very recent change at the time that this study was conducted, it reinforces further the argument that it is important to understand how the CSIs’ actions can have an impact on satisfaction.

Another theme related to police behaviour which contributes to satisfaction was the importance of giving good crime scene preservation advice, so as to help the victims, and not to lose evidence. One participant explained:

‘I have come across cases when we get they are not too happy with the police officers or because the police officers told them to sit there and not touch anything and we went the next day. So they had to sleep on the sofa and stay off the bed, that is more to do with giving them correct preservation advice from the police’ (I5, 11/3/2015).

Several participants complained that many police officers do not understand forensics and how to preserve the evidence, despite the fact that they have to attend seminars on forensics. One CSI explained:

‘About 25% of the crimes, someone has cleaned something, put clothes away from the bedroom. The police officers are guilty of that because they give wrong advice or they take something from the scene to the force for the CSIs to check. Why did you not leave it in the scene?’ (I6, 17/3/2015).

The above quote demonstrates that police officers apart from giving wrong preservation advice may contaminate evidence and consequently ‘destroy’ it.

Some participants raised again the management of victims’ expectations of forensic evidence and forensic investigations role in satisfaction, for example ‘explaining to them why and what you are doing and why you can’t do some of the things they expect you to be able to do’ (S15). Another CSI mentioned:

‘We explain what can be achieved with the evidence we recover and if we do not recover anything explain why. If officers are not attending due to its low level grading the victim still needs a story to be told’ (S23).

Another one stated:

‘Talking to the victims and explaining what you are doing and how the evidence found could be useful is important. Explaining how it could potentially link in with other crimes in the area is also important’ (S7).

Management of expectations can be an issue because ‘also some police officers and lawyers have unrealistic expectations of forensic evidence or they do not understand the time scale’ (I2, 6/3/2015). Moreover, they may even raise victims’ expectations as the following quote demonstrates:

‘Investigations really rely quite heavily on forensic evidence. Police officers use us not really say as scapegoats- this is the wrong word. If they think that the investigation does not go so far, they say we will wait to see what the forensic evidence says in order not to disappoint the victim. So a lot of the time the perception of a victim is also put on by the police officers; oh forensics will come out and they will get something so they quite heavily rely on us as well’ (I1, 5/3/2015).

Few participants believed that the actual recovery of forensic evidence or the quantity of evidence, namely ‘How much evidence you find’ (S20) can make the victims feel satisfied. One CSI mentioned:

‘Recovery of evidence contributes to victim satisfaction because they see that you recovered stuff; they are probably happier than when you go away without recovering anything’ (I5, 11/3/2015).

#### **9.3.2.2 Police and CSI demeanour:**

The way that the police officers and CSIs treat the victims is essential. Showing genuine interest, compassion and care play an important role in satisfaction. This is very well reflected in the following quote:

‘I think an examiner will always have to show their compassion and that they care. No matter how serious you may think the crime is, it could be the victims only experience of crime. You need to show them that the crime is important to you, which will show them that it will be investigated thoroughly’ (S6).

This last point demonstrates how demeanour is reflected on police and CSI actions and contributes to satisfaction. As a few CSIs mentioned: ‘I think victims are more satisfied if they perceive police to be working hard and putting effort in for them’ (S2) or ‘They want us to show genuine interest in their crime and show that we are endeavouring to solve their crime’ (I1, 5/3/2015).

Moreover, the effect of burglary on victims should also be considered, and to treat the victims appropriately by recognising their needs. One CSI explained:

‘It has been an invasion of their privacy, that is one of the main things of people who have been burgled in their house. “I am not so bothered about what is going on, it is the fact that somebody has been in and invaded my privacy” - so a lot of people say that. Ultimately they have to live there. Some people even go far comparing it with a crime like rape because it is their space that has been invaded. Somebody uninvited has come in so I think a lot of burglary victims they really want a friendly face to come in and somebody who shows them sympathy, sympathetic to their calls, you get quite a few people (not a lot) that they can be in tears and really upset, so it is your job as you do the crime scene investigation, you have to be sympathetic to that person who is in that state and when you leave you want to turn up there and make them feel a bit better, more secure and basically they’ve lost faith in human nature. You want to try to restore that because they are worried that they will try to return as well.’

She went on to mention:

“do you think they are going to come back?” In my experience if they do come back and it is rare they will come back in six months time when they know that you replaced the electrical items etc. get yourself an alarm, again in my experience a lot of people get burgled because they do not have an alarm system, the police provide window locks things like that. You do a bit to make them feel better. It comes down to the invasion of the privacy when speaking about burglary victims whereas it is like a car theft they are not as bothered, they do not lose faith in the human nature, they do not get so upset, when it is your home you do not know what to do (I3, 11/3/2015).

This quote demonstrates the importance of considering the impact of the burglary on victims, when treating the victims. Victims require a sympathetic approach in order to feel a bit better, more secure because their privacy was invaded and for this reason they lost the faith in human nature which should be restored through the police and CSI response. It may also imply that effect of burglary on victims can indirectly influence satisfaction in cases where the victims are not treated properly.

Relevant to demeanour, also establishing a good communication or interaction with the victims is vital as well as some respondents mentioned. One CSI mentioned:

‘Good communication both prior to and whilst at the scene. Attending the scene when you have said. At the conclusion of the scene exam, letting the victim know what will happen next’ (S4).

This finding is consistent with the previous literature on victim satisfaction with the police which demonstrated that victims tended to be more satisfied when the police demonstrated different actions to police demeanour (courteous or respectful, show understanding of the case, appear to be concerned, took time to listen, reassured the victim). However, the nature of the police job seems to prevent police officers from being interactive with the victims as one CSI commented:

‘More sympathetic police officers for start, more personal interaction. The police make promises that in some case they do not complete because they are busy people. In a lot of cases the police worry only about statistics and not necessarily that they do not care. A police force is not recognised on how well it reacts with the public. Police chief officers will get assessed through performance figures, it is the policy of police work’.

He went on to continue that this is not the case for the CSIs:

‘CSIs are more interactive, we seem to care more because the police go to many crime scenes and then to somewhere else, they are just reactive, because we have time to go and speak to the victims’ (I6, 17/3/2015).

This section identified the factors that contribute in victim satisfaction with the CSIs and police. Most of the CSIs mentioned a combination of actions either related to the police or CSIs or both, which can lead to satisfaction. The analysis focused on specific actions related to police and CSI behaviour and demeanour can positively contribute in satisfaction. Regarding police behaviour, the participants highlighted the importance of quick police response and keeping update the victims for the case status in order to make victims to feel satisfied. Victims need a fast and prompt police attendance and they prefer to see a police officer first. Moreover, it is essential that the police give good crime scene preservation advice in order to facilitate the victim and not to lose evidence. Regarding the CSI behaviour, the CSIs raised again the role of managing unrealistic expectations of forensic investigation and evidence in victim satisfaction. Furthermore the actual recovery of evidence or the quantity of evidence can also affect satisfaction.

This section also identified actions related to police and CSI demeanour, which can contribute positively in satisfaction. It is essential that both police and CSIs show interest, compassion and care by also considering the effect of burglary on victims in order to treat them appropriately. Establishing a good communication or interaction with the victims is vital. Most of these actions related to behaviour and demeanour were also considered by the victim satisfaction with the police literature, which supports their

effect on satisfaction. However, the discussion suggests that other factors (such as giving good crime scene preservation advice, the management of unrealistic expectations of forensic investigations and evidence, the recovery of evidence, the effect of burglary on victims) which were almost neglected by the previous literature play as well an important role in satisfaction. It is worth mentioning that when considering all the factors that affect satisfaction, unrealistic expectations still can influence satisfaction, the management of which is essential in order to make the victims to feel satisfied. Overall, these findings shed more light in understanding burglary victim satisfaction and will be used in the next chapter to complement coming from the victim survey.

#### **9.4 Conclusion:**

This chapter explored the impact of the unrealistic expectations on the way that the CSIs conduct their job, by examining how and why the CSIs manage them, and the role of these expectations in victim satisfaction with the police and CSI investigation, considering also other factors that contribute in satisfaction. This chapter was divided into three sections. The first section identified several techniques that CSIs adopt in order to manage victims expectations. This section provides support for the existence of a new CSI effect, referred to as the *Investigator effect* which is similar to the Weak Prosecutor's effect as most of the participants feel the need to change the way that they conduct the job, including the way that they interact with the victims in order to manage these expectations which were attributed primarily to watching *CSI* or similar programmes. Nevertheless, this definition can broaden to encompass other significant points made in the discussion, such as the issue of the need to change the way that CSIs conduct their job, the importance of managing expectations and its potential link with victim satisfaction. Thus this new CSI effect on the CSIs could be defined as;

CSIs need to manage unrealistic expectations, which were attributed primarily to watching *CSI* or similar programmes, by adopting one or more techniques that change the way that they would normally and ideally conduct the job, in order to manage these expectations, aiming potentially to make the victims feel satisfied.

This potential link between the unrealistic expectations and their management with satisfaction was examined further in the second section, which explored the role of unrealistic expectations about the investigative process and forensic evidence in victim

satisfaction with the CSIs and police. It was argued that these types of expectations can affect satisfaction to some extent. This extent was related firstly to certain unrealistic expectations (about the ability of evidence to lead to the offender or availability of evidence especially when there is a negative outcome and the ability of the CSI and solution of crime), secondly to the fact that unrealistic expectations cannot be met and thirdly to the management of them. Nevertheless, a few participants highlighted that the performance of the CSIs and police is more important in determining satisfaction rather than unrealistic expectations. This was further investigated in the last section, which explored the factors that contribute in satisfaction.

Most of these factors, which were related to the behaviour (quick police response, updating the victims) and demeanour (showing interest, compassion, care and establishing good communication) of the CSIs and police, were also considered by the victim satisfaction with the police literature, which supports their effect on satisfaction. However, the discussion suggested that other factors (such as giving good crime scene preservation advice, the management of unrealistic expectations of forensic investigations and evidence, the recovery of evidence, the effect of burglary on victims) which were almost neglected by the previous literature play as well an important role in satisfaction. It is worth mentioning that when considering all the factors that affect satisfaction, unrealistic expectations still can influence satisfaction, the management of which is essential in order to make the victims to feel satisfied.

Having discussed the concept of victims' unrealistic expectations of forensic evidence and investigations (chapter 8) and their role in their satisfaction (this chapter), the next chapter aims to address how the burglary victims perceive forensic evidence and specifically their expectations and how these can affect their satisfaction with the police. In doing so, the next chapter will consider the findings from both studies, namely the victim satisfaction survey (chapters 5-7) and the perceptions of the CSIs regarding victims' expectations of forensic evidence and satisfaction (chapters 8-9).

## **Chapter 10: Conclusion**

### **10.1 Introduction:**

The aim of this chapter is to address the main research question underlying this thesis namely, whether victims' unrealistic perceptions/expectations of forensic evidence can affect their satisfaction. In doing so the findings from all studies, namely the quantitative victim satisfaction survey (chapters 5-7) and the qualitative CSI dataset (interviews and the online survey) (chapters 8-9) are considered collectively. Using a mixed-methods approach, data obtained from the quantitative and qualitative elements are reinforced and complement each other. This chapter is divided into three sections. The first section considers whether burglary victims hold unrealistic expectations of forensic evidence and, if so, their impact on satisfaction. The second section discusses the importance of managing such unrealistic expectations, assessing its effectiveness and considering the policy implications. Finally, the contributions, strengths and limitations of this mixed method thesis are considered, followed by suggestions for future research. The topic explored by this thesis is original, as it has never been examined by previous literature while research on this area is important given how frequently burglaries occur and the importance of victim satisfaction for police effectiveness in solving crimes, and the police relationship with the public.

### **10.2 Perceptions of forensic evidence:**

This section assesses how burglary victims perceive forensic evidence and specifically whether they hold unrealistic perceptions or expectations of forensic evidence, as the CSI effect literature suggests. As stated in chapter 1, the CSI effect literature can shed light on victims' perceptions of forensic evidence as it has examined the perceptions of the general public (mainly potential jurors) about forensic evidence in order to determine whether the CSI effect exists. Although this literature has almost entirely neglected the impact of the CSI effect on victims' perceptions, this thesis argues that victims can hold similar attitudes to jurors and the general public. Overall, the results of the victim survey demonstrated that, similar to jurors, some victims have unrealistic expectations about the presence of forensic evidence and an unrealistic amount of faith in the ability of evidence to identify the offender in line with the CSI effect literature. Similar to this, qualitative data collected from the CSIs demonstrated that CSIs come in contact with victims who hold unrealistic expectations related to the availability of

forensic evidence and its likelihood to lead to an offender. In addition, the CSIs mentioned that victims can hold unrealistic expectations for other aspects of the investigations related to the time needed for the police to conduct the forensic investigations and solve the crime, the use of sophisticated techniques and the role of the CSIs during investigations.

Such unrealistic expectations, as described by the CSIs, were reminiscent of the unrealistic depictions of forensic investigations in *CSI* or similar programmes. Nevertheless, victims tend to have a better understanding of these aspects compared to the availability and ability of evidence to lead to the offender, as found in the examples provided by the CSIs. In relation to victims' expectations related to the time needed for the police to conduct the forensic investigations, the victim survey found such expectations were not related to satisfaction. However, victims who perceived that the time spent in the crime scene was better than expected (positive disconfirmation) were more likely to be satisfied. This specific issue of time spent in the crime scene did not emerge through the CSI dataset. Instead CSIs emphasized that victims expect a very quick response or immediate results after the collection of evidence. Finally, the overwhelming majority of the CSIs attributed the source of these unrealistic expectations primarily to watching *CSI* or similar programmes, although this was not further explored by the victim survey, as it was not within the aim of this thesis.

The next two sub-sections explain further the unrealistic perceptions regarding the availability of evidence and the ability of evidence to lead to the offender and their effect on satisfaction, using both studies with victims and the CSIs. At this point it is worth mentioning that, although emphasis is given to the unrealistic perceptions, the fact that victims can hold realistic perceptions should not be ignored. For example, the victim survey found that some victims have realistic perceptions of forensic evidence in general, but the degree varies for specific topics. This was also the view expressed by the CSIs. In reality, it is difficult to determine the extent to which victims hold unrealistic expectations of forensic evidence as victims are lay people and therefore have a different understanding of specific topics related to expectations regarding the availability and likelihood of evidence to lead to the offender.

### **10.2.1 Perceptions of forensic evidence related to the Victim's effect and satisfaction:**

The first type of perceptions examined was related to victims' expectations about the availability of forensic evidence. Victims hold unrealistic expectations regarding the collection of evidence or the availability of evidence, as the Victim's and Strong Prosecutor's effects suggest with the only difference being that the Strong Prosecutor's effect highlights also the role of the absence of evidence (Cole and Dios-Villa, 2009), which can be used in the context of victim satisfaction. This thesis argued that the Strong Prosecutor's effect is conceptually similar to the Victim's effect when applied in the context of criminal investigations.

In line with these effects, the results of the victim survey indicated that a considerable proportion of victims expected that the CSIs would collect evidence from all burglary crime scenes, believed that the CSIs did not recover all the available evidence from their crime scene and agreed with the statement 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough'. The CSIs not only confirmed that some victims can hold unrealistic expectations about the availability of evidence, but also provided valuable examples to highlight these types of unrealistic expectations. For example, victims can unrealistically expect that the CSIs can recover more evidence than is actually possible and that investigators should examine the whole property instead of taking a proportionate targeted approach. Also victims can expect that every surface is suitable for recovery of evidence and in some cases, they are not able to recognise what constitutes proper forensic evidence for recovery (e.g. people see a smear and say that is a fingerprint). Some CSIs highlighted the association between the unrealistic expectations about the availability of evidence and the negative forensic investigation outcome, namely when either no evidence or little evidence is recovered. The negative outcome seems to emphasise victims' unrealistic expectations about the availability of evidence, as victims believe that the CSIs did not do their job well and to reinforce victims' belief that the CSIs did not recover all the available evidence at their crime scene. All these are discussed further, considering the victim survey results.

The victim survey indicated that a considerable proportion of victims (37.8%) believed that the CSIs did not recover all the available forensic evidence from their crime scene,

affirming the perceptions of the CSIs the majority of whom reported that some victims hold such a belief. The interviews revealed that this belief can be reinforced by a negative forensic investigation outcome, namely when no or less evidence is recovered. This was further confirmed by the victim survey, which indicated that these two variables were significantly associated. Specifically, when CSIs recovered evidence from a crime scene victims were less likely to believe that they did not recover all the available forensic evidence. In addition, a considerable proportion of victims agreed with the statement 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough', which affirms the CSIs' perceptions that some victims attribute a negative examination to CSIs' inability to conduct their job properly. Furthermore, victims who believed that the CSIs did not recover all the available evidence were more likely to agree with the statement 'If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough'. This may indicate that even in cases where victims believe that less evidence is recovered, they will still perceive this as a negative outcome which is attributed to CSIs' inability to conduct their job properly. This supports the view that in the definition of the negative outcome, one should consider not only the cases where no evidence is recovered but also the cases where less evidence is recovered, as a few CSIs mentioned.

Having indicated that both studies with the CSIs and victims suggest that victims can hold unrealistic expectations regarding the availability of forensic evidence the section that follows discusses whether such expectations could affect satisfaction. Based on the Strong Prosecutor's effect, and the argument that victims may hold similar perceptions to jurors this thesis hypothesised that victims can hold raised expectations about the presence of forensic evidence in the crime scene. In turn this could constitute a burden for the CSIs as in the absence of this evidence, victims will feel dissatisfied with the CSIs. The victim survey found the actual recovery of evidence was not associated with satisfaction, but this could be attributed to the sample size as a bigger sample could increase the statistical power to detect this. However, unrealistic expectations regarding the availability of forensic evidence affected satisfaction with the CSI investigation. More specifically, victims' belief that the CSIs recovered all the available forensic evidence in their incident was significantly associated with their satisfaction with the CSIs. Also victims who agreed with the item 'if no forensic evidence is recovered from

a crime scene, it means that the investigators did not look hard enough' were less likely to be satisfied with the CSI investigation. These two types of perceptions were further incorporated in an expectancy disconfirmation model in order to explain victims' satisfaction with the CSI. The two models demonstrated that these two types of perceptions had a significant effect on satisfaction along with disconfirmation, confirming further that they play an important role in satisfaction.

These results demonstrate that victims can hold raised expectations about the presence of forensic evidence in the crime scene, in line with what the Victim's or Strong Prosecutor's effect would predict, which in turn constitute a burden for the CSIs to make the victims feel satisfied with their investigation. These types of unrealistic expectations involve the role of absence of evidence, which was highlighted also by the Strong Prosecutor's effect and therefore thought to be relevant in affecting satisfaction.

Consistent with the victim survey findings, some CSIs reported that unrealistic expectations about the availability of evidence can affect victim satisfaction, especially when there is a negative outcome. Based on the CSI dataset, one possible explanation might be that in such a scenario, these expectations seem to persist sometimes because victims do not always accept the CSIs' explanations for why there is a negative outcome. For example, if victims perceive that a type of evidence is suitable for recovery and this evidence is not recovered, they may continue to hold the belief that less evidence was recovered, despite the explanations given by the CSIs. Overall, irrespective of the source of these unrealistic perceptions, the Victim's effect seems to be supported in some cases, having a negative impact on satisfaction. The findings broaden the definition of the Victim's effect as initially proposed by Cole and Dios-Villa (2009) to suggest that not only do victims have raised expectations of collections of evidence, reflected in their beliefs but also such expectations can have a negative impact on satisfaction with the CSI investigation.

### **10.2.2 Perceptions of forensic evidence related to the Defendant's effect:**

The second type of perception examined was related to victims' unrealistic amount of faith in the ability of evidence to lead to the offender, as the Defendant's effect suggests (Cole and Dios-Villa, 2009). The victim survey demonstrated that almost half of the sample had unrealistic perceptions regarding the ability of evidence to lead to the

offender. Moreover, a considerable amount (23.17%) agreed with the item 'Every crime can be solved with forensic science'. In line with these findings, the CSI dataset indicated that CSIs come into contact with victims who have unrealistic expectations of the ability of evidence to lead to the offender and shed more light on such perceptions. For example, victims can believe that only the offender leaves evidence. However, this may not be always the case, as it depends on victims' understanding across the different types of forensic evidence, which varies. Moreover, several CSIs mentioned cases where victims expected them to recover weak or unsuitable evidence for the investigation, believing that this evidence can lead to the offender (e.g. soil samples, tyre marks, fibres, moss). This was also somehow supported by the victim survey, which found that some victims have an unrealistic amount of faith in the ability of evidence to lead to the offender, which makes them perceive even weak evidence like tool marks, pieces of glass or fibres as more effective. Also, some CSIs mentioned that victims do not always understand issues related to the relevance of evidence, which plays an important role in the ability of evidence to lead to the offender. These findings demonstrate that there are victims who have an over-belief in the ability of evidence to lead to the offender, by disregarding the actual reliability of evidence, as suggested by the Defendant's effect.

Despite the fact that there are victims who hold unrealistic perceptions regarding the ability of evidence to lead to the offender, such perceptions were not related to their satisfaction with the CSIs in the victim survey. Nevertheless, as mentioned in chapter 7, this study could not measure this impact effectively. On the contrary, some of the CSIs believed that these types of perceptions may have a direct effect on satisfaction, especially in a negative outcome scenario. Thus, victims who have an over-belief in the ability of evidence to lead to the offender will feel dissatisfied, especially when there is a negative outcome in the investigation, as they perceive that forensics will solve a case alone or is the only way to progress the investigation. Also, they may feel disappointment or perceive that the CSIs and the police did not conduct their job properly. Furthermore, victims may have high expectations for the recovery of certain types of the forensic evidence, perceived as stronger to lead to the offender (e.g. DNA, blood, fingerprints), which can also negatively affect satisfaction, when such types of evidence are not recovered. Based on these findings future research should consider

whether such types of expectations could affect satisfaction, following the recommendations made in chapter 7.

In summary, both studies with victims and the CSIs demonstrated that unrealistic perceptions regarding the availability of forensic evidence can negatively influence satisfaction (see also Appendix C). The victim survey could not find a link between unrealistic perceptions of the ability of evidence to lead to the offender and satisfaction. However, as this could not be investigated as initially designed and due to the fact that the CSI dataset suggested that there is an effect of these perceptions on satisfaction, this topic requires further research. Moreover, the victim survey demonstrated that both types of unrealistic perceptions could play an indirect role in satisfaction with the CSI investigation, as they were significantly related with victims' initial expectations of certain CSI activities. In turn such initial expectations can either directly affect satisfaction, or indirectly through disconfirmation, providing the basis to assess performance (Oliver, 2010).

It is worth mentioning that although disconfirmation had an impact on satisfaction, expectations of certain CSI activities were not related to disconfirmation or to satisfaction in this particular study (see chapter 6). Nevertheless, this could be attributed to measuring expectations retrospectively, a condition that involves recalled bias in favour of performance, so expectations lose their effect (Oliver, 2010). Overall these types of unrealistic perceptions of forensic evidence can directly or indirectly affect satisfaction. Therefore, the management of these perceptions is essential. Indeed, most of the CSIs mentioned that if these unrealistic expectations are not properly managed, then they can negatively affect satisfaction. The management of these expectations along with policy implications are discussed in the next section.

### **10.3 Management of unrealistic perceptions/expectations of forensic evidence –**

#### **The Investigator effect:**

This section critically discusses the importance and effectiveness of the management of unrealistic expectations of forensic evidence in victim satisfaction, and its policy implications. The CSI dataset demonstrated that all of the participants recognised the importance of managing unrealistic expectations, with one of the main reasons being to avoid dissatisfaction, and they felt the need to manage them by employing some

techniques. These techniques include providing more explanations of the investigation process and the evidence recovered, demonstrating different forensic techniques, resorting to their authority and, at the request of a victim, searching for more evidence and collecting evidence which is not useful for the investigation. Based on these findings a new CSI effect similar to the Weak Prosecutor's effect was identified, referred to as the Investigator effect. According to this effect, CSIs need to manage unrealistic expectations, which were attributed primarily to watching *CSI* or similar programmes, by adopting one or more techniques that change the way that they would normally and ideally conduct the job, in order to manage these expectations, aiming potentially to make the victims feel satisfied. Although this suggests that the CSIs attempt to manage victims' unrealistic expectation, it is not certain whether managing expectations happens during all the investigations or if it is effective. Future research should examine whether this effect could be generalised to other CSIs and shed more light on its definition by considering the extent to which managing expectations is within the CSI role exploring further the techniques used for the management and their effectiveness.

Before discussing policy implications, further consideration is given to the technique of 'collecting evidence, which is not useful for the investigation, at the request of the victim' for managing expectations, as evidence for its existence comes mainly from anecdotal accounts and one previous study (Makin, 2012) while its effectiveness is questionable as the answers of the CSIs suggest. On the one hand, CSIs collect evidence not useful for the investigation at the request of the victim as a PR exercise or to appease negative victims, avoid complaints, keep victims satisfied and also in a negative outcome to keep victims positive by giving them some hope. On the other hand some CSIs heavily criticized this practice for not being professional and falsely raising the expectations of the victims, and for these reasons they do not employ this technique, preferring instead to justify their reasoning for collection or not of evidence by providing explanations. The victim survey provided some insight on this issue. Interestingly, there were many participants who expected that the CSIs would collect evidence at their request, suggesting that they could further ask the CSIs to do so. Secondly a considerable proportion of participants (20.7%) reported that the CSIs collected evidence at their request, demonstrating that such a practice is not uncommon. Nevertheless, it is not clear whether in all these cases the additional evidence collected

at the request of the victims was useful for the investigation. Irrespective of this, it seems that in practice there are instances where the CSIs collect additional evidence at the request of the victim and as reported by CSIs this may happen even when such evidence is not useful for the investigation under certain circumstances.

Most of the CSIs who participated in the online survey believed that it is not difficult for them to deal with the unrealistic expectations, apart from a few cases where victims are very adamant or upset. This may imply that after leaving the crime scene most of the victims have more realistic expectations since CSIs are able to manage them and this was directly argued by the interviewees. However, the victim survey indicated that a considerable amount of victims not only kept holding unrealistic perceptions of forensic evidence but some of these had a negative effect on satisfaction. This finding suggests that expectation management is not always effective, perhaps to a greater extent than the interviewees suggested. Nevertheless, one cannot be sure whether all these participants received any management of their expectations.

In terms of policy the results of both studies demonstrated the importance of managing unrealistic expectations and especially those regarding the availability of evidence and its ability to lead to the offender, as they can negatively influence satisfaction. It is essential that several issues related to these types of expectations should be clearly explained to the victims, as most of them do not have reliable knowledge about forensics. In addition, both datasets indicated that some burglary victims have raised or unrealistic expectations about the recovery of forensic evidence, suggesting that their expectations are not consistent with limitations in practice. It seems that victims are not always aware that police responses are dynamic and therefore a number of factors (e.g. budget cuts, extended response times, crime scene management) affect forensic investigations and the effectiveness of forensic evidence in solving crime (see chapter 1). For this reason, it is also important that the CSIs provide explanations about how forensic investigations work in practice in order to keep victims' expectations to a realistic level, especially if victims' first contact with the police and CSI investigation is during their burglary investigation.

Providing information to the public about forensics could be a good idea as people can obtain correct information and consequently will be more aware of what they should

expect from forensic investigations during burglaries. However, this may not be effective if one considers that among the public there are also burglars who can become more forensically aware through the same information. Thus it may be better after the end of the forensic investigation, if the police sends by post or email to the victims a guide, which explains how forensic investigations work in practice addressing several issues on forensics (e.g. availability and ability of evidence to lead to the offender). Such practice could be effective especially if one considers that the CSIs may not have always time to manage properly such expectations during the investigations.

Moreover, the CSIs should pay particular attention to cases where there is a negative outcome, as such an event could reinforce these unrealistic expectations, that may persist even after CSIs' explanations, which in turn may negatively affect satisfaction. It was indicated that in the definition of the negative outcome, one should consider not only the cases where no evidence is recovered but also the cases where less evidence is recovered. However, cases where less evidence is recovered may not get noticed in terms of requiring expectations management because victims' unrealistic expectations become prevalent, by 'complaining' when no evidence is recovered. Consequently, CSIs should be still required to manage such expectations even if victims do not complain because less evidence was recovered. Finally, it is advisable that the CSIs do not collect evidence which is not useful for the investigation at victims request, as such practice could raise false hope or exacerbate unrealistic expectations, which consequently could negatively affect their satisfaction. In addition, good cooperation between the CSIs and the police is essential in terms of different aspects regarding forensic evidence, as several CSIs mentioned. For example, police should give valid preservation advice to the victims, not destroy evidence when attending the crime scene before the CSIs, and ultimately not raise victims' expectations of forensic evidence.

#### **10.4 Contributions, strengths and limitations:**

Initially, this thesis examined how victims' unrealistic expectations of forensic evidence can affect satisfaction with burglary investigations which is an original topic, as it has never been examined by previous literature while research on this topic is essential for several reasons. If police cannot meet victims' expectations about forensic evidence because they are unrealistic, victims are more likely to feel dissatisfied. This can have negative implications for the police-public relationship and its effectiveness in solving

crimes. As a result, victims who believe that police cannot respond appropriately, will be unwilling to report their incident or engage in investigations or attempt to take vigilante actions (Mawby, 2007; Brandl and Horvarth, 1991). Moreover, as indicated in the previous section, the findings of this thesis have policy implications regarding the police and especially Crime Scene Investigators (CSIs), making the management of victims' expectations essential during burglary investigations in order to avoid dissatisfaction. Another reason which highlights the importance of this topic is that burglary is a very common type of crime where forensic investigation plays an important role as forensic evidence may lead to the detection of the offender or corroborate other evidence by linking the burglary with other offences (NPIA, 2011; Bradbury and Feist, 2005). All these reasons justify why research on this topic is important, giving a greater value to the contributions of this thesis. However, as this topic has never been examined the findings of this thesis are mainly exploratory and future research is essential to build further on them.

This thesis contributes to the CSI effect literature, which has previously focused mainly on jurors and public perceptions of forensic evidence. Firstly, it has been argued that similar to jurors (chapter 1), some victims seem to have two types of perceptions of forensic evidence, which are unrealistic expectations about the presence of forensic evidence and an unrealistic amount of faith in the ability of evidence to identify the offender. Secondly, it builds further on the definition on the Victim's effect as identified by Cole and Dioso-Villa (2009) by demonstrating that unrealistic expectations regarding the availability of evidence can have a negative impact on victim satisfaction with the CSI investigation. The CSI effect literature attributes these types of unrealistic perceptions to watching *CSI* and similar programmes, but the source of the unrealistic expectations, was not tested by the victim survey in this thesis. However, almost all the CSIs identified watching *CSI* and similar programmes as the main source of such unrealistic expectations, providing some anecdotal support for the impact of forensic fiction on victims' expectations. In addition these findings support the existence of a new CSI effect referred to as the Investigator effect which is similar to the Weak Prosecutor's effect (Cole and Dioso-Villa, 2007) but instead describes the influence of the CSI effect on the way CSIs conduct their jobs.

This thesis also contributes to the previous literature on victim satisfaction with the police in three ways. Firstly, it examined the impact of victims' unrealistic expectations of forensic evidence on satisfaction, which has been neglected by previous studies. Secondly, it focused exclusively on burglary victims and their satisfaction following the argument made that there is a need for examining victims as more homogenous groups (Laxminarayan, Bosmans, Porter and Sosa, 2013). Previous studies examined mainly victims of crime as a homogenous group, without taking into account that different types of offences can create different needs and few studies focused exclusively on burglary victim satisfaction (Hirschel, Lumb and Johnson, 1998; Coupe and Griffiths, 1999). Finally, it examined specifically satisfaction with the CSI investigation, indicating that the CSI investigation plays an important role in burglary investigations and victims' satisfaction in this crime type.

Moreover, this PhD research provides two methodological contributions to the previous literature, which used the EDM in explaining victim satisfaction (chapter 6). Firstly, the operation of the EDM was investigated not only in specific dimensions of performance as the previous studies did but also on a unidimensional performance level, while both analyses supported disconfirmation being the most important determinant of satisfaction. Moreover, this thesis examined simultaneously the effect of all the elements of the EDM, unlike these previous studies.

Secondly, previous studies utilized only objective disconfirmation when applying EDM to predict victim satisfaction. However, this thesis assessed both measurement types of disconfirmation, namely subjective and objective disconfirmation and found that subjective disconfirmation constitutes a better measurement, especially if one would like to explore its three states (negative, zero positive disconfirmation). When considering both subjective and objective disconfirmation, only subjective disconfirmation was a significant predictor of satisfaction. Also, it was demonstrated that objective disconfirmation could not explain the three disconfirmation states as the expectancy disconfirmation theory would predict, a problem also encountered by a previous study (Chandek and Porter, 1998) unlike subjective disconfirmation. However, this is not surprising because objective disconfirmation is the raw difference between expectations and performance scores and as such, it cannot take into account the consumer's subjective interpretation of this difference, and consequently it can lead to

inaccuracies. Furthermore, it was also argued that maybe it is more valid to measure subjective disconfirmation, especially in a victim satisfaction context, rather than objective disconfirmation because research in this context cannot measure victims' expectations other than retrospectively for practical reasons. Measuring expectations retrospectively suggests that satisfaction may be dominated by disconfirmation over expectations as there is a declining memory for expectations. This declining memory does not affect the consumer judgement in the subjective disconfirmation scale, as it is not necessary to know the precise expectation levels (Oliver, 2010).

This thesis also examined the impact of victims' unrealistic expectations of forensic evidence on satisfaction, considering quantitative data from the burglary victim survey and qualitative data from the CSI dataset. The use of mixed methods has advantages that offset the disadvantages of using solely quantitative or qualitative methods (Creswell and Clark, 2011). Also, combining both types of data through triangulation and complementarity, the inferences made in terms of examining victims' unrealistic expectations of forensic evidence are much stronger, as both sources of data provided consistent results (Teddlie and Tashakkori, 2009). The sample used in the victim survey is not truly representative, since it was very difficult to access burglary victims and consequently the results cannot necessarily be generalised to all burglary victims. However, the qualitative data obtained from the CSIs sheds light on victims' expectations since they interact with many burglary victims when collecting evidence. As experts in their field who come into contact with victims, they are in a privileged position to evaluate whether a victim holds unrealistic expectations of forensic investigations. Regarding the question of whether such expectations could affect satisfaction, CSIs can only provide their opinion based on their experience, as such an effect concerns victims directly. However, CSIs' perceptions help in understanding how victims' expectations regarding the availability of evidence can affect satisfaction and provide useful insights for the impact of victims' expectations regarding the ability of evidence to lead to the offender on satisfaction that could be used by future research (Teddlie and Tashakkori, 2009).

Although combining both the quantitative and qualitative data can shed more light on victims' expectations about forensic evidence and their impact on satisfaction with burglary investigations, one should consider that these two different types of data are

not directly comparable in terms of participants' demographic characteristics. More specifically, the victim survey sample is not representative of the general population and it is difficult to compare its demographic characteristics given that comparable data from the general population are not available. Moreover, as indicated in chapter 5, the educational level of the victims who participated in the burglary victim survey is disproportionately high compared to the one of the burglary victims in the general population. The demographic characteristics of the victims that the CSIs spoke about are not known, but one could speculate that they could differ substantially from the victims participating in the survey, given that the CSIs come in contact with a wide range of people from varying demographic and socioeconomic backgrounds. This is an important limitation of this mixed method study to consider. Nevertheless, due to the logistic issues of accessing burglary victims, combining both datasets provided a more comprehensive understanding of the topic and considers opportunities for future research, despite the fact that data are not directly comparable.

A general limitation of the victim survey relates to biased recalls of memory, as victims were asked to report their expectations retrospectively. This limitation was considered during interpretation of the results with reference to the expectancy disconfirmation literature. Measuring retrospective expectations relies on the ability of the consumer to recall their expectations before consumption. Undoubtedly, this involves problems such as recalled bias in favour of performance, ill-defined expectations or data-driven ones in cases where the consumer is not familiar with the product (Oliver, 2010). However, research has demonstrated that expectations sometimes are more easily recalled after the use of the product since the consumer actualizes them through consumption (Madey and Gilovich, 1993). Thus, measuring expectations retrospectively may be more valid in some cases, although this issue requires further research (Oliver, 2010). Moreover, it should be highlighted that the topic of this study is novel and therefore further research is required to validate these results. Further limitations and insights of both studies with future directions for research are discussed in the next section.

#### **10.4.1 Future research- Satisfaction:**

The results of the victim survey demonstrated the usefulness of the expectancy disconfirmation model to explain victims' satisfaction with the police and the CSI investigation. When considering prior expectations, perceived performance and

disconfirmation, only disconfirmation was a significant determinant of satisfaction with the police. Similarly, using initial expectations of different CSI activities, perceived performance and disconfirmation, only the latter was an important predictor of satisfaction with the CSI investigation. This last EDM model was used as the basis to incorporate victims' perceptions of forensic evidence (related to the Victim's effect) and assess their impact on satisfaction.

Thus when considering the elements of the EDM and victims' perceptions of forensic evidence it was found that only disconfirmation along with these perceptions had a significant effect in satisfaction with the CSIs. This study measured victims' satisfaction with the police and the CSI investigation separately, producing two different EDM models to explain these two types of satisfaction using different police and CSI activities with respect to each model. For this reason, conceptually it would not make sense to incorporate victims' perceptions of forensic evidence into the EDM developed for the police investigation and test whether such perceptions could affect satisfaction with the police as well, as these perceptions are more likely to be related with CSI investigations and consequently CSI satisfaction. Nevertheless, the answers from the CSI dataset suggested that unrealistic perceptions or expectations of forensic evidence can affect not only satisfaction with the CSIs but also with the police as well. This finding requires further consideration by future research and has some implications on how satisfaction should be understood and measured. Several other findings in this thesis demonstrated that satisfaction regarding burglary crimes is a more complicated concept as both CSI and police investigations play an important role in burglary investigations.

More specifically, the victim survey found that satisfaction with the CSI was significantly associated with satisfaction with the police. However, a causal relationship between these two variables could not be assessed due to the research design. The direction of this relationship is not clear because, as the interviews revealed, CSIs may attend the burglary crime scene before the police officers due to policy changes in some police departments. Moreover, the responses of the CSIs suggested that specific CSI actions can affect satisfaction with the police as well, while some mentioned that the police investigation is more important than CSI performance, for victims. Undoubtedly all these findings demonstrate that both police and CSI investigation play an important

role, while factors related to police or CSI activities and victims' perceptions of forensic evidence can have an effect on satisfaction with both police and CSI investigation.

To better understand victim satisfaction with burglary investigation future research should consider both satisfaction with the CSI and police instead of focusing only on police. In doing so, future studies could measure separately satisfaction with the CSI and the police using more comprehensive scales, which would allow the computation of a total satisfaction with the burglary investigation scale. EDM could be used as the victim survey supported its efficacy in explaining satisfaction with the police and the CSI investigation while it considers the impact of expectations, a concept related to victims unrealistic perceptions of forensic evidence. Thus, future studies could apply several EDMs to test how their elements along with victims' perceptions of forensic evidence explain victim satisfaction with the police, CSI investigation and total satisfaction with the burglary investigation. Moreover, certain relationships between victims' initial expectations, performance, disconfirmation regarding CSI and police activities with victims' perceptions of forensic evidence could be identified using structural equation modelling (SEM). SEM refers to a number of general analytic techniques able to test more complex hypotheses than regression models. These techniques have the advantages of testing direct and indirect effect of variables and latent variables (which cannot be measured directly) by representing all these relationships with path diagrams (Miles and Shevlin, 2009; Loehlin, 2004).

However, before measuring satisfaction in the abovementioned way, it is essential to identify the key dimensions of performance regarding police and CSI investigation, in order to incorporate them in the EDM. This difficulty was encountered by this thesis when measuring victims' satisfaction with the police and CSI. The main reason for this is that previous empirical literature on victim satisfaction with the police has largely neglected burglary victims and the specificities concerning this crime. This literature examined victims of crime as a homogenous group, without taking into account that different types of offences can create different needs. Moreover, to the knowledge of the author of this thesis, there is no previous study considering satisfaction with CSIs separately. Previous research on victim satisfaction with the police included limited CSI actions as indicators of police performance, ignoring the importance of forensic investigation in burglary crimes and consequently that satisfaction with the CSI can

play a role in satisfaction with burglaries investigations. The findings of both studies with victims and CSIs provide some insights on CSI and police activities that could be incorporated in further EDM studies.

The victim survey indicated the importance of police actions related to behaviour and demeanour for explaining satisfaction with the police. Victims tended to be more satisfied when the police demonstrated different actions related to police demeanour (courteous or respectful, show understanding of the case, appear to be concerned, took time to listen, reassured the victim) and behaviour (search for and question witnesses, respond quickly, gave advice for prevention, informed the victims of available services e.g. Victim Support, called to update the case status). Satisfied and dissatisfied victims differed significantly in terms of their disconfirmation scores with satisfied victims tending to have a higher score in the disconfirmation scale for all variables related to police demeanour and behaviour. Regarding satisfaction with the CSI investigation, only one activity (walk with you to determine the route taken by the offender) was related to satisfaction. However, satisfied victims tended to report that the CSI activities (search for forensic evidence, recover some types of forensic evidence, walk with you to determine the route taken by the offender) were far better than expected, compared to the dissatisfied ones, demonstrating that such activities are important to consider in the EDM. This study examined only one action of CSI demeanour (courteous or respectful), which was not significantly associated with satisfaction but it was repeatedly mentioned in the CSI dataset.

The responses of the CSIs shed more light on specific police and CSI actions related to behaviour and demeanour that can positively contribute to satisfaction, supporting some of the victim survey findings. For example, police behaviour (quick police response and keeping the victims updated for their cases status), CSI behaviour (the recovery of evidence) and CSI and police demeanour (showing interest, compassion, care and establishing good communication) can positively affect satisfaction. However, the CSIs suggested also other factors, which were not examined in the victim survey and they are mostly neglected by the previous literature. For example, police should give good crime scene preservation advice, preserve evidence without raising victims' expectations, the CSIs should manage unrealistic expectations of forensic investigations and the effect of burglary on victims should be considered when dealing with victims.

However, the victim survey could not assess which specific actions of demeanour and behaviour were more important in explaining satisfaction, as this would require a larger sample enabling more advanced analytical methods, while the findings from the CSIs can only provide some preliminary insights on this issue. Also, reasonably one could argue that there may be other important police and CSI actions for burglary victims, as previous research has almost neglected burglary victims and the specificities concerning this crime. For this reason, future research is essential in order to identify the key dimensions of performance of both police and CSI regarding exclusively burglary investigations, in order to incorporate them in a more comprehensive EDM. Focus groups with burglary victims could help further in identifying these key dimensions, as this technique is recommended because there is little evidence on this topic (Oliver, 2010). Having identified these key dimensions subsequent quantitative research with burglary victims using larger samples could further assess the extent to which all these dimensions can explain victim satisfaction.

Finally, it is important to understand the victims' unrealistic expectations of forensic evidence and their role in satisfaction, so as to incorporate them in the EDM. For this reason, future research should also consider their relationship with burglary victims' emotional state, absence of evidence and CSIs characteristics. These suggestions come from the findings of the CSI dataset. Firstly, unrealistic expectations of forensic evidence can be related to victims' emotional state and willingness to solve the crime, as they can be stressed or traumatised and unable to think clearly even after CSIs explanations. Such situational factors along with a negative forensic outcome can further reinforce victims' unrealistic expectations of forensic evidence, which further negatively impacts satisfaction with the CSI investigation. Secondly, victims' unrealistic expectations can be related to certain CSIs' individual characteristics, which in turn can affect victims' perceptions of the ability of the CSIs to conduct their job and specifically recover evidence. This argument comes from the discussion related to the evaluation of the way that CSIs perceive victims' expectations (chapter 8). When evaluating the way that the CSIs understand victims' expectations or attitudes and perceive them as being realistic or not, it was argued that this seems to depend on certain factors, some of them related to CSIs' characteristics (e.g. whether CSIs provide immediately explanations to the victims about the different aspects of the investigations, language issues, the gender of the investigator in relation to specific victims religion or

ethnicity, the age, experience and personality of the investigator). How these factors affect victims' perceptions of the ability of the CSIs to conduct the investigation, and specifically recover evidence, along with victims' unrealistic expectations should be examined by future research. In this case victims' unrealistic expectations may operate as mediators and could be conceptualised as the mechanism through which CSIs characteristics can affect satisfaction (Hayes, 2013; Mackinnon, 2008). They may also operate as moderators influencing the magnitude of the effect of CSIs' characteristics on satisfaction (Hayes, 2013).

The aim of this final chapter was to address the main research question underlying this thesis namely, how victims' perceptions of forensic evidence can affect their satisfaction, by considering the findings of all studies reported in this thesis. Using a mixed-methods approach, data obtained from quantitative and qualitative studies were reinforced and complement each other. Both approaches affirmed that similar to jurors, some victims have two types of perceptions of forensic evidence, which are unrealistic expectations about the presence of forensic evidence and an unrealistic amount of faith in the ability of evidence to identify the offender, in line with the CSI effect literature. However, only the unrealistic perceptions regarding the availability of evidence were found to have a negative effect on satisfaction with the CSI investigation. Evidence suggests that unrealistic perceptions regarding the ability of evidence to lead to the offender can affect satisfaction, but this requires further research. In terms of policy both approaches demonstrated the importance of managing unrealistic expectations to avoid dissatisfaction. However, management in practice may not always be effective and some recommendations were suggested. Finally, the contributions to the CSI effect and victim satisfaction literature along with the strengths and limitations of this mixed methods approach were discussed. Future research is essential to better understand victim satisfaction with burglary investigation and the impact of unrealistic expectations of forensic evidence on satisfaction. Future studies should also identify the key dimensions of CSI and police performance in order to incorporate them in the EDM and explore the relationship between victims' unrealistic expectations and other variables, and their relative effects on satisfaction.

To conclude, this thesis explored how victims' unrealistic expectations of forensic evidence can affect their satisfaction with burglary investigation, which is a novel topic

as it has never been examined by previous literature. Research on this area is important given how frequently burglaries occur, and the importance of victim satisfaction for the police-public relationship and police effectiveness in solving crime. Although this thesis makes a unique contribution, the findings are mainly exploratory. Consequently, future research is essential to build further on these thesis findings in order to understand better victims' unrealistic expectations of forensic evidence and their effect on satisfaction with burglary investigations.

## **Appendix A- Victim Satisfaction Survey:**

Consent form and Questionnaire

## CONSENT AND INFORMATION FORM

I am undertaking research about burglary victims' satisfaction with the police as part of a project for my PhD studies in Criminology at the University of Leicester. I would like to ask you to voluntarily participate in this research. You will be asked to complete a survey containing questions about your expectations and perceptions of the police response to your crime incident and your satisfaction with police performance. There are also some questions about your expectations and performance of crime scene officers in case a crime scene officer attended your burglary. The aim of this questionnaire is to examine different factors that may influence victims' satisfaction with the police along with victim's perceptions of forensic evidence (e.g. DNA, fingerprints). It takes about 20 minutes to complete this survey. The information you provide will be used in the final PhD thesis, but your identity will remain anonymous and the information you provide will be kept confidential. In order to participate you should be at least 18 years of age and resident in the UK.

### Consent Statement

- I understand that my participation in this research is voluntary and that I may withdraw from the research anytime until I submit my response, without giving any reason.
- I am aware of what my participation will involve.
- I understand that all the responses are anonymous and that no identifying or personal information is collected
- Any data I provide will be stored securely, using a password-protected storage device, which will protect electronic storage so nobody else apart from the researcher can have access to them.
- Any questions that I have about the research have been satisfactorily answered.

All the participants will have the option to be entered into a draw to win one of ten £20 Amazon vouchers or one £70 Amazon voucher. If you wish to enter the draw please write your email address in the last question. Only complete responses will be admissible to enter the draw. If you win one of the Amazon vouchers you will be informed by email. If you have any questions, please send an email to [ev44@le.ac.uk](mailto:ev44@le.ac.uk)

### Contact details:

If you have any questions about this survey, please contact:

Eleni Vazakidou

PhD student- Department of Criminology

University of Leicester

Email: [ev44@le.ac.uk](mailto:ev44@le.ac.uk)

If you have any concerns about this survey, please contact:

Dr. Lisa Smith (my supervisor)

Senior Lecturer - Department of Criminology

University of Leicester

Email: [ls149@le.ac.uk](mailto:ls149@le.ac.uk)

**If you agree to participate in this research please check the 'I agree' button.**

I agree

## **Section 1: Demographic and background characteristics**

**What is your gender?**

Female	<input type="checkbox"/>	Male	<input type="checkbox"/>
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**What is your age?**

<input type="text"/>
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**What is your ethnic group?**

White British	<input type="checkbox"/>
White Other	<input type="checkbox"/>
Non- White	<input type="checkbox"/>
Mixed	<input type="checkbox"/>
Asian or Asian British	<input type="checkbox"/>
Black or Black British	<input type="checkbox"/>
Chinese	<input type="checkbox"/>
Other	<input type="checkbox"/>

**What is your educational level?**

Secondary level	<input type="checkbox"/>
Undergraduate level	<input type="checkbox"/>
Postgraduate level	<input type="checkbox"/>

**What is the main source of your knowledge about forensic evidence?  
(please select only one response)**

TV/ Movies	<input type="checkbox"/>
Crime books	<input type="checkbox"/>
News Media	<input type="checkbox"/>
Education	<input type="checkbox"/>
Career	<input type="checkbox"/>
Internet	<input type="checkbox"/>
Other	<input type="checkbox"/>
If other, please specify:	

**Have you been a victim of crime more than once (in the last 5 years)?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

## Section 2 – Police Investigation:

### **My initial expectations of police performance**

**1. Please try to recall your initial expectations before the police arrived to your burglary crime scene and indicate whether you expected that the police officers would demonstrate the following behaviours and actions (by answering yes/no). Please answer this question even if a police officer did not visit you.**

My expectations (about police officers) :	Yes	No
<b>would come to investigate your burglary crime incident:</b>		
<b>would be courteous or respectful</b>		
<b>would show understanding of your case</b>		
<b>would appear to be concerned for your case</b>		
<b>would take time to listen to your case</b>		
<b>would reassure you</b>		
<b>would offer to you a crime reference number for insurance purposes</b>		
<b>would search for and question witnesses</b>		
<b>would respond quickly to your crime incident</b>		
<b>would give advice for preventing future break ins</b>		
<b>would inform you of available services e.g. Victim Support</b>		
<b>would call you after the initial report to inform you about the status of your case</b>		
<b>would make an arrest</b>		
<b>would return to you the stolen property</b>		

## Police Performance (My experience)

### 1. Did a police officer come to investigate your crime incident?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

### 2. Please try to recall and indicate whether the police officer(s) actually demonstrated the following behaviours and actions during the investigation of your crime incident (by answering yes/no). If the police did not visit you, please choose the N/A option

My experience - the police officer(s)	Yes	No	N/A
were courteous or respectful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
showed understanding of your case	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
appeared to be concerned for your case	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
took time to listen to your case	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
reassured you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
offered to you a crime reference number for insurance purposes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
searched for and questioned witnesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
responded quickly to your crime incident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
gave advice for preventing future break ins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
informed you of available services e.g. Victim Support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
called you after the initial report to inform you about the status of your case	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
made an arrest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
returned to you the stolen property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Police Performance vs my initial expectations

This section asks you to compare the police performance (your experience) to your initial expectations. Using a scale from 1 to 7, choose the number that best represents your answer.

Please do not refer back to the earlier sections.

Compared to your initial expectations:

### 1. The police officers came to investigate your burglary crime incident

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)

### 2. The police officers were courteous or respectful

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

### 3. The police officers showed understanding of your case

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

### 4. The police officers appeared to be concerned for your case

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

### 5. The police officers took time to listen to your case

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

### 6. The police officers reassured you

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

### 7. The police officers offered to you a crime reference number for insurance purposes

1 (much worse than expected)      2      3      4 (just as expected)      5      6      7 (much better than expected)      The police did not visit me

**8. The police officers searched for and questioned witnesses**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	The police did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**9. The police officers responded to your crime incident (in terms of time)**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	The police did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**10. The police officers gave advice for preventing future break- ins**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	The police did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**11. The police officers informed you for available services e.g. Victim Support**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	The police did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**12. The police officers called you after the initial report to inform you about the status of your case**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	The police did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**13. The police officers made an arrest**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	I am not aware
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**14. The police officers returned to you the stolen property**

1(much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	I am not aware
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Section 3: Crime Scene Investigators – Investigation:

#### **My initial expectations of Crime Scene Officer's Performance:**

1. Please try to recall your initial expectations before the police arrived to your burglary crime scene and indicate whether you expected that the crime scene officers would demonstrate the following behaviours and actions (by answering yes/no). Please answer this question even if a Crime Scene Officer did not visit you.

Crime Scene Officers are the investigators who visit a crime scene in order to search for and recover forensic evidence e.g. DNA, fingerprints, footprints etc.

My expectations (about Crime Scene Officers) :	Yes	No
would visit you (in order to search for forensic evidence)		
would search for forensic evidence		
would recover some types of forensic evidence		
would be courteous or respectful		
would walk with you through the crime scene in order to determine the route taken by the offender		
would collect additional forensic evidence at your request		

#### **Crime Scene Officer Performance (My experience)**

1. Did a crime scene officer visit you (in order to search for forensic evidence)?

Yes	
No	

2. Please try to recall and indicate whether the crime scene officers actually demonstrated the following behaviours and actions (by answering yes/no).

Please answer N/A if a crime scene officer did not attend your burglary.

My experience - the Crime Scene Officer(s)	Yes	No	N/A
searched for forensic evidence			
recovered some types of forensic evidence			
was/were courteous or respectful			
walked with you through the crime scene in order to determine the route taken by the offender			
collected additional forensic evidence at your request			

**Crime Scene Officer Performance vs my initial expectations**

This section asks you to compare the crime scene officer’s performance (your experience) to your initial expectations. Using a scale from 1 to 7, choose the number that best represents your answer.

Please do not refer back to the earlier sections.

Compared to your initial expectations:

**1. A crime scene officer visited your burglary crime scene (in order to search for forensic evidence)**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**2. The crime scene officer searched for forensic evidence in your burglary crime scene**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	A crime scene officer did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**3. The crime scene officer recovered some types of forensic evidence in your burglary crime scene**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	A crime scene officer did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**4. The crime scene officer was courteous or respectful**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	A crime scene officer did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**5. The crime scene officer walked with you through the crime scene in order to determine the route taken by the offender**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	A crime scene officer did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**6. The crime scene officer recovered additional forensic evidence (e.g DNA, fingerprints, footprints) at your request**

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	A crime scene officer did not visit me
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### My initial expectations of Forensic Evidence

1. Please try to recall your initial expectations before the police arrived at your burglary crime scene and indicate which of the following types of forensic evidence you expected the crime scene officers to recover in your burglary crime scene (by answering yes/no).

Please answer the following questions even if a crime scene officer did not visit your crime scene.

My expectations about the recovery of forensic evidence:	Yes	No
DNA		
Fingerprints		
Footprints		
Tool marks e.g. (marks from a screwdriver on a door)		
Pieces of glass		
Fibres		
Hairs		

### Recovery of Forensic Evidence (My experience)

2. If you are aware of which types of forensic evidence were recovered by the crime scene officers in your burglary incident, please indicate which of the following ones were recovered (by answering yes/no).

If you are not aware or a crime scene officer did not visit your crime scene please select N/A to the following items.

Recovery of forensic evidence:	Yes	No	N/A
DNA			
Fingerprints			
Footprints			
Tool marks e.g. (marks from a screwdriver on a door)			
Pieces of glass			
Fibres			
Hairs			

## Recovery of forensic evidence vs my initial expectations

This section asks you to compare the recovery of the following types of forensic evidence (by crime scene officers) to your initial expectations. Using a scale from 1 to 7, choose the number that best represents your answer.

If you are not aware of which types of forensic evidence were recovered or not, or a crime scene officer did not visit your crime scene please select N/A to the following items. Please do not refer back to the earlier sections.

Compared to your initial expectations:

### 1. Recovery of DNA

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 2. Recovery of Fingerprints

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 3. Recovery of Footprints

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 4. Recovery of Tool marks

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 5. Recovery of Pieces of glass

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 6. Recovery of Fibres

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 7. Recovery of Hairs

---

1 (much worse than expected)	2	3	4 (just as expected)	5	6	7 (much better than expected)	N/A
------------------------------	---	---	----------------------	---	---	-------------------------------	-----

<input type="radio"/>							
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

**1. How long did you expect that the crime scene investigation of your incident would last (in minutes)?**

---

**2. How long did the investigation of the crime scene last (in minutes)?**

---

**3. The time spent in the investigation of the crime scene of your incident for the recovery of forensic evidence was**

---

1 (much less than expected)	2	3	4 (just as expected)	5	6	7 (much more than expected)	A crime scene officer did not visit me
-----------------------------	---	---	----------------------	---	---	-----------------------------	--

<input type="radio"/>							
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

## Section 4: Perceptions of forensic evidence

### Perceptions of forensic evidence

1. Do you believe that the crime scene officers recovered all of the available forensic evidence from your crime incident?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
N/A	<input type="checkbox"/>

2. Do you expect collection of forensic evidence from all burglary crime scenes?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

3. Do you expect forensic testing of all the forensic evidence recovered for all burglary crime scenes?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Please indicate (in your opinion) how effective you think that the recovery of the following types of forensic evidence is in identifying the offender in your crime incident:

(from a scale 1 to 10 , choose the number that best represents your answer)

#### 4. DNA

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

<input type="radio"/>									
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

#### 5. Fingerprints

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

<input type="radio"/>									
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

#### 6. Footprints

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

<input type="radio"/>									
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

#### 7. Tool marks

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

<input type="radio"/>									
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

## 8. Pieces of glass

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

## 9. Fibres

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

## 10. Hairs

1 not at all effective    2    3    4    5 effective    6    7    8    9    10 extremely effective

**Please indicate the degree to which you agree (your opinion) with the following statements: (This section seeks your opinion only, it does not matter if it is true or not)**

### 1. Forensic evidence always identifies the guilty person

1 Strongly disagree    2 Disagree    3 Agree    4 Strongly agree

### 2. Every crime can be solved with forensic science

1 Strongly disagree    2 Disagree    3 Agree    4 Strongly agree

### 3. The real strength of scientific evidence is that it is not affected by human error

1 Strongly disagree    2 Disagree    3 Agree    4 Strongly agree

### 4. One big advantage to scientific evidence- as opposed to other types of evidence- is that it always provides a conclusive answer

1 Strongly disagree    2 Disagree    3 Agree    4 Strongly agree

**5. It is possible that scientific evidence can identify an innocent person as the perpetrator of a crime**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**6. If no forensic evidence is recovered from a crime scene, it means that the investigators did not look hard enough**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**7. Crime-related television programmes provide a realistic look at what happens during criminal investigations**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**8. If police have forensic evidence which suggests a suspect is guilty, then that suspect will usually confess**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**9. Every crime scene should be examined by crime scene officers in order to recover forensic evidence**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**10. Crime scene officers always collect forensic evidence at a crime scene**

---

1 Strongly disagree

2 Disagree

3 Agree

4 Strongly agree

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

## Section 5: Satisfaction

### Satisfaction

**1. How satisfied were you with the way that the police officers handled your burglary incident?** (Please answer this question even if a police officer did not attend your burglary crime scene)

1 Very dissatisfied

2 Dissatisfied

3 Satisfied

4 Very satisfied

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**2. How satisfied were you with the way that the crime scene officers handled your burglary incident?** (Please answer this question even if a crime scene officer did not visit your burglary crime scene)

1 Very dissatisfied

2 Dissatisfied

3 Satisfied

4 Very satisfied

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**3. How satisfied are you in general with your local police force?**

1 Very dissatisfied

2 Dissatisfied

3 Satisfied

4 Very satisfied

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

**4. If a similar crime happened to you again, would you call the police to report it?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**5. If you replied No to the previous answer, could you please say why you would not report it?**

----------

**6. Do you have any other comments, questions, or concerns?**

----------

**7. (optional) If you wish to enter the draw to win one of the Amazon vouchers (£20 or £70), please write your email**

----------

**Thank you very much for your participation!**

## **Appendix B- Interviews and Online Survey with Crime Scene Investigators**

**Consent form for interviews**

**Consent form for the online survey**

**Questionnaire used in the online survey**

**Interviews:**

CONSENT AND INFORMATION FORM

I am undertaking research regarding Crime Scene Investigators' experiences with victims during burglary investigations as part of a project for my PhD studies in Criminology at the University of Leicester. I would like to ask you to voluntarily participate in this research. You will be asked to participate in a one hour interview. The aim of the interview is to explore your experiences with victims, and your perceptions of victims' attitudes and expectations of your job during burglary investigations. Moreover, the interviews will shed light on how the investigators conduct their investigations in reality in burglary crime scenes and on potential factors that may influence victim satisfaction with your job. The information you provide will be used in the final PhD thesis, but your identity will remain anonymous and the information you provide will be kept confidential.

**Consent Statement**

- I understand that my participation in this research is voluntary and that I may withdraw from the research, without giving any reason.
  
- I am aware of what my participation will involve.
  
- My personal data will be held confidentially, and only the researcher will have direct access to them.
  
- Any data I provide during the interviews will be audio recorded. However my identity will remain anonymous and confidential and any data will be stored securely through the use of a password-protected storage device, which will protect electronic storage so nobody else apart from the researcher can have access to it.
  
- All questions that I have about the research have been satisfactorily answered.

I agree to participate in this research.

Signed: ..... Date: .....

Name (please print): .....

**Contact details:**

If you have any questions about the interview, please contact:

Eleni Vazakidou  
PhD student- Department of Criminology  
University of Leicester  
Email: [ev44@le.ac.uk](mailto:ev44@le.ac.uk)

If you have any concerns about the interview, please contact my PhD supervisor:

Dr Lisa Smith  
Senior Lecturer - Department of Criminology  
University of Leicester  
Email : [ls149@le.ac.uk](mailto:ls149@le.ac.uk)

## Online Survey

### CONSENT AND INFORMATION FORM

I am undertaking research regarding Crime Scene Investigators' experiences with victims during burglary investigations as part of a project for my PhD studies in Criminology at the University of Leicester. I would like to ask you to voluntarily participate in this research. You will be asked to complete an online survey. The aim of this survey is to explore your experiences with victims, and your perceptions of victims' attitudes and expectations of your job during burglary investigations. Most of the questions are open questions, so please write as much as you like. The information you provide will be used in the final PhD thesis, but your identity will remain anonymous and the information you provide will be kept confidential.

Consent Statement · I understand that my participation in this research is voluntary and that I may withdraw from the research, without giving any reason.

· I am aware of what my participation will involve. · My personal data will be held confidentially, and only the researcher will have direct access to them.

· Any data I provide will be stored securely, using a password-protected storage device, which will protect electronic storage so nobody else apart from the researcher can have access to them.

· All questions that I have about the research have been satisfactorily answered.

#### Contact details:

If you have any questions about this survey, please contact:

Eleni Vazakidou PhD student- Department of Criminology University of Leicester Email: ev44@le.ac.uk

If you have any concerns about this survey, please contact my PhD supervisor:

Dr Lisa Smith Senior Lecturer - Department of Criminology University of Leicester Email : ls149@le.ac.uk

If you agree to participate in this research please click the 'I agree' button.

**\* 1. If you agree to participate in this research please click the 'I agree' button. I agree**

## **Questionnaire for the online survey**

### **Demographics/ Background characteristics**

2. What is your gender?
3. How long have you been employed as a Crime Scene Investigator (CSI)?
4. What is the level of your training? (e.g. can you investigate all the crime scenes or specific types of crime?)
5. Which is the most frequent type of crime that you have to investigate?
6. How much time do you usually spend (on average) in a domestic burglary crime scene?
7. Which is the most common type of forensic evidence recovered in a burglary crime scene? What types of evidence are usually recovered in a burglary crime scene?

### **Burglary Victims' Expectations of Criminal investigations**

8. In your opinion, how realistic are victims' expectations of burglary investigations and specifically regarding the collection of forensic evidence?

*In your opinion, to what extent are victims' expectations realistic regarding: (for each of the next questions you can provide comments to 'any comments option', if you feel that it is necessary to clarify your answer)*

9. The time needed for the police to conduct the forensic investigations

1 always unrealistic 2 unrealistic, most of the time 3 realistic, most of the time 4 always realistic

Any comments

10. The time needed for the police to solve crimes

1 always unrealistic 2 unrealistic, most of the time 3 realistic, most of the time 4 always realistic

Any comments

11. The availability of forensic evidence in a burglary crime scene

1 always unrealistic 2 unrealistic, most of the time 3 realistic, most of the time 4 always realistic

Any comments

12. The ability/likelihood of forensic evidence to lead to the offender

1 always unrealistic 2 unrealistic, most of the time 3 realistic, most of the time 4 always realistic

Any comments

13. The use of sophisticated techniques during investigations of burglary crime scenes (e.g. techniques that they do not exist in reality)

1 always unrealistic 2 most of the times unrealistic 3 most of the times realistic 4 always realistic

Any comments

**14. The Crime Scene Investigators' role during burglary investigations**

1 always unrealistic 2 unrealistic, most of the time 3 realistic, most of the time 4 always realistic

Any comments

**15. Do you believe that victims expect forensic testing and collection of forensic evidence to be undertaken for all burglary crimes scenes?**

All of the victims /Most of the victims /Some victims/ Few victim/ No victim

**16. Do you believe that victims think that you recover less evidence than the amount that is available and useful for the investigation of a burglary?**

All of the victims /Most of the victims/ Some victims/ Few victims/ No victim

**17. Is there any particular type of forensic evidence that victims ask you if you are looking for/collecting during burglary crime scene investigations?**

**18. Which are the most common victim behaviours during burglary investigations? and how do they impact on your job? (e.g. behaviours that make difficult or easy to complete your task)**

**19. Can you recall examples where you believed that burglary victims/their family or witnesses had unrealistic expectations of the investigative process and collection of forensic evidence? (please give at least one example, without disclosing any specific information e.g. names , locations)**

Is this a frequent phenomenon?

**20. Where do you think these expectations come from? (please write why do you think so?)**

**21. Have you ever experienced a situation with victims/their family or other witnesses where they have questioned or even challenged something you were doing or not doing? (Please give at least one example, without disclosing any specific information e.g. names locations)**

Is this a frequent phenomenon?

**22. Have you ever had the feeling that the victims attitudes (mentioned in the previous questions) were influenced by viewing CSI or similar TV programmes? Is this common?**

**23. If you replied yes to the previous question, why do you think that this was the case?**

### **Managing victims' expectations**

24. Do you feel that you have to change the way that you conduct your job or your attitude to the victims in order to manage victims' expectations? (if yes, please write to what extent)
25. In your opinion, is it important to manage victims' unrealistic expectations and why?
26. How do you manage victims' expectations if they are unrealistic?
27. Do you find it difficult managing victims' unrealistic expectations, please discuss:
28. Do you come across victims that have very low or no expectations (the investigation is not useful, it is very difficult to find the offender)? If yes, how do you manage these victims' expectations? How often does this happen?
29. Do you collect evidence at the request of a victim, even if this types of evidence is unlikely to be useful to the investigation?
30. Have you ever heard that other CSIs collected evidence which is unlikely to be useful to the investigation in order to satisfy victims?

### **Victim satisfaction with the police**

31. Do you believe that unrealistic or high expectations of victims about the investigative process and forensic evidence can affect their satisfaction with the police? if yes, to what extent?
32. In your opinion, do victims' unrealistic or high expectations about the investigative process and forensic evidence affect victims' confidence about the effectiveness of the police in solving crimes?
33. In your opinion, which is the most important factor that influences victim satisfaction with the police? Is it victims' expectations or actual police performance?
34. Based on your experience what do you think contributes to victim satisfaction with the police in a burglary crime incident? Can you suggest anything that could enhance burglary victims' satisfaction?

### **CSI and similar programmes- viewing**

35. Do CSI and similar programmes depict investigations in a realistic way?
36. Do you watch CSI or similar programmes?  
never /occasionally /often /always
37. Do you have any other comments, questions or concerns? (optional)

## **Appendix C – Research Models**

Correlations and Research Models for satisfaction with the Police, satisfaction with the CSIs and mixed methods findings

The following table demonstrates the correlations between total expectations, performance and disconfirmation regarding police investigation.

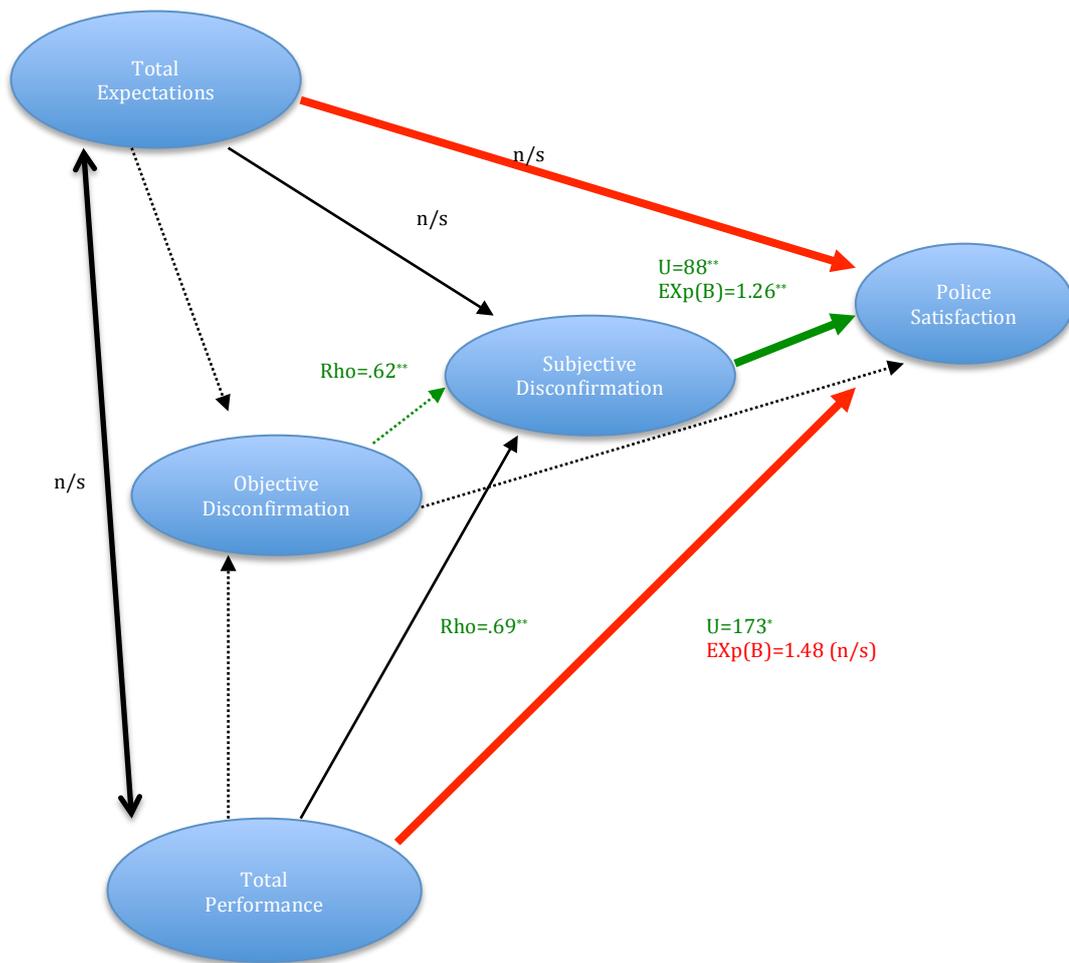
	Total Police Expectation	Total Police Performance	Total Police Disconfirmation
Spearman's rho:			
Total Police Expectation: Correlation Coefficient	1	0.08	-0.14
Sig. (2-tailed)	.	0.46	0.17
Total Police Performance: Correlation Coefficient	0.08	1	<b>.69**</b>
Sig. (2-tailed)	0.49		0
Total Police Disconfirmation: Correlation Coefficient	-0.14	<b>.69**</b>	1
Sig. (2-tailed)	0.17	0	

\*\* . Correlation is significant at the 0.01 level (2-tailed)

**Research Model – Satisfaction with the Police investigation:**

Expectancy Disconfirmation model – analysis on unidimensional level (see also chapter 5-table 15).

The model shows also the function of the objective disconfirmation according to the expectancy disconfirmation theory. Spearman’s rho correlation demonstrated that there was a large, positive and statistically significant correlation between objective disconfirmation and subjective disconfirmation ( $\rho = .62$ ,  $n=94$ ,  $p < .001$ ).



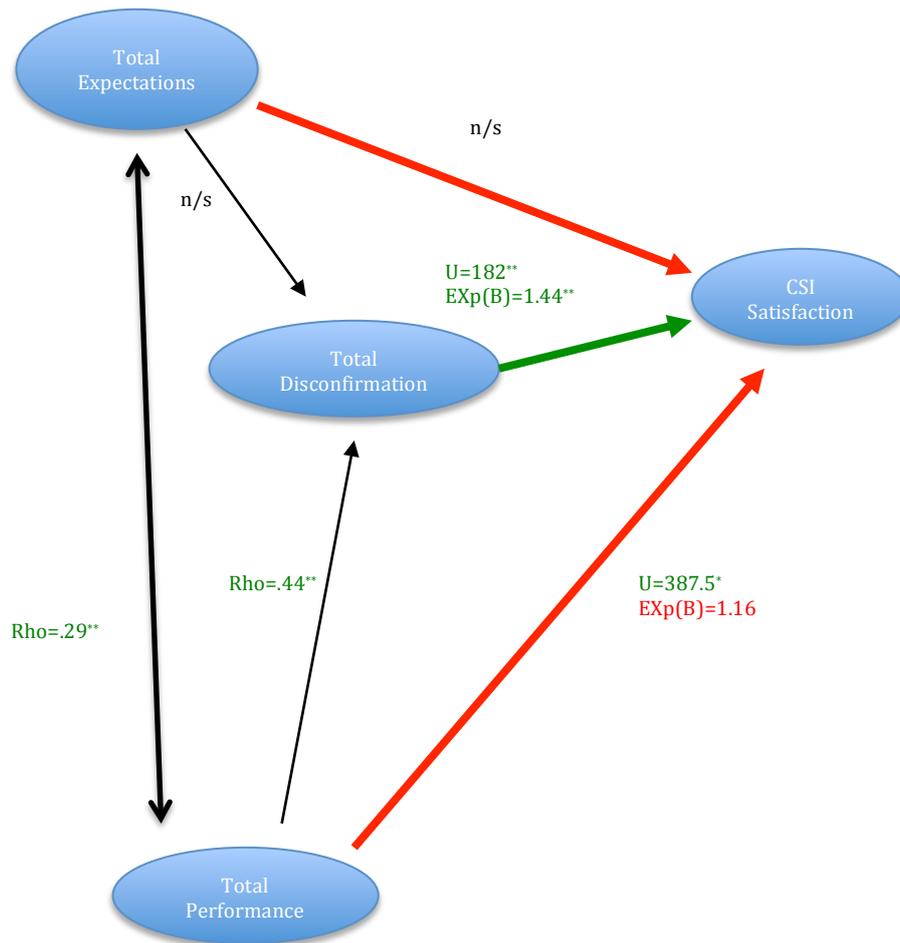
The following table demonstrates the correlations between total expectations, performance and disconfirmation regarding CSI investigation.

Spearman's rho:	Total CSI Expectation	Total CSI Performance	Total CSI Disconfirmation
Total CSI Expectation: Correlation Coefficient	1	<b>.29**</b>	-0.09
Sig. (2-tailed)	.	0.01	0.44
Total CSI Performance: Correlation Coefficient	<b>.29**</b>	1	<b>.44**</b>
Sig. (2-tailed)	.01	.	.00
Total CSI Disconfirmation: Correlation Coefficient	-0.09	<b>.44**</b>	1
Sig. (2-tailed)	.44	.00	.

\*\* Correlation is significant at the 0.01 level (2-tailed)

### Research Model – Satisfaction with the CSI investigation:

Expectancy Disconfirmation model – analysis on unidimensional level (chapter 6-table 31)



## Research Model – mixed methods findings

### Explanatory Notes for the model below:

1) Total expectations is the summed score of victims initial expectations regarding four CSI activities (CSI would search for FE, CSI recover FE, CSI would be courteous or respectful, CSI would walk with you to determine the route taken by the offender). Total performance and total disconfirmation computed also using these four activities

2) Total disconfirmation: stands for total subjective disconfirmation, measured by asking the participants to report the difference between their initial expectations and perceived police performance, on a 7-item Likert scale where 1= 'much worse than expected', 4= 'just as expected' and 7 'much better than expected' for each of the four CSI activities, mentioned above

2) **Unrealistic Expectations of FE: (Qual)<sup>1</sup>** : Perceptions of forensic evidence measured through items of FEEBS are conceptually similar to the first two types of unrealistic expectations of forensic evidence from the qualitative study

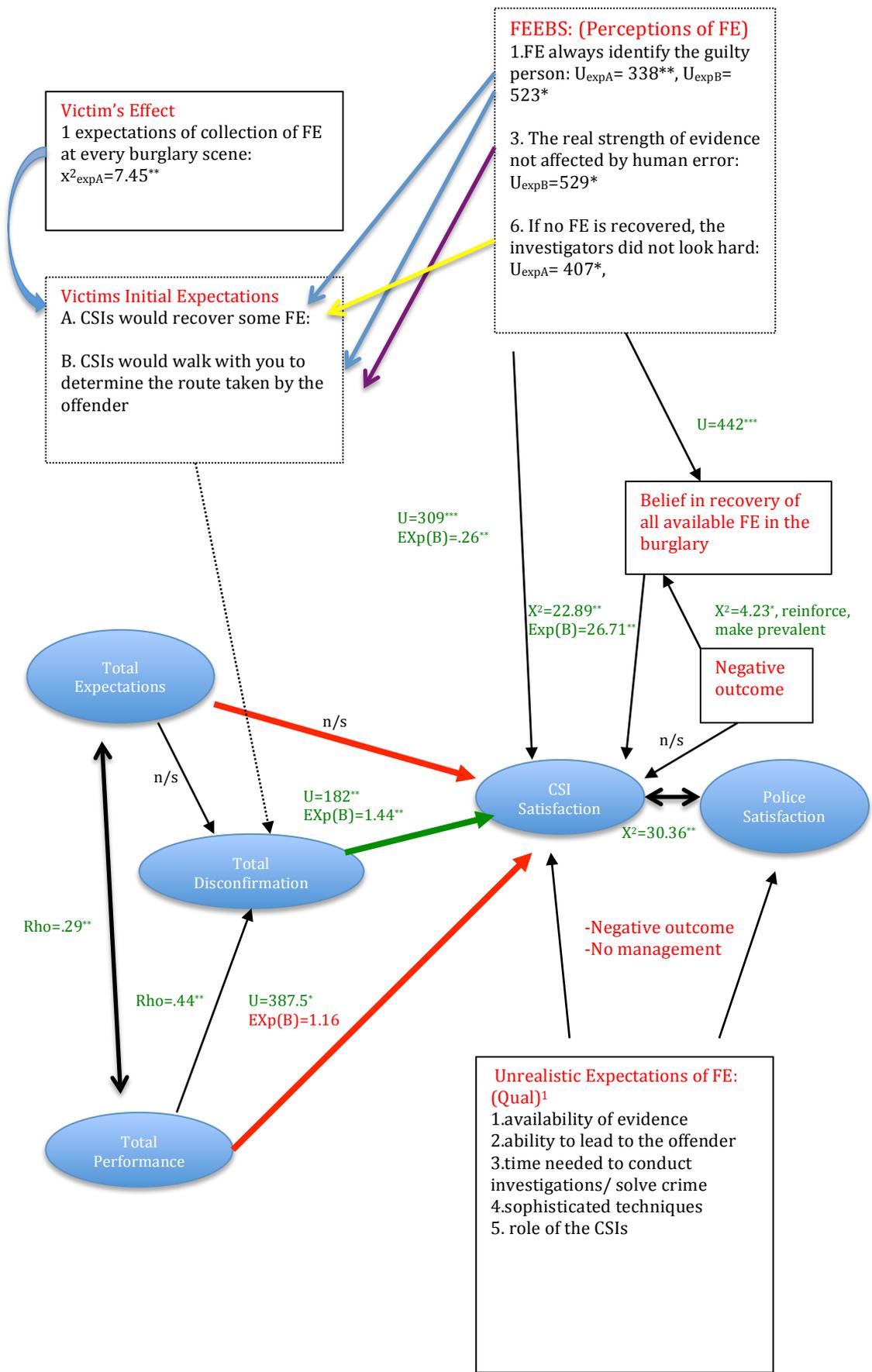
3) Negative outcome corresponds with no recovery of forensic evidence in the quantitative study while in the qualitative study this term can include also cases where the CSIs recovered little evidence

4) \*\* = significance at the level .01

\* = significance at the level .05

5) Numbers or arrows in green show statistically significant relationships

Numbers or arrows in red show non statistically significant relationships



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