

**Does Police Culture Prevent the New Zealand Police From Making the  
Best Use of DNA Technology to Investigate Crime?**

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### **Attestation of Authorship**

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.”



### **Dedication**

I would like to dedicate this thesis to the women and men of the New Zealand Police. They are passionate about their work and against all odds continue to provide the best service they can to the New Zealand public. It is and always will be a privilege to be part of this organisation.

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## **Abstract**

The international literature refers to many studies on the application of DNA technology by the police. These studies cover topics such as police use of forensic evidence, the ethical use of DNA, the application of DNA evidence in courts and the implications of an unchallenged proliferation in DNA legislation. The literature pertinent to the police use of DNA technology identifies that when the police do use DNA to investigate crime the results are good, confirming that DNA is an effective means by which to identify offenders and the police should make use of it. However, there is no in-depth research about how the police actually use DNA technology to investigate crime, nor about the effectiveness of the New Zealand national DNA database. This unique research adds to the international literature through a New Zealand case study. While police forces worldwide have a history of adopting new technology in the belief it will make them look professional and improve their effectiveness in preventing or solving crime, they have not necessarily maximised the full capabilities of this technology. From a theoretical view there are two key issues that prevent the effective use of DNA technology: 1) ineffective application of organisational processes to use it efficiently; in that there is reluctance by staff to change their behaviours leading to a likelihood that new processes will be circumvented; 2) the cultural resistance to change at both the middle management and front line levels. These two are intrinsically linked as they drive each other. When there is resistance to change it can prevent an organisation from implementing sound business practices. This leads to limitations of buy-in from staff as they do not perceive the value of this new technology and they have not been provided with the organisational framework to make the best use of this technology. This is interpreted from the theoretical construct of Chan's 'field and habitus' of policing and the impact that police culture can have on the successful implementation of new technology. Police culture can impede change within the organisation as they have a definite comfort zone that does not include any great change to their processes or practices. They are content to try new technology as long as they can continue to police in the way they have always done. This research looks at one district within the New Zealand Police to examine how they use the national DNA database to investigate crime. Files from the 2005 calendar year where DNA was found at the scene of a crime were reviewed. To add more depth to the data recovered from the files, a range of practitioners was interviewed to establish their views on DNA use by the police. The

results of the study were the identification of several issues with the data entry and the capturing of statistics. While the data was limited due to the vagaries of police information, it was discovered that despite all the time and energy the New Zealand Police have spent on DNA technology they have not reduced crime or in some cases even solved crime in spite of its use. The empirical evidence gathered from police files, interviews and other literature showed that although the New Zealand national DNA database functions as intended, the police do not make the best use of it to investigate crime. New Zealand Police needs to appear legitimate in the eyes of the public when enacting its powers and a topic such as DNA is always going to generate emotive responses. Moreover, the police need to be more aware of the impact on the public of the use of their powers, therefore the taking and retaining of DNA samples needs to be for legitimate reasons. For this to be acceptable to the public the police need to be seen to be making the best use of DNA technology to investigate crime.

# **Chapter 1: Introduction**

## **1.0 Introduction**

This research aims to establish if police culture prevents the New Zealand Police from making the best use of DNA technology to investigate crime. The emphasis has been placed on police culture as the theoretical construct adopted for the research is Chan's adaptation of field and habitus as applied to policing. That is the environment, arena or 'field' of struggles within which the police operate and the culture or 'habitus' that may enable or disable that environment. To contextualise the research the thesis reviews the history of the discovery of the double helix and the first use of DNA to identify a suspect. The establishment of DNA databases and corresponding legislation is also explored as these might impact on the legitimate use of the new technology by the police. Although police culture is a focus of this research; legitimacy, change management, police technology and police hierarchy are also looked at. This research focuses on the use of DNA technology to investigate crime and is specific in its aim by reviewing DNA files and interviewing police staff who use DNA as part of their work. This is to compare the perception or views of staff as to the benefits of DNA technology to investigate crime and the reality of what those interviewed actually do with DNA when investigating crime. A search of literature in relation to this subject suggests that this type of research has not been done before therefore the police (or the public) cannot be sure that DNA is used effectively to investigate crime. Conclusions might be drawn that by using DNA the police are merely 'ticking a box' to present the appearances of being professional in their approach to the use of modern technology to fight crime.

Due to the nature of the subject matter and the length of time taken to complete this research, changes in legislation, technology and policy have occurred since the original files were examined. This is acknowledged and updates given where appropriate in the form of footnotes and in the final chapter. The nature of the research has also evolved over time with conclusions being drawn as a result of the data and interviews which focused more on the police culture than at first realised.

The remainder of this chapter will lead the reader through the background of the New Zealand Police, DNA, databases, legislation, budget and therefore setting the scene for the research. The chapter concludes with a break-down of the content of the remaining chapters

## **1.1 Deoxyribonucleic Acid (DNA)**

The first concept of an inherited characteristic can be traced back to 1865 when an Austrian monk, Gregor Mendel, published his work on the study of pea plants. He stated that they inherited their physical characteristics from their parents and passed

them on to their offspring (Guerin, 2007). DNA is the chemical code specifying a person's genetic makeup, appearance and lineage and is unique to all individuals except identical twins (Kirby, 1992). The existence of DNA was validated by Watson, Crick, Wilkins and Franklin in 1953 with the discovery of the double helix, and it was in the early 20<sup>th</sup> century that researchers began suggesting that it might store genetic information (Watson, 2003). In 1984, Jeffreys found that portions of DNA contain regions that are made up of an unusual sequence of 10 to 15 DNA bases (called a core sequence), repeated several times. These repeated sequences, called 'hypervariable regions', seem to be harmless bits of DNA, with no purpose. Jeffreys also discovered that these gene sequences in the hypervariable regions were different in every individual except for identical twins (GeneTalk, 2004).

This uniqueness provides necessary differentiation for the identification of a DNA fingerprint for all people. Jeffreys' method of identifying offenders was first used successfully in 1986 in the case of a serial murderer/rapist in Enderby and Narborough in England (Wambaugh, 1989). The police arrested a young man who eventually confessed to the rape and murder of one of the victims but they suspected that he was also responsible for another murder. They contacted Jeffreys to ask if his new discovery would be able to connect their suspect with the other murder. Jeffreys was able to confirm that the same person had in fact raped and killed both girls. However, the DNA profile did not match the man they had in custody. Eventually, DNA fingerprinting identified Colin Pitchfork as the offender. He became the first person to be identified using DNA whilst the youth became the first person to be exonerated due to the use of DNA technology (Wambaugh, 1989).

In 1995 the UK became the first country in the world to have a national DNA database. By 2006 the British Government had spent 300 million pounds on the database and had enacted legislation that has enabled the database to increase to 3.1 million profiles (Parliamentary Office of Science and Technology, 2006). The UK database is the largest in the world and its aim is to eventually hold all the criminals in the UK. It is important to note that of the 3.1 million profiles at least 1 million belong to people who have never been convicted of any offence (GeneWatch, 2006). This immediately calls into question the legitimacy of this database if its purpose is to identify offenders.

### 1.1.1 Gregor Mendel

Gregor Mendel was an Augustinian friar who developed a strong interest in botany. In 1866 he published his major work on the subject of hybridisation of peas. This paper, “Versuche uber Pflanzen-Hybriden”, was largely ignored by the scientific community for 34 years (Weiling, 1991). Mendel used peas to try to unravel the mystery of how traits were passed down from one generation to the next. With a background in physics, his approach to his research was different from the usual methods employed by biologists. The cross-breeding of red and white flowers resulted in some red and some white offspring. Mendel realised that the significance lay in the ratio of red to white flowers and by using a quantitative approach he counted the flowers to work out this ratio (Watson, 2003). In cross-pollinating plants that produced either yellow or green seeds, Mendel discovered that the first generation always produced yellow seeds; however, the second generation consistently produced a 3:1 ratio of yellow to green (O'Neill, 2011). What Mendel had discovered was that there are specific factors that are passed from parent to offspring. He determined that these factors came in pairs and that the offspring received one from each parent. These factors were later to be called “genes” (Watson, 2003). By the late 1800s scientists had applied the word “chromosomes” to describe the long, stringy bodies in the cell nucleus. In 1902 Mendel and chromosomes were finally linked, largely due to the work completed by Morgan using fruit flies to prove or disprove the finding of genes on chromosomes. Morgan was able to prove that genes were to be found on chromosomes. Moreover, his research established that a particular characteristic was disproportionately represented in one sex. This is called sex-linkage. Mendel died in 1884 with his work largely ignored, even discredited, in his lifetime. Watson (2003) suggests that Mendel’s work was ahead of his time and that most scientists of that era would not have understood it. It was for this reason that it remained buried in an obscure journal. The scientific community was not able to catch up with Mendel until 1900 when his work was re-discovered. It is believed that it was ignored for 34 years because it was not published as widely as it should have been (Hartl & Orel, 1992; Watson, 2003). However, some researchers state that Mendel’s work was widely published at the time but that it was simply too difficult for scientists to comprehend (Weiling, 1991; Zirkel, 1951).

While Mendel was working with his peas, another of his scientific contemporaries was making a breakthrough in Switzerland. Friedrich Miescher’s studies would aid the work

picked up again in 1944 by the likes of Avery, MacLeod and McCarty (Avery, MacLeod & McCarty, 1944). Miescher was a Swiss physician who wanted to understand the building blocks of life. He chose leucocytes (white blood cells) as his source material and initially looked at the protein in these cells. It was during these studies that he noticed a substance with unexpected properties that did not match those of the proteins. Miescher had obtained the first crude purification of DNA. He further examined the properties and composition and was able to show that it differed fundamentally from proteins. Due to its occurrence in the cells' nuclei, he called the new substance "nuclein", a term still used today in the name deoxyribonucleic acid (Dahm, 2005). As with Mendel, Miescher's work on nuclein was largely ignored until long after his death. The majority of scientists remained convinced that the more complex proteins must be the carriers of genetic information. DNA is made up of only four different nucleotides; too few, it was believed, to store the enormous amount of genetic information (Dahm, 2005). This belief would continue unchallenged until finally proven wrong in 1953 by Watson and Crick.

### **1.1.2 The Double Helix**

In 1953 in a public house in England, Crick announced that he and Watson had found the secret of life (Watson, 1968). Although this may seem a portentous statement the significance of their discovery would, in fact, have an impact on society that neither of them could have imagined (Scheck, Neufeld & Dwyer, 2001; Tracy & Morgan, 2000). Prior to 1953 scientists were trying to establish exactly how genetic information was passed down through generations. It was believed that DNA was too modest to be the bearer of such complicated code scripts even though DNA was found on every chromosome (Dahm, 2005; Watson, 2003; Yee, 1994). By the 1930s it was established that DNA was a long molecule containing four different chemical bases: adenine (A), guanine (G), thymine, (T) and cytosine (C) (Watson, 2003).

However, it was still unclear how the subunits (deoxynucleotides) of the molecule were chemically linked. If DNA were to be the code script then the molecule would have to be capable of existing in numerous different forms. Work on DNA remained dormant until the mid-1940s when Avery became curious to know how a genetic change could occur in different strains of pneumonia. He was able to prove that the transforming factor was DNA. Although geneticists accepted his findings, biochemists were doubtful



that DNA could possibly hold so much biological material. They continued to believe that proteins, the other components of chromosomes, were more likely to be the hereditary substance. Their logic was that it would be easier to encode a vast body of complex information using the twenty-letter amino-acid alphabet of proteins than the four-letter nucleotide alphabet of DNA (Dahm, 2005). By 1951 Todd at Cambridge had managed to prove that the backbone of the DNA molecule was very regular. It was also apparent that more scientists were trying to prove how the code was transferred and it was likely that this information was contained within DNA. In 1953 Watson and Crick discovered the chemical spatial structure of the DNA molecule (Hanner, 1990). The physical shape of the DNA molecule is a double helix structure (Hanner, 1990; Tande, 1989; Watson, 2003). The double helix demonstrated that the two chains were held together by strong hydrogen bonds between adenine-thymine and guanine-cytosine base pairs. The complementary nature of the base sequences along the two chains meant that if the order of bases along one chain was known, the sequence along the other was automatically known also (Watson & Crick, 1953). The double helix illustrated how the genetic messages of cells are copied exactly when chromosomes duplicate prior to cell division. The molecule would unzip to form two separate strands. Each separate strand then could serve as the template for the synthesis of a new strand, one double helix becoming two (Watson, 2003).

DNA carries the body's genetic information and every cell carries a complete blueprint of the unique characteristics of each person. DNA determines everything from sex to eye colour and this information is passed from one generation to the next (Hanner, 1990; Tande, 1989; Yee, 1994). Watson and Crick's work on the double helix did in fact go some way to unravelling the secret of life so Crick's statement was not too much of an exaggeration. The work started by Watson and Crick ultimately led to the sequencing of the human genome. By decoding the DNA that constitutes the human genome, researchers are able to understand the cause of hereditary diseases and possibly eliminate them (Venter et al, 2001). The sequencing of the human genome enables doctors to assess which treatment will work best on a patient according to his DNA (Bell, 2003). This obviates the need to experiment until the right type of medication is eventually happened upon. When DNA is passed down from parent to child it contains half the chromosomes of the mother and half the chromosomes of the father (Hanner, 1990; Yee, 1994). A scientist in England, Jeffreys, made a discovery that he thought

would enable authorities to test the adults travelling with refugee children to ensure they were in fact related. As it transpired, his discovery was taken further than that.

### **1.1.3 The DNA fingerprint**

Alec Jeffreys was working in Leicester in 1977 analysing the human myoglobin gene when he and his team discovered a region consisting of 33 base pair sequences repeated four times with an intervening sequence (Kirby, 1992). Base pairs refer to the bases A=T or C=G, linked by hydrogen bonds, binding DNA complementary strands (Kirby, 1992). Approximately ninety-nine percent of an individual's DNA is identical to all other humans. However, the remaining one percent of the DNA sequence varies from person to person (Peterson, 2000). Within these sections of DNA, sequences of base pairs are often repeated hundreds or even thousands of times. These sequences are called Variable Number of Tandem Repeats (VNTR) (Peterson, 2000). Tandem repeats are the end-to-end duplication of a series of identical or almost identical stretches of DNA (Kirby, 1992). This tandem repeat was referred to as a minisatellite<sup>1</sup> and similar regions as being hypervariable<sup>2</sup> because the number of tandem repeats is variable both within a locus<sup>3</sup> and between loci. They also discovered that each repeat unit contains a smaller 16 base pair core in common with other minisatellites. When DNA is isolated, split with a specific enzyme and hybridised under low stringency conditions with a probe consisting of the core repeat, a complex ladder of DNA fragments is detected (Kirby, 1992). This profile appears to be unique to each individual except for identical twins who share the same DNA. Different core repeats were later isolated and used to produce a number of different probes useful for fingerprinting (Kirby, 1992).

DNA fingerprinting allows scientists to compare two samples of organic material to determine whether they are from the same person (Hanner, 1990). The process cuts DNA into fragments and arranges them into a bar-code pattern according to number and size (Tande, 1989). DNA is examined by taking it from the cell, isolating and then analysing it to see what sized fragments are present in that particular strand. The method used for this procedure is called restriction fragment length polymorphism

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<sup>1</sup> regions of tandem repeat sequence DNA scattered throughout animal (and probably plant) genomes

<sup>2</sup> a segment of a chromosome characterised by considerable variation in the number of tandem repeats at one or more loci

<sup>3</sup> a specific position on a chromosome

(RFLP) analysis (Hanner, 1990). Other tests used in the past, such as blood tests, could only eliminate a person as a suspect but this test made positive identification possible (Hanner, 1990). Due to the unique nature of an individual's DNA, no two people (except identical twins) should produce the same DNA patterns (Gill, Jeffreys & Werrett, 1985; Tande, 1989). They were able to separate sperm nuclei from vaginal cellular debris obtained from semen-contaminated swabs. Therefore it was believed that DNA fingerprinting would revolutionise forensic biology, especially in relation to identifying rape suspects (Gill et al, 1985). The ability of DNA to repair and replicate itself as well as being the fundamental mechanism of life is the basis for modern forensic DNA profiling techniques (ESR, 2009). In their 1985 article in *Nature*, Jeffreys, Wilson and Thein wrote that the DNA 'fingerprint'<sup>4</sup> can be used for a variety of research. In particular, they comment on it providing a powerful method for maternity and paternity testing and being used in forensic applications. However, it also had the potential to be used for a variety of other genetic linkage implications such as gene-linked diseases and the ancestry of groups of people.

With this understanding of the potential for the use of DNA, the door had been opened for its use as a forensic tool. With police forces' penchant for adopting new technologies and championing them in a public forum as a means of promoting legitimacy, it would be only a matter of time before DNA was taken up as a tool for law enforcement; as a new and novel way to secure the arrest of offenders.

#### **1.1.4 Narborough: An Illustrative Case Study of the First Use of DNA Technology to Identify an Offender**

In 1983 a 15-year-old girl was raped and murdered in the Leicestershire town of Narborough in the UK (Wambaugh, 1989). Forensic examination of a semen sample found on the body showed that it was a type found only in 10% of men and was from someone with type A blood. This was the only forensic test available to the police at that time. The police were unable to find a suspect for this crime. Three years later another 15-year-old girl was raped and murdered in the nearby village of Enderby. The attack and consequent murder shared similarities with the earlier crime in Narborough (Wambaugh, 1989). Semen samples recovered from the body showed the same blood

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<sup>4</sup> Jeffreys used this term to refer to the multi hypervariable regions

type. After an extensive investigation the police arrested a 17-year-old local boy with learning difficulties who admitted to raping and killing the second girl but not the first. The police were sure that one offender was responsible for the two killings (Tande, 1989; Wambaugh, 1989; White & Greenwood, 1988). The officer in charge of the case had read about the work that Jeffreys and his team had been doing on DNA fingerprinting. He wrote to Jeffreys asking if DNA fingerprinting would be able assist him in his investigation. The samples were sent to Jeffreys who analysed them and sent his response back to the police.

Jeffreys confirmed that the girls had been killed by the same man but not by the male they had in custody. Having received this information, the police then began a large operation to screen, via blood tests, every male in the Enderby and Narborough areas. In 1987 the police and forensic scientists screened blood and saliva samples from 4000 men aged between 17 and 34 without an alibi in the two villages and nearby Littlethorpe. Although they had a turn-out rate of 98% the screen did not find a match. They then extended the screen to include those with an alibi, also with a negative result (Tande, 1989; Wambaugh, 1989; White & Greenwood, 1988). As there were no laws supporting this course of action the samples were acquired voluntarily. By happenstance a man socialising with friends in a pub stated that he had given blood samples twice: once for himself and again for a friend who had already given blood for another friend with a previous minor sexual offences conviction. This information was passed on to the police. The man in question was Colin Pitchfork who was arrested and had a sample taken from him. The sample matched those of the samples found at the scene of both murders. It was the first time that DNA fingerprinting was used to identify and convict an offender. It was also the first time that DNA was used to exonerate an innocent man (Tande, 1989; Wambough, 1989; White & Greenwood, 1988). DNA was considered a major breakthrough in forensic science and some believed it would be possible to identify each individual's unique DNA with near-perfect accuracy (Tande, 1989). However, it might be more accurate to suggest that a forensic geneticist tries to identify with as much certainty as possible the origin of a biological sample (Jobling & Gill, 2004). This application of Jeffreys' science by the police began a revolution in crime fighting and with this revolution came a new set of problems.

### **1.1.5 Implications for Law Enforcement Agencies**

The rise of DNA technology has huge implications for law enforcement agencies throughout the world. A growing number of countries have introduced the use of DNA technology into their criminal justice systems and this growth has been rapid and far reaching (Williams & Johnson, 2008). The New Zealand Police have embraced this technology with investment in the National DNA Databank and continue to invest in DNA sampling. In the New Zealand Police's Statement of Intent 2009/10 – 2011/12 (The New Zealand Police, 2009a) the then Minister for Police, Judith Collins, refers to improving the Police's toolkit with more formal DNA investigation powers. In the same document the then Commissioner for Police, Howard Broad, discusses "the expansion of DNA sampling to improve investigation and resolution rates" (p.6). The Statement of Intent is a contract with the government entered into by the New Zealand Police and particularly the Commissioner. It is presented to the House of Representatives and is covered by Section 39 of the *Public Finance Act* 1989. The *Public Finance Act* "represents the foundation of accountability systems for the resources provided by taxpayers to the New Zealand Government, which the government administers on our behalf" (Whitehead, 2005 p.1). The statement of intent is the document on which all police policies will be based until 2012 and it is the document that the government will be closely following when looking for results. For these reasons, whatever is published in the document will receive funding, support and encouragement. This suggests that DNA is very much in the forefront of New Zealand Police policy making.

In relation to the arrest of offenders and reduction of crime, there is a need to establish what actually is accomplished by having a national DNA databank. This is important because a key reason the public support the police is that they view them as legitimate (Hinds & Murphy, 2007). This public perception of legitimacy enables the police to do their job and while this perception is not necessarily situated in reality, this is not important as long as it is real to the public. According to Samkin, Allen and Wallace, (2010), it is the extent of stakeholder support for an organisation that determines its legitimacy. Therefore, investment in this new technology is acceptable to the public only as long as DNA profiling is perceived as an effective investigative tool and does not violate any human-rights issues in the taking and retaining of DNA profiles. This research explores beyond the media rhetoric that surrounds high-profile cases that have

enhanced the perceived success of the database in the eyes of both the police and the public, to establish if the police make the best possible use of DNA technology.

Various commentators have espoused the efficacy of the National DNA Databank and made claims for its success (Allsop-Smith, 2005; Goff, 2004; Key, 2009). One such avid supporter is the Institute of Environmental Science and Research (ESR) which is a crown entity owned by the New Zealand Government but operating with an independent board of directors. The ESR covers all aspects of serious crime scene examination, drugs and alcohol, physical evidence and DNA testing. The ESR is the sole provider of the aforementioned services to the New Zealand Police and would stand to lose considerable income and investment in equipment if the police no longer used DNA evidence.

The ESR (2011a) states that:

"Since the operational start of the DNA Databank in 1996, more than 108,000 individual profiles have been completed to the National DNA Database (NDD). Most individual profiles held on the DNA Databank now come from buccal scrapes (taken from inside the mouth). The overall success rate in DNA matching in NZ is world-leading. 63% of all unsolved cases loaded to the crime sample databases are linked to individuals, and more than 30% linked to another crime."

When the *Criminal Investigations Blood Samples Act* 1995 was amended in 2004, then Minister for Police, George Hawkins, along with Phil Goff, then Justice Minister, suggested that this would result in an increase in burglary resolutions, more offenders being convicted and historic cases being resolved (Goff, 2004). Inspector Allsop-Smith (2005) from the New Zealand Police claimed that the results from the number of links on the national DNA database have enabled more cases to be resolved and prove that offenders who are in prison are rightfully there. However, it is not known exactly what these results are. The ESR refers to links made on samples obtained from crime scenes and the profiles they have on their databank. Moreover, this information from the ESR can be misinterpreted. Saul (2001), a legal officer with the Australian Law Reform Commission, states that:

"Statistics on the number of matches between DNA profiles and crime scene stains are, however, misleading in some crucial respects. Firstly, "matches" do not signify guilt, nor do they represent arrests made or convictions secured. A match simply means that a particular person may have been, but was not necessarily, present at a particular crime scene at some point in time" (p.26).

Yet, based on perceived successes, the New Zealand Government appears to be committed to giving the police more powers to obtain DNA samples. It was the government of New Zealand Prime Minister John Key which passed the *Criminal Investigations (Bodily Samples) Amendment Act* in 2009 and the same government which pledged to assist the police to provide a better service to the public. Key (2009) announced that DNA testing would identify offenders who have previously been unidentifiable and more importantly have previously escaped conviction. From Key's comments it is apparent that there is a real belief (by him) that DNA can assist the police in making an impact in the detection of crime.

It is noticeable that there is a dearth of criminological analysis in the field of DNA profiling in New Zealand. There has been no independent systematic study that offers a credible critique of the New Zealand Police use of DNA technology. A review of the literature shows that a lot of research has been done on other jurisdictional police use of DNA technology. However, there is a lack of literature on the investment of police time and money into DNA technology, the true results of this investment and, depending on what those results might be, why. Hence the need for this study.

## **1.2 Historical and Institutional Framework and Context**

Essential to any investigation of criminal activity is the ability for investigators to identify suspects (Bennett & Hess, 2003). From an historical standpoint the police have often been quick to adopt new technologies both for self-reference when identifying suspects and as a means of publicising known offenders. In 1879 the New Zealand Police requested photographs of Ned Kelly's gang to be circulated around New Zealand in case they should try to land here. According to the Commissioner's Chief Clerk in 1884, "the use of photography by the police in connection with the arrest of offenders is as old as photography itself" (Hill, 1989 p.347). Although photography was the main tool used for identification, it could not always identify the culprit. In 1887 in Oamaru, South Island, New Zealand, a local constable found a footprint at the scene of a burglary. He apprehended the perpetrators and compared inked footprints with theirs. The print was an exact match with one of the suspects and this became the first such detection in New Zealand (Thomson & Kagei, 1987). There were also attempts to formalise the use of forensic technology by the police. According to Hill (1995) the then Commissioner of the New Zealand Police, Dinnie, sought to:

“Professionalise such procedures and systemise the use of several recent developments in forensic science – most particularly, to maximize the benefits from the fingerprint system of identification (‘dactyloscopy’) recently introduced to the colony” (p.166).

While Tunbridge, the Commissioner prior to Dinnie, was sceptical about the use of fingerprints, it was the head of the prisons system, Hume, who appreciated the value of fingerprinting as a way of identifying recidivist prisoners who supplied false names (Hill, 1995). In 1903 fingerprinting of all prisoners was introduced into New Zealand prisons (Hill, 1995). Tunbridge expressed concern that there was no law that allowed the police to force prisoners to provide a set of their prints. This was a concern not unlike the situation facing the New Zealand Police regarding the taking of blood samples for DNA testing prior to the passing of the *Criminal Investigations (Blood Samples) Act 1995*.

The new Commissioner, Dinnie, was already convinced of the efficacy of fingerprinting and in 1903 the Police Fingerprint Branch was established at Police Headquarters in Wellington (Hill, 1995). The New Zealand Police took control of all fingerprinting in New Zealand including those taken in the prisons. The Fingerprint Branch at Police Headquarters would store all the records. Hill (1995) states that at the time the public were fascinated by the idea of fingerprints and wanted to hear stories about the use of this technology at any opportunity. Fingerprinting was the DNA profiling of its day and, just as DNA has had its detractors, so too did fingerprinting. The tabloids of the time referred to fingerprint experts as “fakirs and palmists” and printed stories that attempted to discredit fingerprinting (Hill, 1995). Commissioner Dinnie knew that the only way to gain full acceptance of fingerprinting was to have many successful identifications. He also appreciated the need to ensure that the police had a professional public image as a means of promoting organisational legitimacy. Dinnie provided this by ensuring that there were good systems in place with robust methods for checking results and linking prints to prison photographs (Hill, 1995). This would be a lesson that the fledgling New Zealand DNA database would also have to learn.

### **1.3 The UK National DNA Database**

The UK DNA database was established in 1995 and was deemed a success which led to it being considered the world leader in the use of DNA evidence (Briody & Prenzler,



2005; Krinsky & Simoncelli, 2011). It was thought that having a comprehensive database would speed up the process of identifying offenders and reduce the number of hours police would need to spend investigating a case, as well as assuring convictions (Krinsky & Simoncelli, 2011; McCartney, 2004; Van Camp & Dierickx, 2008). This was at a time when conventional policing methods were seen to be failing with an increase in crime rates and a drop in detection rates (Gunn, 2003; Maguire, 2000). Therefore the database and the use of DNA were highly regarded by both senior officers in the UK and successive governments as a significant help in the fight against crime (Gunn, 2003). It was within this environment that the laws were steadily added to, allowing the police to obtain and retain DNA samples. The Home Office DNA Expansion Programme was launched in 1999 and funded with 182 million pounds between April 2000 and March 2004 (Townsend, Smith & Pease, 2005). Tony Blair announced that he wanted to see the entire criminal population on the database by 2004 (Wallace, 2006). However, over the last few years concerns have been raised regarding the justification of such laws and the need for such a large database. While its supporters argue that the bigger the database the more effective it is, sceptics believe that there is no evidence to support such claims (McCartney, 2004). In fact, there are real fears that individual privacy is slowly being eroded in the name of solving crime (Hindmarsh & Prainsack, 2010; Williams, 2010; Prainsack, 2010). Indeed, some believe that the government is trying to implement a universal-coverage database by stealth (Williams & Johnson, 2006).

#### **1.4 The New Zealand Police**

The New Zealand police force was first established in 1886 and was modelled on the British system with the exception that New Zealand Police is a national service whereas Britain is divided into 43 separate forces. The first rules and regulations governing police were borrowed extensively from the summary of the principal constabulary rules prescribed by British law (The New Zealand Police, 2010). From the time of Hobson in 1840, prior to the formal establishment of the New Zealand police force, there were police officers in New Zealand. These officers were armed paramilitary who took part in the Land Wars during 1846-47 as well as keeping civil order. With the passing of the *Police Force Act 1886*, the police were no longer routinely armed and started policing a community that largely respected the law (Winfrey & Taylor, 2004). Although the early commissioners were former army officers, Tunbridge (1897-1903) was an experienced

British police officer who was brought to New Zealand to supervise the transition to modern civil police. Therefore the New Zealand Police was established, not surprisingly, with a heavy British influence and based very much on the Westminster legal system.

The 1958 *Police Act* dropped the word "force" and the service has since been known as the New Zealand Police. It was felt that this better reflected the philosophy of policing by consent which was a strong part of the policing ethos inherited from England. In England and Wales there was substantial resistance to the establishment of the police and therefore there was an urgent need to achieve some legitimacy among the general population (Jones, Newburn & Smith, 1996).

The New Zealand Police Mission is:

"The New Zealand Police seeks to be a world-class police service working in partnership with citizens and the community to prevent crime and road trauma, to enhance public safety and to maintain law and order" (The New Zealand Police, 2010a).

New Zealand has one national police service. It provides policing services 24 hours a day and operates from more than 400 community-based police stations around the country. It has more than 11,000 staff and at time of writing it responds to more than 600,000 emergency calls each year (The New Zealand Police, 2010a). The functions of the New Zealand Police include:

- Keeping the peace
- Maintaining public safety
- Law enforcement
- Crime prevention
- Community support and reassurance
- National security
- Participation in policing activities outside New Zealand
- Emergency management

The concept that the public consent to the authority of the police was pushed by early London Metropolitan Police Commissioners such as Mayne and Rowan who were keen

to show that the police were impartial and fair when enforcing the law (Reiner, 1992). This idea of policing by consent was also adopted by the New Zealand Police. As with other jurisdictions, the New Zealand Police relies on the majority of the public to obey laws and follow orders when given by them. This means that the New Zealand Police needs to be able to prove that their authority is legitimate (further explored in chapter 8, section 8.4). However, if the police are seen to do things that are deemed incompetent, unfair or illegal the public may begin to lose confidence in them. According to Rowe (2009) the New Zealand Police has enjoyed a positive public/self image for much of the past 50 years. As a result of New Zealand's strong link to England there is a perception that the justice system was developed with a view to creating the "Britain of the South Pacific" (Rowe, 2009, p. 124). There is a view that the New Zealand Police are an example of genteel policing and as there has been no evidence of endemic corruption there may be a misconception (by the New Zealand Police) that they have the total trust and respect of the community.

#### **1.4.1 The History of New Zealand National DNA Databank**

In 1983 Joseph Stephenson Thomson committed his first known rape in Auckland. It would be another eight years before he would be caught. In 1995 he pleaded guilty to 129 charges, 61 of them being for sexual violations. His youngest victim was 10 years old, his oldest 43; 32 of his offences were against girls aged 16 years and under. In order to find this serial rapist, the police took blood samples from 4,500 men in South Auckland, targeting Polynesian and Maori males as they had a general description of the suspect. At the time, a lawyer's response to this mass screening was: "the recent mass screenings of Polynesians in South Auckland in the serial rapist investigation may well be the first sign of legalised abridgement of civil rights" (Corbett, 1996 p.145) as the police had no legal right to compel people to give a sample of their blood. It was suggested that the police had put subtle pressure on the men by intimating that they would let their employers know they had refused to cooperate in the investigation. After all, if you had nothing to hide, why would you not want to give a sample of your blood (Corbett, 1996)? With the advent of new technologies, especially DNA, it was becoming evident that the law (at that time) was not adequate to allow police to make use of such technology. *The Police Act* 1958 allowed the police to take a person's particulars, such as fingerprints and a photograph, but only under certain conditions. There was no provision in the 1958 *Police Act* to take a bodily sample. Although the

2008 *Policing Act*<sup>5</sup> has now superseded the 1958 one, it is the *Criminal Investigations (Bodily Samples) Act* (1995) that gives the police the powers to take and retain DNA samples<sup>6</sup>.

The lack of legislation supporting the police in taking DNA samples resulted in several cases being taken to the Court of Appeal. Two such cases occurred in 1991: *R v Pengelly* and *R v Montella*. In 1989 Pengelly was convicted of killing an elderly woman. DNA was used to link him to the woman and subsequently convict him. The police obtained blood from him (with his permission) in order to compare it to blood found at the scene. At the appeal, his lawyers argued that had Pengelly understood what he was consenting to he would never have agreed to provide a sample. The appeal was dismissed on the grounds that Pengelly had had everything explained to him and he had fully consented. The court concluded that even though technology was more advanced, additional information was not required to be given (NZLR 545, 1992). In the case of *R v Montella*, Montella was convicted of sexual violation of a 12-year-old boy. Semen was found in the boy's underpants. The police discovered that Montella had provided a blood sample for an HIV test and used this sample to extract DNA to compare it with the semen found. The profile matched and he was arrested and convicted. The appeal was held as Montella had never given his consent for his blood to be used for anything other than an HIV test. The appeal judge made a plea "for the legislators to give urgent consideration to providing a statute which sets out the position both of the police and an accused when DNA testing is a possibility" (NZLR 63, 1992, p. 68).

In 1992 the government agreed to enact legislation governing the taking of blood samples for DNA purposes. Early in 1993 the police raised a new proposal involving additional powers to take blood samples from convicted offenders for the purpose of maintaining a DNA databank. On 12<sup>th</sup> August 1996 the *Criminal Investigations (Blood Samples) Act* 1995 was enacted, enabling the national DNA databank to be established. In 1996 New Zealand became the second country in the world to create a national DNA databank. It took four years for this legislation to be passed. This length of time may

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<sup>5</sup> This will be covered further in chapter 5

<sup>6</sup> This Act is covered further in this chapter

have been due to the contentious nature of DNA and consultation with many sections of society would have been required.

The databank, although owned by the New Zealand Police, is maintained by the ESR; they are the guardians of the databank. There are two databases. One is the national DNA databank which at time of writing (2013) holds profiles of 135,000 people. This equates to about 4% of the population. According to the ESR, they add approximately 1000 profiles to the national DNA databank each month. The other is the crime sample database which holds samples from 23,000 crime scenes (ESR 2011b). The ESR regularly compares samples held on the national DNA database with those held on the crime sample database. It is this comparison that enables them to identify potential suspects. The ESR laboratory was accredited by The American Society of Crime Laboratory Directors, Laboratory Accreditation Board (ASCLD/LAB) in 1995. ASCLD/LAB is an international organisation that ensures that crime laboratories maintain high standards when evaluating scientific evidence. The ESR is the only DNA laboratory in New Zealand to have ASCLD/LAB accreditation (ESR, 2009).

#### **1.4.2 The Science Behind ESR**

In 1988 a selection of forensic scientists from the DSIR<sup>7</sup> was sent to the UK to study DNA technology at the Home Office. On their return they began establishing DNA profiling laboratories. In 1990 DNA evidence was presented in a New Zealand court for the first time (*R v. Pengelly* as discussed above). The early 1990s saw Polymerase Chain Reaction (PCR) based methods being used to extract and amplify DNA (a copying process that is repeated many times, doubling the number of DNA molecules present at each stage) in order to obtain a DNA profile. Just prior to the database being implemented in 1996 the ESR introduced more discriminating DNA technology which involved using three STR DNA loci plus a gender test. Short Tandem Repeats (STR) are short sequences of nucleotides that repeat themselves multiple times at certain points in the genome. Different people tend to have different numbers of the repeat unit in their DNA and this allows individuals to be identified on the basis of their DNA (ESR, 2010). SGM Plus is the STR multiplex used to generate DNA profiles from biological

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<sup>7</sup> Department of Scientific and Industrial Research since re-named the Environmental Science and Research Institute Limited (ESR)

samples. It contains 10 different STR loci as well as the sex test Amelogenin (ESR, 2010). Over the years the technology has become more advanced and between 1996 and 2000 ESR increased the number of STR loci tested from three to six to 10 (ESR, 2010). By increasing the loci sites to 10 it enabled the testing to be more discerning. In 2002 ESR opened a purpose-built DNA testing facility in Auckland and in 2006 the ESR introduced Low Copy Number (LCN) technology to New Zealand. "The LCN technique equates to a 50-fold increase in sensitivity and can be used to obtain profiles from items that have only been touched" (ESR, 2010, p.8). By 2007 ESR had increased the number of loci tested to 15 which made the testing even more discerning.

## **1.5 Legislation**

It is claimed that the single most important factor in making a database effective is the legislation that regulates it. "It is the quality of database laws that make DNA an effective investigative tool" (Asplen, 2003 p.1). Admittedly, without the appropriate legislation DNA would be difficult to use evidentially. However, it could also be argued that if the police do not act on this "evidence" then DNA and all its surrounding legislation is redundant. Legislation for the creation of national DNA databases differs profoundly from one country to the next.

The UK has comprehensive legislation which affords its police forces far-reaching powers to obtain and retain DNA samples (GeneWatch UK, 2006a). The UK laws governing the taking of DNA samples are found in:

- *The Police and Criminal Evidence Act 1984 (PACE)*
- *The Criminal Justice and Public Order Act 1994*
- *The Criminal Evidence Act 1997*
- *The Criminal Justice and Police Act 2001*
- *The Criminal Justice Act 2003*
- *The Serious Organised Crime and Police Act 2005*
- *The Crime and Security Act 2010*
- *The Protection of Freedoms Act 2012*

Each successive Act prior to the 2010 Act had given police more powers by amending the *Police and Criminal Evidence Act (PACE)* which is the main legislation governing police powers. When DNA was first used by the UK Police, it was limited to certain offences – primarily violence. If a person was acquitted at court, their DNA profile had

to be removed from the database. More recent legislation had allowed police to take DNA samples from every person they arrested. Should that person be acquitted, their DNA profile was still kept on the National DNA Database. The 2010 Act has made changes to this whereby, depending on the offence, profiles will be retained on the database for a specified period. It is also worth noting that the Forensic Science Service is able to retain the actual sample whereas most other jurisdictions have legislation stating that the sample must be destroyed once a profile is obtained (UK Parliamentary Office of Science and Technology, 2006). In fact, Kimmelman (2000) argues that the UK has by far the most aggressive data-banking law in the world. Scotland's DNA laws are different to those of England, Wales and Northern Ireland. In Scotland DNA from people acquitted at court cannot be kept and in May 2006 the Scottish Parliament rejected legislation to bring it into line with the rest of the UK. England, Wales and Northern Ireland were the only countries in the world where DNA from innocent people could be stored permanently (Genewatch UK, 2006b).<sup>8</sup>

In contrast, New Zealand's original DNA legislation was less permissive, with the police having limited powers to obtain samples. "The Act focuses strongly on the rights of the individual and places rigorous requirements on police investigators obtaining blood samples" (Harbison, Hamilton & Walsh, 2001, p.34). This legislation is contained in the *Criminal Investigations (Blood Samples) Act* 1995. The initial Act covers in detail the submission of reference blood samples from the following people:

- suspects in any criminal investigation who volunteer a DNA sample for comparison with that particular investigation and/or inclusion on the DNA databank
- all persons convicted of a relevant offence for which a databank request is made
- any individual who volunteers a DNA sample to be included on the databank
- suspect and/or databank samples that are obtained by compulsion (ESR,2006)

The storage, disclosure, confidentiality, destruction and deletion of samples are carefully covered in the Act. The ESR is required by law to destroy all samples once a

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<sup>8</sup> The 2012 *Protection of Freedoms Act* allows innocent people to have their DNA and fingerprint records removed from the databases

profile has been obtained. In spite of this, the Act was referred to by lawyer and writer AK Grant as “disgusting and degrading”. Writing in *The Independent* in 1995, Grant compared the Act with Dr Mengele’s experiments at Auschwitz, the only difference being that organs were not removed. This legislation was amended in 2004. The main changes to the Act included allowing police officers to obtain compulsion orders to require people suspected of burglaries to provide a DNA sample so that it could be compared to the one found at the scene and to use buccal (mouth) swabs rather than only blood samples for the DNA database. For this last reason the Act was renamed the *Criminal Investigations (Bodily Samples) Act 1995*.

In 2009 the newly elected National Government made yet more changes to the Act. In expanding police powers, Justice Minister Simon Power (2009) commented that the legislation was required by the police so as to make New Zealand a safer place to live. This pronouncement was made after the passing of the *Criminal Investigations Bodily Samples Amendment Act 2009*. This new legislation covers databank samples taken when police intend to charge an individual with a relevant offence (including youths 14-17 years). Maori MP Rahui Katene (2009) felt that this law would enable police to target young Maori<sup>9</sup>, quoting statistics that the UK database had an unequal number of DNA samples from young black males compared to those of young white males. However, the New Zealand Police national forensics manager in a statement to the media said that the new law would not lead to racial profiling but would be used to catch those who had committed serious crimes and exclude those who had not (McNeilly, 2010). This law came into effect on 1<sup>st</sup> July 2010 with further changes to the Act being added in 2011. These changes included replacing the term “indictable offence” with “imprisonable or relevant offence”, thereby giving the police a wider range of offences for which DNA samples could be obtained.

### **1.5.1 Limitations for the New Zealand Police with the Legislation**

In 1995 the New Zealand National DNA database was established. The database was created to deal with the new technology of DNA evidence being used to identify possible suspects and the police required laws to allow them to take and retain samples. This legislation was the *Criminal Investigations (Blood Samples) Act 1995* and was

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<sup>9</sup> Maori are the indigenous people of New Zealand



described at the time as focusing on individual rights and placing strict controls on the police obtaining blood samples (Harbison, Hamilton & Walsh, 2001). Police were given powers to take blood samples either voluntarily or through a compulsion order and the samples had to be taken by a registered medical practitioner. A compulsion order was one issued by the Court permitting the police to take a sample from a person who fitted the criteria and could be either a suspect compulsion order or a post-conviction databank compulsion order. A suspect compulsion order was required when a person refused to supply a sample to be compared with the sample found at the scene of a crime. A suspect compulsion order could be issued only for indictable offences such as rape and serious assaults. A databank compulsion order was issued when a person was convicted of a relevant offence<sup>10</sup> but whose DNA was not already on the databank. A person could be asked to voluntarily give a sample for inclusion on the database. They would be told that this database was regularly checked against the crime sample database to see if there were any matches (The New Zealand Police, 2010b). This speculative search is conducted regularly by the ESR. The volunteer would also be told that they could have their sample withdrawn from the database whenever they chose. However, if they were convicted of a relevant crime in the interim, that sample would no longer be considered voluntary but would become a permanent profile and could not be withdrawn from the databank.

If the person refused to provide a voluntary sample, a compulsion order would be requested from the court. These compulsion orders could be issued only for specific crimes which included rape, murder and serious assaults. The government was very mindful of the impact this legislation would have on the public which is possibly why the initial Act was cautious regarding the powers the police had to request DNA samples. The offences that it did not include were volume crime and, more specifically, burglary. If an offender was identified by DNA left at the scene of a burglary the police were required to take a sample of the DNA from the suspect so that it could be compared with the sample found at the scene. However, if the suspect refused to provide this comparative sample the police could not compel him/her to provide one.

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<sup>10</sup> A relevant offence means an offence against any of the provisions listed in Part1, Part2 or Part3 of the Schedule to the *Criminal Investigations (Blood Samples) Act, 1995*

When dealing with burglary offences, this left the police with the ability to make use of DNA only to identify a possible offender but not necessarily arrest him/her.

In 1995 when the principal Act was established it was known as the *Criminal Investigations (Blood Samples) Act* as the only samples permitted under the law were blood samples. In 2003 the *Criminal Investigations (Bodily Samples) Amendment Act* was passed. One of the changes in the law was the ability to take buccal (mouth) swabs as well as blood samples. Another significant change under the amendment was the type of crimes that would permit the police to obtain compulsion orders for comparative samples. Initially these orders could be only for more serious crimes such as murder, serious assaults and sexual assaults. This amendment included volume crime such as burglary and theft. The Amendment received Royal Assent on 30<sup>th</sup> October 2003 and came into law on 15<sup>th</sup> April 2004 (Ministry of Justice, 2009). This change in the law would enable the police to make changes in the way they dealt with volume crime and especially burglary.

### **1.6 New Zealand Police Forensic Process**

In each New Zealand Police district there are different permutations on the collection of forensic evidence although certain elements are common as part of national policy. The contract with the ESR is relevant nationally and districts are required to adhere to this although how each district spends its budget is a matter of choice. Districts differ on how they deal with the notification from the ESR. This notification is an intelligence link, in that the ESR has linked a person to a crime scene. This person may or may not be at the scene legitimately, so once the police receive this intelligence link they then investigate further to establish why the DNA was found at the scene of a crime. Although the ESR may refer to their "hit" rate, an intelligence link is a more accurate term for the information they are providing to the police. If the person is found to have been involved in the crime then it becomes a "hit". In the subject district a Crime Scene Attendant (CSA) or Scenes of Crime Officer (SOCO) will attend a crime scene and search for forensic evidence. If a DNA sample is found it is sent to the ESR for processing. For the period relevant to the subject data the police and the ESR had an agreed six-to-eight-week turnaround for general cases with the possibility of a shorter period for serious cases, for example homicide. The turnaround as of April 2010 is five days. The ESR then uses an agreed format to inform the police of the identification.

This identification is generally referred to by the ESR as a "hit" although a hit has several different meanings. Crime-to-crime hits may indicate that the same person was at both scenes, whereas a crime-to-individual hit may signify that a particular person was at a particular scene (Walsh & Buckleton, 2005). A hit is not the same as detection and, for the purpose of this research, detection or resolution denotes that a person has been charged with an offence. A hit means that a person has been identified through their DNA profile. At the subject district the information is sent to the File Management Unit where the details are entered onto the National Intelligence Application including an alert to let staff know that this subject is implicated in a crime. From there the report is sent out to the appropriate Detective Senior Sergeant (as identified by the district) so that the suspect can be spoken to and the investigation progressed in some way. A Detective Senior Sergeant is responsible for managing the workload of a team of investigators. It is the job of this officer to prioritise the files and to decide the direction of an investigation.

The Detective Senior Sergeant is also responsible for the budget and makes decisions on which samples will be sent to the ESR for analysis. The report is sent out with a form requesting that the case have some work done on it within a 28-day timeframe and the notated form is then returned to the File Management Unit so that the National Intelligence Application can be updated. The district may have difficulty in tracking the progress of DNA files if the officers are not vigilant in updating the National Intelligence Application with what enquiries they have made. When the case has been completed, the alert on the person should be removed, indicating that the subject is no longer a person of interest. However, this alert is not always removed. Often the only way that staff can establish if a suspect has been arrested is to check on the National Intelligence Application to see if any charges have been filed against the suspect for that offence. This is a time-consuming process as it requires a staff member to check on each individual DNA result. This method only indicates when a person has been charged. It does not show the enquiries that have been made nor does it identify when a suspect has been eliminated from the enquiries. The consequence is that tracking of DNA results is very difficult and unreliable and does not represent the amount of time that the police have spent on enquiries relating to the link.

## **1.7 Financial Considerations**

In the 2000-2001 financial year the New Zealand Police budget for forensic services was \$9.9 million. By the 2005-2006 financial year this figure had doubled to \$18.8 million for DNA work conducted at the ESR and this figure was expected to increase for the 2006/2007 financial year (Controller & Auditor-General, 2006). The New Zealand Police budget for the same year was one billion dollars, which means that 1.9% of that budget was allocated towards the use of the new DNA technology. The police's rationale for spending this money is that DNA is a great crime-reduction tool (Broad, 2009). Using a considerable part of the annual police budget for the DNA database is indicative of the political and financial faith being invested in this technology.

The New Zealand Police has encouraged its staff to collect as much forensic evidence as possible at scenes of crimes. For example, the majority of burglaries are attended by either Crime Scene Attendants (CSAs) or Scenes of Crimes Officers (SOCOs) to collect exhibits with forensic evidence potential. Furthermore, the ESR encourages the police to send all possible samples to them to examine. The result of all this crime scene data collection is a lot of information being sent back to the police from the ESR. If the police with their limited budgets are investing monetary resources in this new technology, it is possible that what is regarded by some as the more traditional and effective aspects of policing, such as community policing, may suffer. In these circumstances, the results that are gained from new technology would need to be well worth the investment. The police are committed to crime and crash reduction and they perceive DNA as an effective means to reduce crime (The New Zealand Police, 2009a). However, it is possible that DNA profiling has the potential to solve but not reduce crime in that DNA technology is used as a reactive tool rather than a proactive one, which means the crime, has already happened before DNA technology is applied

## **1.8 Police Legitimacy in the Eyes of the Public**

Police departments struggle to legitimate themselves to the public they serve (Herbert, 2006). Reiner (2000a) argues that, if the police expect citizen compliance with their directives when seeking to uphold the law and keep the peace, their authority depends on the good will of the public. Accordingly, a legitimate police institution fosters more widespread obedience of the law itself (Hawdon, Ryan & Griffin, 2003). The police also rely on willing public cooperation to report crime and offer aid in criminal

investigations (Sunshine & Tyler, 2003). Furthermore, Tyler (2004) asserts that public cooperation with law enforcement is motivated by the perception that the police are performing effectively in their efforts to uphold the law and keep the peace. From this perspective, if the police are perceived as ineffective the public may withdraw their goodwill and be less cooperative with police investigations, thus making it harder for them to do their job effectively. However in the last four Citizens' Satisfaction surveys carried out on behalf of the New Zealand Police by Gravitass, three positive trends are identified:

- trust and confidence (share with *full/quite a lot of* trust and confidence up from 72% in 2008/09 and 75% in 2009/10 to 77% in both 2010/11 and 2011/12)
- safety in neighbourhood after dark (share feeling *safe/very safe* from 66% in 2008/2009, 70% in 2009/10 and 72% in 2010/11 to 73% in 2011/12)
- safety in town centre after dark (share feeling *safe/very safe* up from 45% in 2008/09, 48% in 2009/10 and 53% in 2010/11 to 54% in 2011/12) (Gravitass, p.4, 2012)

These trends suggest that the public, based on the questions they were asked, believe that the police are doing their job effectively in upholding the law and keeping the peace. The real test would be to ask specific questions regarding the police use of technology to investigate crime. However, the public can make informed answers only if they know exactly how the police use DNA technology. The following paragraph looks at research that does specifically address the DNA question, albeit on a smaller scale, and addresses the issue of the public's knowledge of DNA.

In research conducted by Curtis (2009), the questions were specifically about the use of DNA as a crime-fighting tool. The participants were 100 New Zealand residents aged 16 years and over with a booster sample for Maori (n = 25). Sixty females and 40 males were drawn with phone numbers taken from a randomly selected database (Curtis, 2009). The results showed that the majority of participants were informed of forensic use of DNA from the media and 37.5% of those interviewed gained their knowledge of DNA forensic use from fictional TV series leading to a possible misunderstanding of why and how DNA is gathered, stored and utilised in criminal investigations. Curtis

found that European participants were more likely to approve of DNA sampling than other ethnic groups, including Māori. Māori, however, were more concerned about privacy issues and DNA being “planted” at crime scenes. Participants of European descent were more likely to agree that DNA was a good crime-fighting tool (Curtis, 2009). The areas of concern highlighted from this research, by the researcher, were ownership of the DNA samples and the potential for misuse, further complicated by the fact that few people interviewed had a clear understanding of the legislation, use and storage of DNA samples.

Curtis's research identified that the police need to be careful when dealing with new technologies, especially if they are perceived by the public as intrusive or having the potential to be misused. Neyroud and Disley (2008) suggest that the police cannot merely claim that the use of technologies makes them efficient. They further posit that the police must be able to identify and demonstrate the value that the new technologies add to their service to the public. In addition the police need to reassure the public that this technology will not be misused or that individual privacy will be compromised. The very nature of policing makes policing by consent a problematic issue. Reiner (1992) describes policing as an “inherently conflict-ridden enterprise” (p.59) with Herbert (2006) suggesting that the police have the hardest time of all state institutions in establishing legitimacy. Hinds and Murphy (2007) state that people will obey directives from legitimate institutions because they respect the institutions' authority, not because of the fear of sanction for disobedience.

Driven by the need to preserve the legitimate authority of the organisation, the police have embraced an “intelligence-led” policing model that utilises cutting-edge technologies. These technologies supposedly improve policing organisations' efficiency (Nunn & Quinet, 2002), while enhancing their legitimacy (Erickson & Haggerty, 1997; Ericson & Shearing 1986; Manning, 1992). However, Neyroud and Disley (2008) caution that the effectiveness of new technologies should not be at the expense of civil liberties especially due to the close relationship between the effectiveness of the police and public perceptions of police legitimacy. They argue that the public perception of the police could be damaged if these new technologies are not deployed carefully. Their argument is supported by research conducted by Sunshine and Tyler (2003) who concluded:

"A procedural justice-based approach to regulation creates social order by engaging public cooperation with law and legal authority. Such cooperation is engaged when people in the communities being policed experience the police as exercising their authority fairly (p. 535)."

### **1.9 Impact of New Technology on Police Organisational Framework**

With the growth of new technology, monitoring the work of the police has become far easier (Moore, 2003; Walsh, 2001; Weisburd, Mastrofski, McNalley, Greenspan & Willis, 2003). The introduction of computers meant that police officers were able to be held accountable for their movements and their workload and quality of this work were able to be monitored. Manning (1992) argued that the most important recent innovations in technology involved computers and related software. According to Chan (2001) technology promised to improve effectiveness and efficiency in policing. She further suggests that one of the reasons police introduced new technology was to improve their performance in order to be more accountable to the public. Manning (2001) agrees, stating that technological changes in policing are driven by the need for efficiency, accurate information gathering for outside agencies and to meet new requirements for police management and public accountability.

In 1998 the New Zealand Police attempted to implement a change management programme called *Policing 2000*. This programme endeavoured to utilise state-of-the-art technology and strategic case management practices normally found in the public sector (Duncan, Mouly & Nilakant, 2001). *Policing 2000* struggled with ongoing delays and technological problems. After spending an estimated \$200 million and amidst much political and public debate, the *Policing 2000* project was ended with limited technological change. Duncan, Mouly and Nilakant (2001) interviewed nine front-line officers from medium-sized New Zealand metropolitan police stations, who indicated that *Policing 2000* was unsuccessful because it had failed to capture the imagination and support of those most affected: front-line officers. Chan (2001) would argue that the social game (field) was changed without new systems (habitus) being put in place to help the officers deal with the new rules. Although *Policing 2000* was discontinued in 2000, anecdotal evidence is that officers were still affected by that experience in 2007 in that when new technology or change was introduced, front-line staff were sceptical of its need and efficacy.

According to Chan (2001) there are many things to take into consideration when introducing new technology to the police. It is dependent on how technology interacts with existing cultural values, management styles, work practices and technical capabilities. If any of this is handled badly it may make the successful introduction of subsequent new policing technologies more difficult. DNA evidence is a new technology that gives the police greater ability to solve crime but has it changed the way in which the police conduct their business? DNA evidence can be described as a resource but one of the constraints of this new technology might be the increased workload that could be created by the ESR. If the police knew that the introduction of DNA evidence might add to their workload, then strategies would need to be put in place in order to make the most of this new capital.

#### **1.10 The CSI Effect on the Public**

According to Tyler (2006b) the “CSI Effect” is a term used by the media and legal authorities to describe the impact that certain US television shows have had on juror behaviour. It is possible that due to a high media profile the public are aware of the investigative potential of DNA. This knowledge comes from TV shows such as *CSI*, *CSI Miami*, *CSI New York* and *Cold Case*. These crime shows imply that DNA evidence is found at all crime scenes and that it and the scientists who interpret it are infallible so all crimes will be solved. The fictitious crime laboratories do not take into consideration the time-consuming and tedious aspect of policing as well as the financial constraints placed on all public sector departments. The media also reports many DNA successes at length.

For example, in 1987 in New Zealand a six-year-old went missing on her way to school. A week later her body was found on a beach in a shallow grave. She had been raped and killed. At the time, hairs found on her body were gathered and stored. For 15 years the person responsible for this girl’s death remained unknown. In 2001, with advances in forensic technology, a profile was extracted from a small amount of semen saved on a microscopic slide. A massive screening exercise was begun to find a possible match. Jules Mikus was identified as a possible offender and in order to confirm a match the hairs found at the scene 15 years previously were sent to the US and exposed to mitochondrial DNA extraction. The profile matched that of Mikus. In October 2002



Mikus was convicted of the rape and murder of Teresa Cormack 15 years after her death (ESR, 2009).

Likewise, in the case of Jarrod Mangels who was convicted of the 1998 murder of Maureen McKinnel whose body was found in the Arrow River, Arrowtown, New Zealand. Mangels was 15 years old at the time of McKinnel's death and although he was a suspect the police had nothing to connect him to the death. The police were able to take some scrapings from underneath the victim's fingernails but at that time there was not enough of a sample to obtain a profile from them. In 2002, after the success of the Teresa Cormack case, an officer on this case asked that the samples be retested using new DNA testing methods. The tests resulted in DNA profiles being identified for two males. One profile belonged to a legitimate male contact, the other to an unknown male. After being arrested for disorderly behaviour in 2003, Mangels agreed to provide a voluntary blood sample for inclusion on the national DNA databank, at which point he was linked to the murder (ESR, 2009). Mangels pleaded guilty to the murder in 2004. More recently, in 2008 a male was arrested and charged with the rape and murder of Marie Jameson. Her body was recovered in Auckland, New Zealand, nine days after she went missing in 2001. His DNA matched the DNA found on her clothing (Gay, 2008). These highly publicised cases have reinforced the public's perception of the effectiveness of DNA as an efficient means of identifying offenders. These examples are just a few of the highly publicised cases but in searching one on-line New Zealand media website and entering "DNA & crime" in the search engine, 933 hits came back in 50 seconds. DNA is clearly a popular topic for the media, suggesting that the public have an appetite for it.

Pyrek (2007) also describes the "CSI effect" as the impact that such shows and media publications have had on jurors in the US. He suggests that the public fascination with forensic capabilities could be tracked back to the OJ Simpson case in 1995. The belief is that without any DNA evidence the defendant must be innocent, regardless of the other evidence presented. For this reason jurors are more likely to acquit defendants where there is a perceived lack of forensic evidence. However, Tyler (2006b) and Cole and Dioso (2005) observe that there is no empirical evidence to back up these claims. In fact what the CSI effect could really mean is that the quality of expertise on the subject is marginal and such shows merely confuse jurors (Pyrek, 2007). Tyler (2006b) argues

that in fact the opposite could be true and that by watching CSI jurors may be more likely to convict. Tyler (2006b) posits that the type of person who watches such crime shows wants to see justice done – to see the offender punished – which invariably happens in a fictitious setting. For this reason he does not believe that they would raise the bar for required evidence to acquit the offender. Lynch, Cole, McNally and Jordan (2008 p. X) state that “the CSI effect appears to be more of a media panic about the pernicious effects of the media than anything else”. They go on to say that at a deeper level the CSI effect could be that people are in awe of the perceived power of scientific evidence, especially DNA.

In essence it could be said that there is no empirical research to back up the existence of a CSI effect and the actual impact on decision making by jurors. However, what could be taken from this is that the public do know about DNA, whether factually or fictionally, and therefore there is an expectation that the police use and need DNA to fight crime. In order to retain credibility with the public there needs to be some hard evidence of success other than just one or two examples every 15 years.

### **1.11 The Research Question (and its conceptual context)**

The introduction to the police of DNA technology was never going to be seamless and according to Chan (2003) “technology has always shaped policing – in both visible and invisible ways” (p.655). Due to media coverage, DNA has become a highly visible and popular, if somewhat romanticised, investigative tool. However, the uptake and effective application of DNA technology by the police is quite a different matter. When new technology is introduced to the police, it can have an impact both good and bad on police culture (Chan, et al. 2001; Chan, 2003; Ericson & Haggerty, 1997) and it is this culture that will determine if a new technology will be fully utilised.

The term “police culture” is often used to “explain and condemn a broad spectrum of policing practice” (Waddington, 1999a, p.287). Waddington uses the words “explain” and “condemn” but not “praise” or “exonerate”. This is probably because police culture is often seen as a negative concept (Crank, 2004) when the culture is merely the environment in which the police situate themselves and respond to the many changing requirements of the society which they police. There is a vast array of literature on police culture and some of this literature will be explored in Chapter 3. Police culture is

mentioned at this point in the thesis as it is inextricably linked to this research because it forms a large part of the theoretical construct.

In New Zealand, Casey and Cullen (2003) and the Controller and Auditor General (2006) have looked at ways of enhancing the police use of DNA technology. However, this view is only one aspect of the effective use of DNA technology and perhaps is not the right perspective to establish if the application is effective within the New Zealand Police. This research aims to discover if the New Zealand Police make the best use of DNA technology and what might prevent them from using it effectively. Therefore the research question is: Does police culture prevent the New Zealand Police from making the best use of DNA technology to investigate crime? To fully explore this question, police files where DNA was used were examined. Practitioners were interviewed for their insights into DNA to attempt to find out why the files were completed as they were. The history of the culture of the New Zealand Police was reviewed to better understand the use or lack of use of DNA to successfully resolve crime. When the police introduce new technology there is an implication for society as well. For this reason the public perception of police legitimacy is also explored with examples given of past experiences and the impact of these on both the public and the police.

### **1.12 Outline of Chapters**

The research question is broken down into sub-questions, each of which is addressed in one of the following chapters:

Chapter 2: Once the background to the research has been covered in the previous chapter, the methodology chapter is then introduced and the explanation for the chosen methodology is given. The methodology chapter fully explains the methods employed. It covers topics such as: grounded theory, the theoretical framework, the difficulty and limitations of the data, sampling, the research procedure, the interviews and the participants, the analysis and the subject district. The question of the researcher's bias is discussed and what has been done to mitigate this bias, bearing in mind the subjective nature of this research. This chapter also discusses the researcher's access to the subject matter and the interview participants.

Chapter 3: This is the literature review and its purpose is to illustrate some of the research that has already been completed in the area of DNA, highlight the size of this field and the potential for and the need for more research within specific fields of DNA. This chapter covers literature written about many aspects of DNA technology which includes: the ethics of DNA, the application of DNA evidence at court, the impact of DNA use on civil liberties and the police use of DNA technology to identify offenders. This review of the literature identifies the research that has been done on the subject of DNA and also identifies the gaps in the research.

Chapter 4: This is the first chapter containing data that begins to answer the research question. This chapter is primarily about burglary which is the largest sub-set of volume crime but it will discuss other volume crimes. As well as defining burglary, it provides statistics about burglary in New Zealand as well as comparing these figures with the UK and the US. There is also a section, for comparative purposes, on burglaries in the UK and the UK use of DNA technology to resolve burglaries. This chapter looks at how data is captured by the New Zealand Police and the impact this has on tracking results. The case histories of two burglary files are reviewed as they illustrate how one offender can be responsible for many burglaries. They are a useful example of how the police use DNA technology to investigate volume crimes. Results from interviews are reviewed and the opinions of the participants show their perspectives on DNA use for investigating volume crime.

Chapter 5: This chapter aims (through the perspective of the interview participants) to establish how effective DNA is at identifying offenders and whether that alone ensures that they are prosecuted and convicted. The interview participants are asked their views on DNA, how it aids investigation and if DNA is all they need for a successful investigation. It finishes with a discussion on the topic of interviewing and whether police officers know how to interview suspects as it has been suggested (by interviewees) that this is a reason why suspects who are linked to a crime scene by the ESR are not being interviewed.

Chapter 6: This chapter discusses whether DNA deserves its exaggerated reputation. It reviews the subject district's application of DNA technology to investigate serious crime and illustrates this by the use of case studies. It looks at the conundrum posed to

the police when deciding whether to provide the best evidence or be fiscally responsible and whether the two are mutually exclusive. This chapter finishes with the views of the participants on the various questions put to them about budget, DNA training and what they consider to be their best investigative tool. This chapter differentiates between what the participants believe DNA to be good for (see chapter 5) and their actual use of DNA to successfully investigate crime.

Chapter 7: This chapter reviews the perceived (by interviewees) constraints of using DNA technology by examining the responses to the questions around the frequency of DNA use and their views on the current (at time of writing) DNA legislation. As a result of the responses to these questions there is a section on the Guthrie test as well as a discussion on police legitimacy, privacy and ethics in relation to the application of DNA technology to investigate crime.

Chapter 8: The previous chapters discuss the results of the data and what they highlight. This chapter explains possible reasons for those results and reviews what factors may impede the police in effectively using DNA technology to investigate crime. Therefore it examines police culture and the impact this has on its ability to implement change. This is done from the theoretical construct of Chan's "field and habitus" conceptualisation of policing and the impact that police culture can have on the successful implementation of new technology. This chapter also explores what outer limits are placed on the police by the public, which adds more pressure on the police. In this instance it is the importance of legitimacy as a significant means by which the police continue to receive support from the public. It explains why there is a need for this legitimacy when introducing new technology which may be considered contentious. The use of technology by the police is also covered in this chapter and it discusses the link between legitimacy and police culture and the impact both have on the successful application of technology to crime investigation.

Chapter 9: This final chapter summarises a (theoretically based) answer to the research question posed in Chapter 1 section 1.0. It does this by reviewing the qualitative and quantitative data as a whole. It discusses all the results from the research and the implications they have for the New Zealand Police and its continued use of DNA and the National DNA Database. This chapter also updates the reader on recent changes to practice by the New Zealand Police and the ESR in relation to DNA use. There are also

recommendations made to the New Zealand Police as to how they can maximise DNA technology to investigate crime as well as suggestions for further research in this area.

The purpose of this chapter has been to give the reader an idea of the topics relevant to this research and to understand the environment in which the police have tried to implement change. The following chapter discusses the methodology applied to this research. It begins with background information on the researcher and what led her to this research question. From there it moves onto Grounded Theory and explains the decision to choose this theory. This chapter also discusses the difficulty with the official data, why this was expected and what was done in mitigation. From there the chapter moves onto the analysis and what methods were employed to do this, concluding with information regarding the interview participants.

## **Chapter 2: Methodology**

### **2.0 Introduction**

This methodology was chosen in order to best answer the question: Does Police Culture Prevent the New Zealand Police from Making the Best Use of DNA technology to investigate crime? It was believed by the researcher that by reviewing files where DNA was found at the crime scene and interviewing practitioners, useful conclusions could be arrived at to answer the research question.

There are 12 districts within New Zealand Police (The New Zealand Police, 2010a) but it was decided that there was enough data to be gathered from using only one district, especially given the time constraints placed on this research. This district is one of three in Auckland, which is the largest city in New Zealand, so there was a sizeable volume of work with a variety of crime types in which to gather data. The year 2005 was chosen because it was the year in which one police national computer, the Law Enforcement System (LES), was decommissioned and another, the National Intelligence Application (NIA), was fully implemented. These systems made a difference as to how files were tracked and data gathered and NIA contained more information than was able to be stored previously on LES.

The researcher's background and subsequent employment led her to this research topic and consequently has influence over her research which means there is a subjective element to this study. This potential for bias can manifest itself in two ways. The first as expressed here, in that the researcher is part of the habitus (culture) in which she is researching and secondly as discussed further in this chapter (see chapter 2 section 2.1). Being immersed in the culture may impact on the conclusions that the researcher draws from the research. This is acknowledged and has been mitigated when practicably possible. The researcher was a police officer in the Metropolitan Police in London when the practice of taking DNA samples from arrested people was first introduced. Initially, DNA was taken only from people arrested for violent offences or for burglaries. The belief was that taking DNA samples would enable the police to identify an offender should they re-offend. At this initial stage the Metropolitan Police decided that samples would not be taken from all arrested people. It is possible that there was a financial consideration to this decision as well as a capacity issue as DNA was still in its infancy.

People arrested for violence and burglary offences were considered to be the most suitable from whom to obtain DNA samples. Taking this idea further, once the offender was identified they would be arrested, charged and convicted, hopefully leading to a term of imprisonment and therefore preventing them from committing more offences and thus preventing further crime. It was in 1999, while the researcher was still in the Metropolitan Police, that changes were made so that DNA was taken from everyone arrested. The UK government invested heavily in the national DNA database, believing that the larger the database the more effective it would be at solving crime (Townsend, Smith & Pease, 2005). This idea and the consequences of this approach as well as the change of mindset will be explored further in the body of the research.

The researcher left the Metropolitan Police in 2002 to return to New Zealand. She was employed by the New Zealand Police, not as a police officer but as a police employee, holding no constabulary powers. In her role of establishing a File Management Unit (FMU) it was noticed that forensic results in the Auckland City district appeared to be dealt with in a disparate and ad-hoc manner. Forensic results referred to both fingerprint results from an internal department and DNA results received from the Institute of Environmental Science and Research (ESR). Interested by this, she suggested that the FMU should deal with all forensic results in the district so as to give some cohesion to the process. Once some method was applied to the collation of the results, she then set about reviewing the action that was taken when these results were received by the officer. At this stage she was merely establishing what actually was done with forensic hits in the district so as to better understand the process.

It emerged that when a forensic result was received in the FMU this information was sent out to the Detective Senior Sergeant responsible for the geographical area where the crime was alleged to have been committed so that further investigation could be conducted. This result was in the form of a name. This name had been taken from the national DNA databank and had been linked to a crime scene sample. The main difficulty as perceived by the researcher at this point was trying to track the progress of these results. Without the ability to track them it made it difficult to quantify the success or failure of forensic evidence. However, what quickly became of more concern to the researcher was the number of files being returned to the unit for filing when the forensic result had not been resolved. This meant that a person had been identified as having been at the scene of a crime but that named person had not even been interviewed by the



police. When the researcher enquired of officers why files were being filed, the general response tended to be that they were too busy, but this information was gathered only anecdotally. On a superficial level it was concerning that files with forensic results were being filed. However, the researcher did not know if this was truly an issue or if it only appeared to be a problem as she did not have the oversight of every forensic file in the district.

At this time the use of DNA technology by the New Zealand Police was gaining more publicity and TV shows such as the CSI franchise, where DNA evidence is portrayed as the prominent tool to solve crimes and all within 60 minutes, were gaining a wide audience (Pyrek, 2007; Roane, 2005; Toobin, 2007). The public were beginning to have expectations of DNA not necessarily based in reality. Also at this time, 2003, the police were requesting greater powers to obtain and store DNA profiles. Some of the reasoning behind the greater use of DNA technology was that it was a good tool to aid the police in identifying offenders and therefore solve and ultimately reduce crime (Power, 2009). For this reason the researcher decided to focus on DNA technology and exclude fingerprints from the main research question.

At the time of writing the researcher worked in the subject district and had a good working knowledge of the machinations of the police. Likewise she had access to all the required files and data as well as a professional relationship with those interviewed. This intimate knowledge of the files and processes placed the researcher in an ideal position to gain access to the necessary data to complete the research. However, the researcher has now moved to a more strategic position at police national headquarters. This position enables her to have a more holistic view of the New Zealand Police and so has the ability to observe other practices that are relevant to this research, such as police culture applied to a variety of change management processes. These observations form part of the methodology and the theory of this research in that the researcher is embedded in the habitus of the police. The advantage of the researcher being in this position is that she can observe things that other people cannot. An example of this related to a change to the process of capturing intelligence notings for entry into the police national computer. Police officers were used to writing these notings on paper or creating word documents and sending them to data entry staff. The New Zealand Police issued iPads and iPhones to all front-line staff and requested they use these devices to enter intelligence notings directly on to their iPads or iPhones. However, the new

business process was not communicated effectively with staff, the technology had problems with coverage, internet access and security all of which slowed the process down. As a result the staff reverted back to the old system as they found it easier and quicker. Anecdotally, some staff referred to the iPad as a great paperweight with others saying it was the best 'piece of kit' the police had ever given them. The front-line staff were happy to have the devices but only if they could use them for checking people and vehicles. This is completely unacceptable as the police have invested a huge amount of money in the devices with the long term plan to have the police fully electronic (i.e. no paper files) and police officers only needing to go to the station if they arrested a person or at the beginning and the end of shifts. For this reason it is important that the staff make full use of the devices, however the organisation needs to ensure that the officers are supported, trained and are given the right equipment that will allow them to do this. When the devices were rolled out, this was not the case. The researcher is in a unique position to observe this disconnection between the policy of Police National Headquarters and the implementation by front-line staff. Officers can actively oppose national policy if they do not agree with it or if they consider it impractical (Chan, 1996; Grant & Rowe, 2011; Reuss-Ianni, 1983). As noted and experienced by the researcher, this example is comparable to the introduction of DNA and how the culture of the police impacts on the success or failure of new technology. This culture includes attitudes to organisational change by those who should be driving the change (i.e. managers) and those working within the changing environment. This inside knowledge is of benefit to the research as it enables the researcher to understand why the police officers may act as they do. The organisation has an expectation of the staff but does not communicate what those expectations are or provide them with the necessary tools to achieve the expected goals.

## **2.1 Researcher's Access to the Police**

The material that researchers can access from the police depends on who they are and their connection with the organisation (Reiner & Newburn, 2008). Police researchers have been categorised into four distinct groups by Brown (1996). They are inside insiders, outside insiders, inside outsiders and outside outsiders. Whichever category the researcher falls into will determine the level of access and the quality of information that will be given to the researcher. The categories are likewise defined: inside insiders are police officers who conduct research. The advantage of this is that they have easy

access to police information. However, if the researcher holds a position of authority there could be a possibility that other officers feel compelled to take part in the research and may not feel comfortable being honest in their answers, which may skew the results. The outside insiders are usually former police officers who have left the organisation to pursue academic careers. While they will have good knowledge of the police environment, the manner of their departure will be pertinent to the type of responses received. If the researcher lacks credibility with the staff, access and staff willingness to cooperate and be unfettered in their responses will continue to be problematic. Likewise, if such researchers feel that they have intimate knowledge of the police they may believe that they can interpret all the data with an understanding superior to that of outsiders. This may lead to bias at the analytical stage. Inside outsiders are non-police officers who are employed by the police or other government departments specifically to perform research on the police. This group may have easier access to the police but they may be treated with distrust as they will be seen as part of the management. Outside outsiders have the greatest difficulty in acquiring access to the police. These researchers are usually academics with no affiliation to the police or government bodies. In this instance there is no strong impulse for the police to cooperate with the researcher and the police feel that such research is often critical (Reiner & Newburn, 2008).

For this thesis, the researcher has the advantage of being embedded within the research environment, which facilitates access to the data and allows for an understanding of the working culture (*habitus*) of the police. Both can be considered advantageous for this type of research. Within Brown's paradigm, this researcher would be a combination of an outside insider and an inside outsider. The researcher is a former police officer who left the Metropolitan Police Service to return to her home country. Although the researcher is employed by the police it is not in the role of a researcher but as the manager of a file management centre. In this position the researcher has built up many professional relationships and was able to identify appropriate people to be interviewed. The researcher had no position of authority over any of those interviewed so there should not have been any feeling of coercion by the participants and the research is independent of the management. However, although the researcher felt this to be true there is no evidence to support this claim, other than the researcher's belief that the interviews were carried out in an open and honest environment.

It was within the researcher's work environment that the phenomenon that is the subject of this research was first noted. However, being this close to the subject matter can lead to bias and preconceived expectations about the findings and may lead the researcher to interpret data in a manner that fulfils these assumptions (Drapeau, 2002). Heidegger believed that interpretations free from suppositions are impossible as a person's interpretations are already based on life experiences which have become part of that person's existence (Nystrom & Dahlberg, 2001; Mak & Elwyn, 2003). Gadamer (1975) refers to these pre-conceptions as "pre-understanding" which originates from our "being in the world". Pre-understanding is formulated from one's past experiences, perspectives and anticipations of what to expect in interpretation (Mak & Elwyn, 2003). As the researcher is from the environment where the research was being conducted it was considered appropriate to use an interpretive paradigm as the situation lends itself to this methodological orientation. In acknowledging that the researcher has pre-understanding of the subject and the environment of the research, a research method was chosen that, at least conceptually, avoids the use of pre-conceived assumptions by focusing on the meaning of the data.

## **2.2 Grounded Theory**

Grounded theory is based on the proposition that the data is the most important part of any study because it is from the data that theories are constructed. In other words, the theory emerges from the data rather than the theory imposing on the data (Glaser & Strauss 1967; Glaser, 1998). According to Glaser and Strauss (1967) the researcher must abandon any preconceptions they hold about the topic being studied. From this perspective the researcher starts by examining the initial data and formulating ideas that then inform the next stage of data gathering. It is from the results of this data that the next stage of the research will be directed. The grounded theory approach uses the cycle of data collection followed by analysis which then informs the subsequent avenues of investigation until such time as the categories/theory in the study are saturated with information and it is considered that no further substantially new information could be added (Glaser & Strauss 1967; Glaser, 1998). In short, the data collection stops when no new information emerges. The grounded theory approach will be applied to all the data collected; data from the files will direct how the data will be collected from the interviews. The combined data will be analysed until no substantially new material

emerges. Grounded theory was chosen as it is about starting the research with nothing; no preconceived ideas, no assumptions or presumptions. Ideally there will be no idea what information will be found. This enables the researcher to enter into the research with a reasonably open mind, not knowing what the data will identify. This method was chosen to reduce the likelihood of bias. Although a quantitative approach is also used in this research, qualitative data is the main research approach and this lends itself well to grounded theory.

The researcher considered both a quantitative and qualitative research design. The quantitative approach provides statistical measures of the data being studied whereas qualitative research aims to reach qualities that can be used to interpret and explain behaviour. “The quantitative approach provides researchers with breadth while the qualitative provides them with depth” (Tolich & Davidson, 2003, p.122). The researcher wanted to know why certain decisions were made as to when and if a file would be investigated and the best way to achieve this was by using a qualitative approach. However, as statistics were required to put the research question into context, a quantitative approach was also required. It was felt that the two approaches would complement each other, allow for greater validity from the data and provide stronger evidence. In order to validate the qualitative data, triangulation (Bryman, 2013; Ruben & Babbie, 2010) was used to obtain information from several different sources. These sources included reviewing files and then interviewing participants based on the findings from those files. Once this data was collected, further reading was done to better understand the findings of the files and interviews. This reading included New Zealand Police policy documents and ESR policy documents in addition to relevant research completed by other New Zealand Government agencies such as the Auditor-General. Moreover, the researcher made observations on what she experienced within the research environment (see chapter 2 section 2.1). By doing this the researcher was able to come to conclusions based on different sources and differing opinions. The use of triangulation corroborates the data and enhances the credibility of the interpretation of the data as well as offering the possibility of enhanced confidence in the data (Bryman, 2013). It also helps mitigate the likelihood of bias from the researcher and from those being interviewed because if a proposition is able to be confirmed by different measures it reduces the uncertainty of the results (Webb, Campbell, Schwartz & Sechrest, 1966). The data gathered from the files is one source of information but,

because of limitations of this data-set, other sources are useful to qualify this information. Interviews provide another viewpoint and can either mitigate or support the findings from the files. Interview results can also prevent the researcher from interpreting the data in such a way that it may pre-determine the outcome of the research. The quantitative method provides numerical evidence from the phenomenon whereas the qualitative explains the data.

### **2.3 Difficulties with the ‘Official Data’**

Much of the data used for this research comes from information entered into the National Intelligence Application (NIA). It needs to be stated that this data is not necessarily accurate due to a lack of guidelines for data entry staff and a variety of methods by which data can be entered into the NIA. Therefore it is acknowledged that this data may be flawed but this is accepted as part of the research limitations and accounted for accordingly.

The NIA is the police national computer and as well as storing police intelligence it is also used to track files. From this system statistics are extracted to monitor workloads, identify the number and types of recorded crime and establish the success or failure of police work. The process begins when a member of the public informs the police that a crime has occurred. An example of this would be a burglary. A CSA or SOCO attends the scene of the burglary and obtains a DNA sample. An offence report is recorded either directly into the computer or in hard copy before being transferred to the computer. In this instance it is noted that a DNA sample was obtained from the scene and has been sent to the ESR for examination. For ease of data entry into the NIA the New Zealand Police use codes to classify crimes (see Appendix 1). These codes need to be entered correctly to accurately reflect the reported crimes. Once the initial report has been entered the officer completes an investigation with the outcome of his/her findings either entered into the NIA or the report being placed on the file. If there is DNA evidence the investigation will be suspended awaiting the results. If a profile is able to be extracted from the sample that has been received from the police it is loaded onto the crime scene sample database at the ESR. The original sample is destroyed in accordance with legislation. The profile on the crime scene sample database is then compared with samples on the national DNA database.

If this profile is matched to a name, this information is then passed onto the police using a generic e-mail address relevant to the appropriate district. Once a DNA result has been received by the police and a suspect identified, the NIA is updated with this information and the file is sent to an officer for further investigation. The suspect should then be interviewed and, if appropriate, arrested and charged. At this point the NIA should be updated with an apprehension code (see Appendix 3) which identifies how the suspect was apprehended. A resolution code should then be entered to explain how the offence was resolved (see Appendix 2). It is important that these codes are used accurately as it allows the police to quantify the effectiveness of various types of processes. The use of DNA or fingerprint evidence to catch offenders would be captured by the use of "forensic" as an apprehension code. It should be noted that "forensic" data is not available before 2003 because there was not an option on the Law Enforcement System (see page 37) to enter "forensic" as an apprehension code. The difficulty with using "forensic" as a generic resolution code rather than specifying fingerprint or DNA is that the police cannot provide figures to show how often DNA has been used to resolve a crime. Likewise if the apprehension code or resolution code is not entered into the NIA the ability to track what methods are the most successful in solving crime becomes difficult. All the codes are agreed to by the Organisational Performance Group based at Police National Headquarters in Wellington. These codes allow the Organisational Performance Group to provide the government with data relevant to police performance. The appropriate use of these codes would ensure that the information presented to the government is an accurate reflection of the work and achievements of the police.

## **2.4 Legislation and the Forensics Process**

The forensic processes employed by the New Zealand Police (see chapter 1 section 1.6) relate to practices that were in place in one district relating to files that were filed in 2005. Some of these practices will have changed during the writing-up process of this thesis. Where possible these changes will be indicated via a footnote or further explored throughout the body of the work. It is important to note these changes as it will impact on the conclusion and recommendations of this thesis. The data for this study involved files that date from 1997 to 2005. This period encompassed two pieces of legislation relevant to police powers and the use of DNA evidence. The *Criminal Investigations (Bodily Samples) Act 1995* will go through two iterations during this research. When it is referred to in the thesis prior to the 2003 amendment it is called the *Criminal*

*Investigations (Blood Samples) Act 1995*. Anything after the 2003 amendment refers to the *Criminal Investigations (Bodily Samples) Act 1995*. These are important distinctions as they gave the police different powers (see chapter 1 section 1.5). The legislation had an impact on how the police were able to investigate crime as it placed limitations on police powers and their ability to obtain and retain DNA samples. It may well explain why there are some delays in suspects being interviewed or their DNA being entered onto the database.

## **2.5 Police Case Files**

This research looked at police case files where DNA was found at the scene of the crime. The information was gathered at the subject district by entering individual DNA results received from the ESR onto a separate spreadsheet. Each district may have its own method of storing this data or it may choose not to capture this data separately. Nationally this data can be captured via the apprehension code on the NIA but as stated above this does not differentiate between fingerprint and DNA, using instead the generic "forensic" apprehension code. There is no guarantee, either, that police from different districts enter the appropriate apprehension code, with the more common "interview" or "patrol" being used. One school of thought is that an officer interviews an offender because DNA was found at the scene and therefore the apprehension code is "forensic". However, other officers argue that if the person admits the offence it is due to the interviewing skills of the officer and therefore the apprehension code should be "interview". It can be argued that the only reason the person is being interviewed is as a result of DNA evidence being found at the crime scene and ESR linking the sample to a name. It may be that the ego of the investigating officer has some part to play in this. Irrespective of the reasons, these complications added to the difficulty of tracking the effectiveness of DNA in resolving crime.

Policing statistics tend to refer to the financial year which runs from 1<sup>st</sup> July through to 30<sup>th</sup> June. For the purpose of this research the files and statistics relate to the calendar year unless otherwise stated as the researcher found it easier to gather data based on the calendar year. The data available spanned a 12-month period from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2005. This involved 302 files which provided both quantitative and qualitative types of data. At the data level, a mixed method was used in order to extract



the best information from the data. The quantitative data held within the police case files provided numerical information on the following:

- Offence codes (burglary, unlawful taking, theft from motor vehicle, etc)
- Number of case files altogether
- Number of case files where DNA was the only evidence available
- Number of case files where cases were prosecuted
- Number of case files where offenders were convicted
- Number of case files where DNA was superfluous to the investigation because other forms of evidence took precedence
- Number of case files where the suspect was unable to be located

While the quantitative aspect of the study provided a framework, it was the qualitative data that was examined, which provided an explanation for this framework. The qualitative data included reports completed by the arresting officer explaining their decision-making process, the court results and why that decision by the court was made. Moreover, the qualitative statements made by the investigating officers had been expected to provide insight into the reasons why DNA profiling was used. In some cases where there were no concluding statements on the file, inferences were made based on the information to hand, the results from the court and the knowledge and experience of the researcher.

Although there is the potential for the researcher to come to biased conclusions from the inferences, Gadamer (1975) explained that a person who has previous knowledge has not only come through events but is also open to new experiences. As a result of this background the person is often undogmatic and is very open and willing to learn (Nystrom & Dahlberg, 2001). Therefore the experience that the researcher brings to the study will not necessarily be prejudiced but likely to put the information into perspective.

## **2.6 Sampling**

Where the quantitative aspect of the study was concerned all available DNA case files from the subject district in the year 2005 were analysed. The year 2005 was chosen as it was anticipated that these files would be old enough for the court process to have been completed but recent enough to be relevant to the research. Cases can sometimes take a long time to get to court and often the officer will spend a lot of time finishing the paperwork before filing it. The figure of 302 files initially seemed large but there was no guarantee that all 302 files would be located. Due to the method of crime reporting in the New Zealand Police, one file does not equate to one crime. One file may contain more than one offence as it is possible for several offences to occur during the same incident. For example, a burglary file may have an unlawful taking offence attached to it or even an assault. If 53,615 crimes were reported it does not necessarily mean there would be 53,615 files corresponding to those crimes. Moreover, those files are often associated with many other files with which they are linked, mostly because the crimes have been committed by the same person or persons. Of the 302 DNA files, only 146 were available to view in the subject district case study but when they were examined it became clear that there were more than 146 files involved. Of the 84 files classified as burglary, closer examination revealed that there were many more files associated to the main files. On this occasion the 84 burglary files increased to 459 files with some unlawful taking and aggravated burglaries also associated to the main files. Of these files, three had more than 50 associated files with one file having 98 associated files. It should be stated that DNA was not mentioned on all these files but only on the original 302 files, yet DNA was one way of bringing these crimes together and identifying the offender. These large associated files slowed down the data-gathering process as they were often difficult to navigate and it was not always easy to separate the one DNA file within the 459 files.

There are always issues with locating files due to the nature of the tracking system and whether staff remember to update the computer with the movement of the file. It was expected that, due to the serious nature of some offences, some files would still be held by the investigating officer. This meant that there would be more of certain crime-type files available and less of others. The researcher incorporated this into her study. The resolution rates for serious crime are much higher than that for volume crime. For the purpose of this research, serious crime encompasses violence and sexual offences

whereas volume crime refers to burglaries, unlawful taking of motor vehicles and theft from motor vehicles. Arguably this difference in resolution rate is because there is less reported serious crime than volume crime. It could also be as a result of more funding and staffing to investigate serious crime. Given these realities, it is not surprising that there were more volume crime files available to view. This subject is explored more fully in Chapter 4.

Although grounded theory encourages researchers to continue looking through the data until no more new information emerges, it was felt that examining the entire available corpus from the archives would give a more rounded picture of what was happening with DNA files. However, the question of whether it would be impractical to analyse all the 302 files was uppermost in the mind of the researcher as qualitative analysis is time consuming. Initially there was a problem selecting which files to analyse as the majority of the files were volume crime. As the majority of DNA hits relate to volume crime, it was decided that all the case files should be examined so as to fully explore what was happening with volume crime files. In this case, although the information coming out of the data might be the same, it was felt that the quantity of files would only benefit the results of the study.

The potential limitation with this data set was that there was an expectation that all the files would fully explain what happened with the case. There was no guarantee that this would be so as these files had been completed by different officers with varying styles and skills of paperwork. Some of the files dated back to 1998 when methods for recording crime were different. The previously used Law Enforcement System was used only to track the files and contained no useful information regarding the case. Often these old files contained very little information which appeared to be the accepted practice of the day; this was particularly true of volume files. There were case files where the researcher simply could not ascertain the final outcome of the investigation and why such decisions were made. As expected, some files contained better information than others.

### **Dummy Files**

When a file cannot be located an officer will create a "dummy" file so that something tangible can be filed. The form used at the subject district to create these dummy files is

known as a B form. Once the original file is located it replaces the B form. Some of the files in the data set were B forms and so there was little information regarding these files. Some details could be gathered from the NIA but otherwise there was very little with which to work.

## **2.7 Procedure**

Given the complexity of the multi-method approach to the research, it is best explained in a three-stage format. During the first stage there was an exploratory examination of the data. The second stage expanded upon information gathered during the first stage and further consolidated the analysis of the data. In the third and final stage steps were taken to gather further information to confirm the results of the study and to fill any gaps in the data. Furthermore, this was where data was gathered to contextualise the use of DNA profiling within the New Zealand Police and the ESR.

### **2.7.1 Stage 1**

A small exploratory pilot study was used to gain a better understanding of the potential information that could be yielded by the data. This was achieved by choosing 10 available files from the 302 files from 2005. The method employed to choose these files was probability sampling using a simple random way to identify the files to be reviewed. This method was decided upon as an effective process to identify 10 files for review. This was achieved by taking every 10th file, if that file was not available then the next file was chosen and then the 10<sup>th</sup> file after that. In this pilot study it was expected that files may not be available due to the file unable to be located or still with the investigating officer. Therefore some of the 10 identified files were not available or could not be located which illustrated from the beginning the difficulty associated with accessing police files. The number 10 was chosen because it was believed that that number of files would yield enough information for an exploratory study (Denzin & Lincoln, 2000). These 10 files were used as a sample to develop a standardised analysis sheet and to identify the relevant categories, both quantitative and qualitative, that were important for the study. The files were initially examined to establish what information they contained and whether the information obtained was of value to the study.

The first problem encountered was that files chosen were not all available to be viewed. This was expected as the researcher knew that files can sometimes remain with

investigating officers for a period after the closure of a case. In addition, files can occasionally be misplaced due to the difficulties that some officers experience using the NIA. For these reasons it was planned to view 302 files but if all these files were not available there would still be enough to form the basis of the study. The results from the 10 files were entered onto a spreadsheet where they were analysed. From this what information could be expected to be found on a file was identified and a heuristic (a matrix that can be used to organise themes) was derived from this. The remainder of the available files were examined and the data was entered onto this heuristic.

### **2.7.2 Stage 2**

During this stage the quantitative categories developed in Stage 1 were employed on all the available files. The quantitative data was analysed, forming the framework for the study. There were several variables to consider when examining these files. The files were a mixture of offence types: burglary, theft from a motor vehicle and unlawful taking of a motor vehicle. Mixed in with these were some violence and sexual offences on various scales of seriousness. This information provided the researcher with an understanding of which crimes most used DNA profiling. These crime types in the police files were compared with other official crime statistics in order to find out how often DNA is used overall. These statistics were obtained from Statistics New Zealand and the District Risk and Performance Unit based at the subject district.

As well as DNA evidence there are several other methods employed by the police to identify offenders:

- Other forensic science
- Closed circuit television footage
- Interview/admission
- Offender caught at the scene
- Witness identification

By going through the police case files, it was hoped to establish whether DNA was the only evidence present or if any of the above were also factors in the investigation. Another important variable was the method by which the officer recorded the resolution. This method of capturing the resolution enables the police to count how many files have been resolved via forensics as opposed to the other methods of detection stated. The information is captured by means of a code entered onto the police

national computer. However, the choice of code is open to interpretation by the data entry operator or the officer. Therefore the disparity on the computer of how a crime is shown to have been resolved made it difficult to identify how often DNA was responsible for the resolution of crimes. Consequently it was important to compare the resolution code with the report the officer had put on the file.

The qualitative categorical framework developed in Stage 1 was utilised in a wider context to gather, capture and analyse the interviews as well as review the police case files. When an officer has completed a case file, the decision-making process should be explained in a final report contained on the file. This should always be the final entry on the case file and the first report seen when the file is opened. This report should contain all the evidence that was found in the course of the investigation and work through the officer's decision-making process. In line with the grounded theory approach to qualitative research, data gained from the police case files influenced which questions were asked in the subsequent stage.

### **2.7.3 Stage 3**

This stage involved the interviews. They were conducted with people closely involved with and considered specialists in the use of DNA in the investigative process.

- Crime Managers – control the DNA budget and so decide what samples should be sent to ESR
- Supervisors – responsible for DNA budget and overtime and prioritise the work of the constable
- Detectives – receive hits from ESR and decide whether to arrest the named offender
- Scenes of Crimes Officers and Crime Scene Attendants – attend crime scenes and obtain crime scene samples to send to ESR
- Constables – attend crime scenes and preserve scenes for SOCO
- ESR Case Manager – encourage police to send all crime scene samples to ESR for testing

The interviews were conducted at the workplaces of those interviewed. These were chosen by the participants as they stated this was where they were most comfortable.

The interview space was private. Participants were given a participant information sheet (see Appendix 19) that informed them why they had been approached, exactly what would happen with their interview and that they would remain anonymous. The agreement detailed counselling information should they feel the need for it. The participant was also given a consent form (see Appendix 20) which explained what they were consenting to and informing them that the interview would be recorded. This consent form was signed by the participant and kept by the researcher. The consent forms and the interview tapes are kept in a locked cupboard by the researcher and will be retained until the thesis has been published. Once the required time has expired, the forms and recordings will be destroyed in accordance with agreed protocol. The researcher began each session by building up a rapport with participants but as she was known to most of them and being a former police officer herself, she enjoyed some credibility with them. The researcher was not in a position of authority over any of the participants and so shared an equitable relationship. The interview began only when participants indicated they were ready. At the end of the interview the researcher spent time talking to each participant to ensure they had not been distressed by the interview and were in a calm frame of mind before she left the room. The interviews were transcribed by a third party who signed a confidentiality agreement (see Appendix 21) and was experienced at transcribing research interviews. The transcriber was also warned of the nature of the interviews and was regularly spoken to by the researcher to ensure that she was not distressed by the interview content.

Those interviewed were a mixture of gender, length of service and police officers and police employees who did not hold the office of constable. This diverse group helped to obtain a range of opinions in order to prevent bias in the data. The interviews were semi-structured so as to enable participants to introduce their own topics which may have arisen from the questions and this allowed the researcher to discuss topics relating to DNA that were important to the participants. All the participants were asked the same nine questions although the wording of some questions was changed to accommodate the ESR manager's different role in DNA (see Appendix 4). The aim of the interview was to find out how the participants interacted with the DNA technology, to establish what training, if any, they received and the role DNA evidence plays in police investigations. The interview for ESR staff was different to that for New Zealand Police staff, given their more exclusive corporate role. Further information such as official

reports and studies completed by other government departments and other policy documents written by police and the ESR was gathered to support the findings of this study.

## **2.8 The Analysis**

The quantitative material was analysed using descriptive statistics. Initially the files were examined to gather the raw data. After this stage of the research the data was quantified by converting it into a numerical format. Some of the data, such as the number of offences, was easily quantifiable. Other data obtained from the files was entered onto a heuristic and memoing (as discussed further in this section) was used to try to explain and understand the information gathered. The heuristic contains the information from the files that the researcher determined would be of the most use to the research. This heuristic consisted of a table with the following information:

- file number
- offence code
- DNA found
- other evidence available
- offence date
- result
- other information
- whether DNA was superfluous
- the investigation team
- file inactivated or filed

Some of the decisions made by the researcher were subjective, such as whether, based on the information on the file, she deemed if DNA was superfluous to the investigation or not. The memoing was done on the heuristic wherever it was needed to add more information or further explain a finding from a file. This enabled the researcher to form conclusions based on information from files after all the data from these files was collected.



Coding was used to collate the interview responses and identify any emerging themes from the interviews. Once the interviews were transcribed, the researcher went through all the questions and wrote the responses on a whiteboard using differently coloured markers for the different answers. This was done to establish whether any themes were emerging from the data. The colour scheme very quickly identified patterns and from these the researcher was able to pick out similar answers and put them into sub-headings, therefore establishing a hierarchy of responses. The answers that are not highlighted are the ones that did not form any patterns (see Appendices 6-15). The qualitative data collection and analysis were iterative. This means that the data was regularly subjected to the constant comparative method in order to see what information was emerging from it. Babbie (2005) suggests that there is a continuing interplay between data collection and theory. This part of the research is dynamic and involves the researcher constantly reviewing the data. The use of coding is one way of doing this but the coding process in grounded theory involves more than just categorising the data. Although coding is used to compare the data and look for emerging theory, memoing is also used to search for meaning within this data and as a way of looking for patterns and concepts. These memos are notes made by the researcher who is continually recording what new information is emerging from the data. As the emergent data provides categories of information, a heuristic is used to capture this information. A heuristic is a matrix that can be used to organise themes in a way that relates to each file. By setting out the information in such a manner, any patterns that emerge will be easier to observe (see Appendix 18). Furthermore, the heuristic can also be compared with the data to check for bias in the analysis. To triangulate the data, it was collected from police case files, interviews with police employees, interviews with members of the ESR and official documentation. This multi-method approach solves the problem of possible bias that may have occurred had the study relied only on the accounts of police officers. If the interpretation of one set of data can be corroborated with other sources then bias is reduced and the validity of the findings is enhanced.

### **2.0.9 Limitations of this Data Set**

For the 2005 calendar year 302 files had DNA attached to them in some way. Not all these files were available, due either to them being unable to be located or being still with an investigator. A file may remain with an investigator because that investigator is

taking a long time to complete the filing process. This might involve updating the victim, disposing of exhibits or adding the final touches to paperwork. In some cases this may take up to six months after the case is finished at court. The files were reviewed, amongst other things, to establish if DNA had been found at the scene and what the police had done with this information. While it could be argued that the files the researcher could not find were those that had been successfully investigated, there is nothing to suggest that the remaining 156 did all result in a successful prosecution or that they did not. However, it is an acknowledged part of police research that all data will not always be readily available. In this instance it is important to note that the missing files and difficulties with the data entry are all part of this research and add to the concerns of police use of technology.

However, of the 146 files reviewed, every file contained something that the researcher could use but not all had 100% of the required information which was hoped for. The fact that there were missing or inaccurate apprehension codes or resolution codes is an important part of the research. This may highlight a bigger problem in that the institutional design may be part of the issue for the police when trying to manage not only DNA technology but other technology as well. There was missing data with case files not being available or unable to be located but allowances were made and enough case files were available to make the study viable. "Criminological researchers confront missing data problems in practically every analysis they perform" (Brame & Paternoster, 2003, p.55). As well as missing data there was also limited quality information available which is not unusual in police data due to the many opportunities for distortion both when the data is being gathered and then stored, i.e. in terms of data entry (Alison, Snook & Stein, 2001). In the New Zealand Police there is a lack of consistency with the data entry which makes it difficult to make any definitive comments regarding the statistics. It also causes problems when trying to compare districts both in terms of workloads and crime resolutions. Likewise it becomes more difficult to monitor the effectiveness of DNA evidence in solving crime. However, as the issues have been highlighted the results can then be treated with caution and in context. In comparing statistics from the ESR and the New Zealand Police it is important to note that the police and the ESR gather their statistics differently and for different purposes.

Moreover, the problem with under-reporting or the "dark figure" of crime will also have an impact on crime statistics (Skogan, 1984). This lack of citizen reporting may well hinder the police in obtaining a complete picture of the number of crimes being committed in New Zealand. Although the data was available through Statistics New Zealand, it would have received all this information from the police and therefore must rely on the police for the accuracy of their data collection. To mitigate the police data and to add strength to the results, official documentation was used wherever possible to obtain more information and, more importantly, to obtain information from different and hopefully unbiased sources. In reviewing the 146 files for the research, it was noted that there were many inconsistencies in the manner in which the information was captured. Although there is a national standard for file preparation, files are often assembled differently from one district to another, even from one station to another. The format can often depend on the sergeant who may require staff to prepare files in a certain way. Likewise, the information entered onto the computer can also differ depending on the district and the training of the staff. Therefore the data that is analysed from file to file is only as good as the information that has been entered and as stated there will be inconsistencies in this data. However, as the researcher was reviewing only one district, there is some consistency around the processes and decision making employed with the DNA files.

Another variable that was considered was the age of the offender at the time of the offence. The law does not allow for a voluntary DNA sample to be obtained from a young person. Their profile could be entered onto the national DNA database only if they had been convicted of a relevant offence or a court had issued a compulsion notice compelling them to provide a sample for inclusion on the national DNA database. This would explain why there was often a delay in a young person being identified as a possible suspect in a burglary when the crime might have been three years old. This was because often a sample was not taken from this offender until he/she reached the age 17, thus becoming an adult for the purpose of the law.

## **2.10 The Subject District**

Auckland City District is geographically small compared to the other metropolitan districts. It is about 200km<sup>2</sup>, approximately 10km north to south and 19km east to west. Its resident population is approximately 404,658 and it is the largest point of entry for

visitors to the country. The district has a very diverse population. As taken from the 2006 census data, the ethnic breakdown is: European, 54%; Maori, 7.8%; Pacific Islander, 12.9%; Asian, 23%; Middle Eastern, 2% and other, 8.3% (Statistics New Zealand, 2006). The number of residents within this district who were born overseas is 40.1% as opposed to 22.9% in New Zealand as a whole. Of these, the most common place of birth is the Peoples Republic of China. For the rest of New Zealand Britain is the most common country of birth (Statistics New Zealand, 2006). At the time of the study the district had a staff of 881 with 702 being police officers and 179 being police employees. It has the most recorded crime per 10,000 population in the country (The New Zealand Police, 2010c). The decision to use only one police district may have limited the ability to make a conclusion based on the results for all of the New Zealand Police. However, if Auckland City has the highest reported crime in the country then certain conclusions can be drawn from the busiest district. Likewise it has a high turnover of experienced staff leading to less entrenched behaviour which can make the staff more open to using new technology and policing methods. For these reasons certain assumptions can be made regarding all of the New Zealand Police and its use of DNA technology. One major assumption could be that if DNA technology was not being used well in the subject district then it is unlikely it is being used well anywhere.

### **2.11 The Interview Participants**

Not every person employed by the New Zealand Police uses DNA as part of their daily work. The decision on whom to interview was based on a variety of factors:

- Is DNA part of their work?
- Are they in a position to make decisions?
- Would their role bring them into contact with DNA alerts?

Once those requirements had been met, the next criteria was to gather a mix of gender, length of service and different roles within the organisation. The length of service was important as it afforded the interviewer a depth of experience. The researcher also wanted to compare the experiences of staff who had worked in the police prior to the advent of DNA evidence with those who had always been aware of DNA evidence. These comparisons were important to establish whether DNA evidence had negatively

(or positively) impacted the way the police conduct their business. The role of the participant in the police would determine the use and value placed on DNA evidence. For example, a uniformed senior sergeant with responsibility for ensuring there was enough staff on the street to deal with frontline policing issues would have a different perspective to that of a detective sergeant in charge of a child abuse team. This is also true of a detective constable who works in a burglary squad and a detective constable who works in an adult sexual assault team.

There are different responsibilities and different expectations depending on the role of the interviewee. Appendix 17 breaks down the roles of those interviewed, what type of crime they predominantly investigate, whether they are responsible for a budget, whether they are responsible for the deployment of staff and whether their work is reactive or frontline. These roles and responsibilities will affect the way they view DNA evidence and how it should be best used. The number of participants interviewed was 28: 27 were police employees and one was an employee of the ESR. The participants consisted of 20 males and eight females with 24 being police officers, three police employees and one a non-police employee. Of those who participated in the research, 26 were white European New Zealanders and two were Maori; 15 were of the rank of sergeant or above. The length of service ranged from a probationer who had almost finished two years of service to a senior detective who was very near retirement. The age of the participants was not collected as part of the data as it was not deemed relevant but nevertheless there was a range of ages.

## **2.12 Discussion: the Fit between the Method, the Research Question and the Theory**

This chapter sets out the aims of this research and the research method. The researcher has been particular in choosing a method that will enable her to answer the research question while making allowances for the subjective element which must be present due to her background. This methodology will enable an answer but not pre-empt one. The researcher's position within the organisation has been pivotal to this research. She has had access to all the data that is required and has been able to interview subject-matter experts without distrust or suspicion. This has allowed open and informative interviews which have helped to explain the details contained within the case files. Likewise the

researcher has been in a position to observe some of this behaviour and the practices employed by the New Zealand Police.

Grounded theory proved to be an effective methodology for this data set which required the researcher to constantly review her data due to the obstacles that were encountered – for example, when trying to locate files. For this reason there are detailed explanations on the ways in which the police capture data and for what reasons. This clarification is required to understand the meaning of the information that the police capture and use. It is also to emphasise the difficulty of locating, reading and understanding these files.

Police files give only a one-dimensional view of a case. The interviews were needed to give meaning to the files and to offer possible explanations for the information that was found in them. To contextualise the study, the location of the district has been described in detail as it is important to understand the workload of the district. If staff believe that they are too busy, it affects the decision making of supervisors and impacts on what work is prioritised. The choice of participants was based on their experience with DNA but it was also important to find a cross section of staff so as to gather perspectives from a variety of people. DNA means different things to different people, depending on their roles.

The theory underpinning this research is Janet Chan's construct of field and habitus. This theoretical framework is a recurring theme throughout the research and is important for this study to understand the environment into which the police introduce new technology, make use of it and what elements of their culture can have an effect on this. This theoretical framework was chosen so as to fully understand how effective the police were at using DNA technology to investigate crime.

It is critical to have a robust methodology when conducting research. The mixed methodology employed in this research ensured that information was gathered from a variety of sources. It has highlighted the strengths and weaknesses of the research and the methods that were employed to mitigate any potential for bias. Likewise, it has identified the flaws in the data set that is the basis of the research. The importance of raising these issues is so that the research results have credibility and the metadata will allow the researcher to put the research and the results in context. The identified

limitations are common problems in criminological research (Alison, Snook & Stein, 2001; Skogan, 1984). However, the flawed quality of this data is an important part of this research as the issues with the data illustrate the difficulties facing the police when introducing any new technology or, in fact, any changes. DNA technology has been used in New Zealand since 1996 so referring to it as new technology is probably a moot point. The complication is that this technology is constantly being improved upon so in some ways the technology is always new. It is through this data that the researcher is illustrating the issues connected with technology and the police application of this technology.

The following chapter reviews some of the relevant available international literature on DNA technology. The literature has been divided into sub-topics so as to make it more manageable. The chapter begins with reviewing literature on the ethics surrounding the use of DNA. From there it moves onto the application of DNA evidence in the court room. The impact of the DNA database on civil liberties is then reviewed and the chapter concludes with the police use of DNA to identify offenders.

## **Chapter 3: Literature Review**

### **3.0 Introduction**

This chapter examines the literature surrounding the many aspects of DNA technology. There are many facets to DNA technology and most of these will be explored in this review. It is important to visit each aspect of DNA technology as they are all relevant to the impact of DNA on society and whether society can trust the police to make effective and ethical use of it.

For the purpose of this research, the literature available in relation to DNA has been broken down into four sub-topics. (The order was chosen to weave ethics and civil liberties into the decision making of the application of DNA technology for the court room and to identify offenders.)

- The ethics surrounding the use of DNA
- The application of DNA evidence in the court room
- The impact of the DNA database on civil liberties
- Police use of DNA to identify offenders

Each topic will be addressed and the relevant literature will be reviewed. This literature review is important as it highlights what research has been done and what gaps there are in the research. While this is not an exhaustive review of every study on DNA, it is a comprehensive and reasonable list given the timeframe available for this research. The four topics discussed are significant to the study as they explain the policing environment to which DNA technology has been introduced. Moreover, when trying to understand how police make use of technology it is helpful to have an understanding of past technological innovation and the impact this has had on the police. Likewise, understanding how new legislation, technology and policing practices historically have impacted on society helps to appreciate why certain elements of society express disquiet when these new practices are first mooted.



### **3.1 The Ethics Surrounding the Use of DNA**

Much has been written about the ethics of obtaining, storing and using DNA samples (see Dawkins, 1998; Donnelly, 2007; Rosen, 2003). As opposed to other law-enforcement technologies such as fingerprinting, DNA tends to cause more emotive responses. Robust legislation and a trusted police service would go some way to allaying those fears. Although initially referred to as "DNA fingerprinting", there are many differences between fingerprints and DNA which should caution the link between them. Fingerprints can identify a person but they tell us nothing else about that person and they can be easily wiped off a surface. However, DNA can be used to identify possible hereditary illness, it can be used for phenotypic typing and it can be used for familial linking (Kimmelman, 2000; Simoncelli, 2006). These profiles can be extracted from very small samples and as DNA is very tough it can be collected from very old samples (Kimmelman, 2000). It is for these reasons that comparisons between fingerprints and DNA are unwise and can be readily refuted (Steinhardt, 1999). Although DNA can provide information about the human body, it has been argued that samples used to obtain DNA profiles are "junk DNA" and so do not carry any genetic code (Dawkins, 1998; Webster, 2000). However, concerns are still raised by various sectors of society regarding the retention of the original samples (Billings, 1992; Jost, 1999; Webster, 2000). These concerns are based on where these samples are stored and who has access to them. There is also a belief that whoever has access to these samples also has full access to all the genetic information about that person (Billings, 1992; Simoncelli, 2006; Steinhardt, 1999). However, this is not the case as these databases are subject to strict laws regarding access and use of this information.

There are feelings of unease in various sectors of society that unscrupulous insurance companies could use information gleaned from these samples to refuse to insure people with a predisposition to a hereditary illness. Likewise an employer may be reluctant to employ a person based on genetic information if he/she had a propensity for heart disease, for example, and was not a good employment risk (Dawkins, 1998; Steinhardt, 1999). More importantly, at the rate technology is evolving what may be considered junk DNA today could quickly become a future wealth of genetic information (Rosen, 2003). For this reason it is important that these concerns are addressed. In New Zealand it is a legal requirement that the biological sample is destroyed once the profile is obtained (*Criminal Investigations (Bodily Samples) Act*, 1995). The argument for

retaining the biological sample is that these samples can be used to continually improve technology to assist with the refining of DNA testing. Yet destroying the biological sample would go a long way to allaying the fears of the public (Simoncelli, 2006). Moreover, the police have a responsibility to protect the rights and privacy of the individual and if a person is not charged or acquitted their profile and sample should be destroyed (Saffir, 1999).

A DNA database is assumed to be advantageous for catching criminals but it must be used advisedly with an eye on the complex ethical issues involved. Yet Dawkins (1998) also cautions that "if a DNA database would substantially help the police to catch criminals then the objections had better be good ones to outweigh the benefits" (p.24). Williams, Johnson and Martin (2004) acknowledge the concerns of civil liberty groups but also state that sometimes they miss the many benefits of forensic evidence, i.e. exonerating the innocent and identifying the offender. However, Roach and Pease (2006) comment that while the Forensic Science Service in the UK states that its mission is also to exonerate the innocent, all its website-published case studies detail its success in capturing previously undetected offenders.

### **3.1.1 The Application of DNA Evidence in the Court Room**

The term "DNA fingerprinting" brought to mind the older technique of fingerprinting which had been accepted by courts for decades in both the US and the UK as an exact and reliable method of individual identification (Lynch & Jasanoff, 1998). The process now is referred to as DNA typing or DNA profiling which describes the process more accurately. Fingerprinting had established itself in court as a reliable scientific process that was rarely, if ever, challenged (Cole, 1998). Advocates of DNA identification were keen to pursue DNA as the modern and more reliable fingerprint (Cole, 1998). DNA profiling, however, was not at this level and calling it fingerprinting was evidentially inaccurate. To be accepted by the courts, DNA needed to establish itself as scientifically valid. This included establishing robust and consistent processes and protocols at the laboratory level (Cole, 1998; Lynch & Jasanoff, 1998). The first use of DNA in the UK to identify an offender led to the defendant pleading guilty, therefore eliminating the need for a long trial and probable challenge to the use of DNA evidence. By contrast, the first man to be convicted in the US utilising DNA technology raised awareness of DNA evidence as the defendant disputed the charge in court. He was found guilty of

rape after DNA tests matched his DNA from a blood sample with that of semen traces found in the rape victim (Calandro, Reeder & Cormier, 2005). In spite of these initial concerns there was a general acceptance of DNA evidence in American courts. In accepting a new scientific technique, many US courts adopted the test established by *Frye v. United States*. This stated that any new scientific test should be generally accepted in its own field before it could be admitted by the court (Burk, 1988). Thus some courts adopted the view that if there were any perceived deficiencies in the manner in which the analyst conducted the DNA typing test, it tended to affect the weight of the evidence but not the admissibility (Imwinkelried, 1991).

One such case related to the deaths of a mother and child in New York City. In this particular case the defence counsel called their own experts to allow them to challenge the manner in which the prosecution experts had applied the DNA typing (Imwinkelried, 1991). In 1987 a male named Castro was living in a Bronx neighbourhood where a woman and her two-year-old daughter were murdered. Acting on information received, detectives interviewed Castro and noticed a minute amount of blood on his watch. This blood was sent for analysis to a laboratory that was performing DNA testing. The bloodstain was compared with the blood from both victims. The laboratory reported to the District Attorney that the DNA patterns on the watch and those of the mother matched and intimated that there were no difficulties or ambiguities with the results, yet Lander (1989) disputed this and said there were several fundamental difficulties. His concern was that only three patterns out of the five matched the mother. This was enough to cause doubt as the laboratory did not satisfactorily explain the existence or provenance of the remaining two patterns. These discrepancies were disputed by other experts which led to the prosecution and defence experts meeting without lawyers present to identify the problems. When the prosecutor attempted to get the DNA evidence admitted for the trial, he could not find one expert witness willing to testify. Moreover, former prosecution experts now testified for the defence (Lander, 1989). As a result of this, the court disallowed the forensic evidence although Castro was later convicted of the crime (Lynch & Jasanoff, 1998). The court acknowledged the scientific validity of the technique of DNA but said that the procedures used by the laboratory were insufficiently robust to produce reliable results for court (Lynch & Jasanoff, 1998). This case highlighted the lack of adequate guidelines for the interpretation of results and ensuring that a correct and agreed

scientific protocol was adhered to in the conducting of tests offered in court (Imwinkelried, 1991; Lander, 1989). In order to address these issues DNA typing was subjected to intense scrutiny. The technical working group on DNA analysis methods published three sets of guidelines and after three years the National Research Council released its report in 1992 (Lander & Budowle, 1994). Both the working group and the council resolved the issues regarding laboratory problems, poorly defined rules for declaring a match, experiments without controls, contaminated probes and samples and sloppy interpretation of x-ray films that had been exposed to a radioactive source (autoradiograms) (Lander & Budowle, 1994). It was felt that a lack of standards caused many problems in the court room environment but that these issues had been resolved with the advent of guidelines and protocols (Lander & Budowle, 1994).

Lynch et al. (2008) conducted a 15-year study in the 1980s and early 1990s in the US when DNA evidence was still in its infancy. The study focused mainly on the role of expert evidence in the adversary legal systems and continued through the middle of the 1990s in England when the UK Government and the Forensic Science Service were setting up the National DNA Database (Lynch et al. 2008). This research reviewed the progression of scientific methods utilised for forensic DNA analysis and the legal challenges that each discovery caused (Love, 2009). A strong theme in this research was that, as with other forms of forensic evidence and analysis, it is important to remember that the evidential value of DNA evidence rests on a variety of things: specific practices, circumstantial knowledge and administrative assurances (Love, 2009). This study by Lynch et al. illustrates the difficulty encountered by jurors in understanding the complexities of the science of DNA. It also proves that the probative value of DNA evidence was fiercely and successfully challenged in the first decade of its use. Some of those challenges remain unanswered (Duster, 2009). Lynch et al. question the belief that DNA is the ultimate “truth machine”. The controversy of DNA evidence inevitably led to tighter processes being put in place regarding the storage and collection procedures surrounding DNA evidence. However, the question of the fundamental legitimacy of technology employed in the presentation of DNA evidence has not been addressed (Duster, 2009). Ultimately all research cited in this paragraph showed that the more DNA becomes accepted as a sign of the truth, the more important it becomes for the police and judiciary to have sound and robust practices in place for the collection, storage, analysis and court presentation of this evidence (Lynch et al. 2008).

### **3.1.2 The Impact of the DNA Database on Civil Liberties**

It is acknowledged that DNA technology has been successful in solving crimes (see Chapter 1 section 1.4 & Chapter 1 section 1.10). The use of DNA technology to identify offenders has resulted in the creation of DNA databases, the enactment of new legislation and quite possibly the erosion of civil liberties. In the edited book *Genetic Suspects; Global Governance of Forensic DNA Profiling and Databasing* (Hindmarsh & Prainsack, 2010) the concept of good governance is a key theme in relation to DNA profiling. This book contains contributions from many authors who discuss a variety of issues that are at the forefront of DNA use. To give a global view on DNA profiling, the book reviews its use in seven countries. These countries range from the UK which has the largest database in the world to the Philippines which does not yet have a database nor any legislation enabling its establishment, even though DNA evidence is allowed in court (De Ungria & Jose, 2010; Hindmarsh & Prainsack, 2010). There is considerable commentary in this book devoted to the UK databank (Hindmarsh & Prainsack, 2010; Williams, 2010). This is apposite as the UK databank's legislation has been through several iterations. However, the 2008 ruling from the European Court of Human Rights (ECHR) in the case of *S and Marper v. the United Kingdom* (2008) has called into question this legislation (Hindmarsh & Prainsack, 2010; Williams, 2010). The commentary at the heart of this ruling is the need for a government to balance the use of technology with the rights of the individual. The chapters discussing the UK databank reinforce the need for this balance and for the importance of everyone (law makers, scientists, members of the public) to remain vigilant when legislation is proposed relating to the obtaining, retention and use of DNA.

This idea is further explored by Washington (2010) in the same book, when she examines the use of mass screenings as a way of catching offenders. She argues that when used by the police it is often disguised as voluntary when in fact the population may be coerced into providing samples. This method employed by the police to gather and retain DNA data can be seen as a way of circumventing the law. Certain sections of society are justifiably concerned by this behaviour. Some communities in American society (and others) are over-represented in prisons and apparently differentially wrongly convicted. "Each year since 2000, between 50% and 70% of the incarcerated men freed by DNA technology have been black or Hispanic" (Washington, 2010, p.66). This would seem a disproportionately high number compared with the general

population of the US. In order to maintain public trust and confidence in DNA profiling, there do need to be questions asked about what is clearly a complex issue (Hindmarsh & Prainsack, 2010). Williams (2010) suggests that there needs to be openness and transparency in the use of databanks so as to maintain (perhaps regain, with some communities) public trust and confidence. In writing about the New Zealand DNA databank, Veth and Midgley (2010) express concern that DNA legislation has been introduced into New Zealand with very little judicial challenge. Acknowledging that there has been little research into exploring public perceptions, Veth and Midgley (2010) suggest that this lack of judicial challenge is down to the fact that New Zealanders are concerned about crime. The general public apparently believe that if DNA will help catch offenders and so ensure a safe society that is all that matters.

The overriding message from the above-mentioned book, *Genetic Suspects* (2010), is that society needs to keep a firm hand on the use of DNA profiling and not be blinded by its alleged benefits. It is essential that all sections of society have trust and confidence that authorities will manage the use of DNA responsibly. The application of DNA technology can be fallible due to the human element involved but this can be mitigated by sound governance and robust legislation. As the title of the book implies, if the proliferation of DNA databases and legislation is left unchecked all of society may find itself at one time a genetic suspect (Prainsack & Hindmarsh, 2010).

Similar topics are discussed in the book *Genetic Justice*. Krimsky & Simoncelli (2011) review the rise of DNA technology in solving crime, its effectiveness and the implications for countries with a database on which people who have never been convicted of a crime have their DNA profiles included. Krimsky & Simoncelli (2011) break down their book into three parts: the history of DNA, its application and expansion; comparative systems looking at DNA databases in five countries; and finally the critical perspectives, balancing personal liberty, social equity and security. They examine the concept that the more profiles on a database the more effective it will be, i.e. the bigger the database the more crimes that will be resolved. They form the view that it is the addition of more crime-scene samples that will improve the success of the database. In fact, the more profiles that are added the more the system can be clogged up for little return as laboratories can be extracting profiles from samples that may never be found at a crime scene. It is for this reason that strict guidelines for taking DNA

samples should be in place. If for no other reason, this should be enough to deter law enforcement agencies from wanting to take samples from the entire population. They also posit that the larger the database the greater the chance that the wrong person may be identified; likewise the use of dragnets to identify offenders, whereby a large part of a population might be pressured or coerced into providing samples to the police in the hope of identifying the offender (see Chapter 1 section 1.4.1). The use of familial linking to identify an offender may result in innocent people being stigmatised because they have a relative who may have committed a crime. The question asked by the authors is whether when law enforcement officials or prosecutors adopt an “any means necessary” approach, is this not a form of “frontier justice” and does it not violate the principles of the US constitution (Krimsky & Simoncelli, 2011)?

The foreword to *Genetic Justice* is written by the Executive Director of the American Civil Liberties Union. His view is that solving crime is undoubtedly important but it should never be at the expense of an individual's freedom. He believes that a balance between fighting crime and maintaining civil liberties is what is required. This seems to be a recurring theme throughout the book with the authors coming to the conclusion that the balance should be "between the protection of civil liberties, presumed innocence, and procedural rights of persons and the needs of the state to apprehend, punish, and rehabilitate perpetrators of crime" (Krimsky & Simoncelli, 2011. p.330). Whilst this conclusion may seem fairly obvious to many people, the authors believe that this balance has yet to be realised.

Linked with this balance is the need for the police to use this technology legitimately and this has been an issue with the Maori<sup>11</sup> population in New Zealand who do not appear to enjoy the same relationship with the police as the white European population. The national survey of crime has highlighted the fact that the police do not enjoy the same level of trust from Māori as they do from other ethnicities. Māori victims were significantly more likely than other victims to be dissatisfied with the police response to them (Morris & Reilly, 2003). Of those surveyed, 17% of Māori said they were very dissatisfied with police service compared to 4% of Pacific victims and 11% of New Zealand European/European. Moreover, Māori believe that the

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<sup>11</sup> Maori are the indigenous people of New Zealand

police is a racist institution that perpetuates strong anti-Māori sentiment (Te Whaiti & Roguski, 1998; Webb, 2009).

A police request for a law change to grant them more power may comfort one section of society but, at the same time, it may alienate another (Herbert, 2006). When the law change involves bodily samples, this can cause an emotive response (Kimmelman, 2000) and the police can have a much harder time convincing the public to agree to it. Since the creation of the national DNA database in 1996 the police have been requesting more powers to take and retain DNA samples. The *Criminal Investigations (Bodily Samples) Act* is now on to its third amendment since it was first enacted in 1996. Each amendment has given the police greater powers and at each amendment dissenters have worried that New Zealanders are slowly having their freedom eroded by the government. “One of the problems with the legislation here is that it creeps towards a surveillance society” (Locke, 2009). The Māori political party voted against the 2009 amendment. Māori believe in the sacredness of whakapapa<sup>12</sup> and so when DNA is an issue they do not like to leave anything to chance (Flavell, 2009). However, this was not the main thrust of their argument. Put simply, the Māori political party would not trust the police to follow the law as it is written, allowing them to use discretion as from whom they took a sample. The Māori party stated that when it comes to police discretion, Māori never fare well and would most certainly have their DNA taken merely because of the colour of their skin. In quoting research completed by the Department of Corrections (2009) they linked this to “institutional racism”, “unintended consequences of discretion”, “unevenness of decision making” and “bias”, all of which are believed to contribute to the over-representation of Māori in the criminal justice system. Māori are resistant to providing their DNA and need assurances that the police would follow and sustain agreed protocols if it was provided. The Māori party did not trust the police to do this, based on their past experiences of police behaviour. As previously illustrated in Chapter 1 section 1.8, those of European descent do not appear to have the same concerns.

### **3.2.3 Police Use of DNA to Identify Offenders**

Williams (2008) states that in the past 10 years a number of studies came to similar conclusions (see HMIC, 2000; McCulloch, 1996; Tilley & Ford, 1996; Smith & Flannigan, 2000; Williams, 2004). All concluded that there was still a lack of obvious

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<sup>12</sup> Lineage



partnership between crime-scene examiners and investigative teams. Williams (2008) sums up the results of this problematic relationship by suggesting that this will prevent forensic science from being maximised in investigations. In various reports commissioned by the Home Office (McCulloch 1996; Touche Ross, 1987; Audit Commission 1990), all are agreed that the police in the UK are committed to using science to beat crime. Furthermore, all reports were critical of how the organisation monitored the use and therefore the effectiveness of scientific support. Williams (2004), in reference to police use of forensic information, refers to "a lack of comprehensive qualitative outcome measures" (p.7). The reports also highlighted that some senior police officers appeared to lack understanding of the true potential of the national DNA databank. The HMIC (2000) report also noted the lack of quality and accuracy of performance data across all aspects of their inspection. The level of understanding about the use of DNA seemed to depend on which police area was being examined. Not surprisingly, some officers appeared to have a better awareness of forensic technology than others. Green (2007) questions the variable rates at which forensic results are converted into detections in the UK. He states that he cannot understand why "forensic matches in the UK can at times fail to produce a positive investigative result" (Green, 2007, p.346). The loss of cases through the criminal justice process is referred to as attrition (Barrow, 2005, p.vii). In his 2005 research conducted in the UK, Barrow reviewed 230 files that contained either DNA or fingerprint results and which had been considered closed, i.e. they had a resolution attached to them. Of these files, only 124 resulted in detections with the remainder not being proceeded with for the following reasons:

- In 26 cases or 25%, no further action was taken on the advice of the Crown Prosecution Service.
- In 32 cases or 30%, no action was taken due to the forensics being at the scene legitimately.
- In 33 cases or 31%, no further action was taken as it was deemed to not be a crime

(Barrow, 2005).

Green's summation of this study was that it showed weaknesses in the processes in place for dealing with forensic results. These weaknesses are not at the scene attendance

stage or the analysis stage but further down the process chain. In this context the chain refers to the many stages involved in the investigation process which should all loop together and present one large picture. If any aspect of that chain is weak or missing, the investigation will be incomplete. Green (2007) also suggested that managers of individual boroughs should review their practices to account for the obvious variances in their procedures rather than accept the attrition rate at face value.

Researchers in Australia noted that targeting the right offenders did achieve some results but not an increase in the conviction rate. Research conducted in 2008 by Dunsmuir, Tran and Weatherburn concluded that there was no evidence to support DNA having added to the conviction rates. Their research looked at the relationship between mandatory DNA testing of New South Wales prison inmates and clear-up, charge and conviction rates for a variety of crime types. The New South Wales Government passed a law in 2000 which, amongst other things, enabled the police to obtain DNA samples from offenders serving sentences of imprisonment for serious indictable offences in a correctional centre. These samples were then added to the database. Whilst there was no apparent improvement in the conviction rate, for other police outcomes such as clear-up, charge and charge to clear-up rates, there was evidence of a positive association for five (sexual assault, robbery with firearm, robbery without firearm, break and enter – dwelling, break and enter – non dwelling) of the eight crime categories considered (assault and motor theft had negative impact while stealing from motor vehicle had zero impact) (Dunsmuir et al. 2008). The research took into consideration the work load of the police, the 10-month delay for the data base to be first used, the time it took for the laboratory to analyse each sample and the time lag from when a sample was taken from an offender to the offender's release. However, this research reviews one specific area of DNA use by the police. It does not follow the life cycle of a crime from first call for police service to the final disposition of the file. It does not identify how the police go about tracking named offenders for the more common crime types and how effective they are in making optimum use of DNA technology to obtain convictions.

In the US, researchers uncovered other issues associated with the use of DNA technology to investigate different crime types. Research has established that DNA is effective for the investigation of burglaries and other volume crime but that financial

and resource implications have a bearing as to whether DNA could be used to solve volume crime. The question raised by the researchers was that if DNA was used to solve volume crime, this might come at a cost to more serious crimes such as rape or homicide where DNA has traditionally been used (Ritter, 2008; Roman, Reid, Reid, J., Chalfin, Adams & Knight, 2008; Wilson, McClure & Weisburd, 2010). However, Roman et al. (2008) posit that career burglars committed so many crimes that arresting just one burglar would go a long way to reducing the number of burglaries in a community. In a later review, Wilson, Weisburd and McClure (2011) suggest that using DNA to investigate volume crime would be worth the investment and that research conducted by Roman et al. (2008) and to a lesser extent Dunsmuir et al. (2008) provide evidence to support this. The main issue in all this research has been that DNA has been successfully used to identify offenders. Those who are identified by DNA have a greater history of more crime and more violent crime. The research identified that patrol officers and specialist forensic staff are equally effective at collecting good-quality DNA samples. Some of the key findings in this research that determined the more-extensive use of technology would be problematic were the expense involved, the backlog in laboratories and the need for greater communication between the police, laboratories and prosecutors.

While US research highlighted the effectiveness of DNA use at burglaries, the New Zealand Police were identified as having a different problem. In 2001 the Controller and Auditor General of New Zealand concluded that the New Zealand Police were unlikely to be making the best use of forensic science techniques in their crime investigations (Controller & Auditor General, 2001). This was the first time that the New Zealand Police had been the subject of a performance audit. The purpose of the report was to provide Parliament with information on what the police were doing about dwelling burglaries, including how the police measured their performance (Controller and Auditor General, 2001). As a result of the audit, the report recommended that districts prioritise their use of forensics on the basis of cost and effectiveness and improve their resource planning for the use of forensic science. In his 2004 review (further explored in Chapter 6 section 6.3) the Auditor General noted improvements in the use of forensics to investigate dwelling burglary. This report acknowledged the effort the police made at having Scene of Crime Officers (SOCOs) attend every burglary scene but made no mention of what systems were put in place to deal with the extra work generated. The

assumption was that the more crime-scene samples sent to the ESR, the greater the chance of there being a match. The review did not look at the number of prosecutions or convictions directly resulting from the use of DNA technology which might have given a more rounded view of the impact of DNA use by the police, which is what this study accomplishes.

Research conducted in 2003 looked at police use of DNA from a different perspective. Casey and Cullen (2003) conducted research at Counties Manukau police district in Auckland, New Zealand, to look at reported police practices in relation to the use of DNA. The research was funded by the ESR in order to better understand police decision-making regarding DNA submissions to the ESR. As a consequence, the research may have been biased towards encouraging the police to send all samples to the ESR for analysis, irrespective of any probative value. The management at ESR was looking to "optimise the performance of the DNA database by having more quality and quantity of information" (Casey & Cullen, 2003, p.9). This was a pilot study and related only to Counties Manukau police. The research consisted of interviewing a total of 11 staff, sworn and non-sworn of different ranks, levels of service and specialisation. The staff all had some connection to DNA in their working environment. The aim of the study was to highlight some of the issues relating to DNA sampling which might indicate where further research was required. The topics covered in the interviews were:

- Police training (in taking DNA samples)
- Police guidelines (are they adequate for taking voluntary samples from people in custody?)
- Police budget
- Turnaround times from the ESR
- Feedback from the ESR

The conclusions from the research were that a more in-depth study needed to be conducted across police districts and include a greater cross-section of police personnel as well as staff from the ESR.

In 2010 a comparative study between the forensic DNA analysis systems in England and the US was conducted. Senior US law-enforcement officials believed that the English had made better use of the crime-fighting potential of forensic DNA evidence than the US criminal justice system (Goulka, Matthies, Disley & Steinberg, 2010). The research concluded that while the English appeared on the surface to have a faster turnaround and a higher hit rate than their US counterparts, there were many differences which made it difficult and unsafe to make a comparison (Goulka et al, 2010). In the English system there is one National DNA Database servicing 43 police forces with only a small number of approved laboratories feeding into the database. In the US there are three tiers of databases: the Combined DNA Indexing System (CODIS), the State DNA Indexing System (SDIS) and the Local DNA Indexing System (LDIS). There are 193 CODIS participating laboratories and 18,000 law-enforcement agencies. The FBI maintains strict rules about who may put information into CODIS and this practice restricts the results that can be obtained. This suggests that there is a fundamental difference in strategy and philosophy in the two systems which is not surprising. The size of England, the number of its police forces and the fact that there is only one database without any tiers lends itself well to a centralised process. The researchers identified that there were fewer steps in the English process although the extra steps in the US process – confirm identity, verify report accuracy – were added to provide better checks in the interests of justice. However, the researchers did note that these extra steps had not identified cases where there had been issues with identity or accuracy. It was also noted that the English DNA process made full use of productivity-enhancing technologies including Laboratory Information Management Systems (LIMS) which made their work easier and would reduce any backlogs (Goulka et al, 2010). The US laboratories have considerable backlogs and their turnaround times are nowhere near as fast as those of the English although they are able to match these times under special circumstances.

The same study compared database matching between the US and the UK. It was viewed that the number of crime-scene samples rather than the number of offender profiles on the database was more effective for identifying suspects. This was contra to the initial understanding (especially in the UK) that more offender profiles on the database would equate to more crimes being resolved (Krimsky & Simoncelli, 2011; McCartney, 2004; Van Camp & Dierickx, 2008). The results from this research (Goulka

et al, 2010) suggest that “widening the net” might be less cost effective than allocating more effort into taking samples from crime scenes. The obvious differences in the manner in which data was collected and the way the systems were constructed made comparisons impossible and prevented the researchers from comparing information from similar data and similar processes. They struggled to obtain data from the US and encountered difficulty in getting information from the FBI and CODIS, whereas in England and Wales as much information as possible regarding the National DNA Database is published in a public forum via its website and annual reports. Another difficulty was that CODIS does not capture different offence code types, making it hard to compare which offence codes were having the most success with DNA evidence. The researchers agreed that in referring to DNA successes the number of matches generated was an output measure – often mistakenly confused with the most desired outcome – namely, crimes solved.

This research (Goulka et al, 2010) was useful in highlighting the differences between the US and English systems. On the surface it did look as if the US Senior Law Enforcement Officials were correct, that the English had capitalised more fully on DNA technology. However, it would seem that the biggest outcome of this research was the identification of the serious lack of data in the US system and the difficulties of having a three-tier approach to their database.

There appears to be a gap in the literature both abroad and in New Zealand regarding the number of convictions that are obtained from the use of DNA technology in day-to-day policing. A pessimistic person might infer that the police in these jurisdictions are afraid of what they might find and are not arresting offenders even though a DNA result has been received from the laboratory. It might be for this reason that they have not commissioned the appropriate studies. However, it is just as probable that these methodological problems have gone unnoticed or that research funds are not available. The literature review highlights research that primarily looks at the effectiveness of using DNA to investigate crime and in particular volume crime. This study does not dispute the efficacy of DNA in identifying possible suspects. It aims to establish whether the police make the best possible use of DNA technology to investigate crime, leading to an offender being arrested and charged. If this is not the case, then what reasons would inhibit the effective use of DNA technology by the New Zealand Police?

There is a considerable amount of literature and research concerning the use of DNA by the police to investigate crime. Inextricably linked with the technology of DNA is its ethical application and the implications for civil liberties when legislation is not robust in its protection of an individual's privacy. Although this research is concerned with the effective use of DNA technology by the police to investigate crime, this cannot be looked at in isolation. It is important to review the historical application of technology by the police and which sections of society appeared to be more adversely affected by this application. For this reason, several sub-topics of literature were reviewed. However, a notable absence in the literature is detailed research into what results the police achieve as a direct consequence of using DNA technology when investigating crime. No-one is arguing the efficacy of DNA to identify offenders. However, what is absent are the actual statistics relating to the arrest, charge and prosecution of offenders as an indicator of the police effectively solving crime by using DNA. This research provides statistical and empirical evidence of a police district using DNA technology to solve crime.

The following chapter discusses the police use of DNA technology to investigate burglary, This chapter contains data from the research and provides figures regarding burglary and volume crime in New Zealand. It provides illustrative case histories to highlight the use of DNA technology to investigate burglaries. This chapter also contains the first of the interview results in relation to specific questions on police use of DNA technology to investigate crime.

## **Chapter 4: Police Use of DNA to Investigate Burglary**

### **4.0 Introduction**

Chapter 4 begins with the definition of volume crime. It then explores in some depth the burglary statistics in New Zealand and specifically in the subject district. From there, the chapter compares the burglary resolution rates in New Zealand, the US and the UK which establishes a general overview of difficulties faced by several jurisdictions in solving burglaries. The results of the research from the subject district relating to volume crime are examined and analysed. Finally, from the results of the analysis, the chapter explores the ability of the police to use DNA to solve volume crime.

Most jurisdictions split crime informally into two main categories: serious or major crime and volume crime (Adderley & Musgrove, 2001). The files used in the research relate to the calendar year 2005. At that time the New Zealand Police had seven crime categories: violence, sexual offences, drugs and anti-social offences, dishonesty, property damage and new drugs, property abuses as well as administrative which included immigration, racial and national interest. Serious crime, including murder, armed robbery and rape, tends to be less widespread whereas volume crime, as its name suggests, is more prevalent (Adderley & Musgrove, 2001).

Since 2009 the New Zealand Police have adopted the Australian New Zealand Standard Offence Classification (ANZSOC) (see Appendix 16). When the New Zealand Police reports its crime statistics externally the ANZSOC codes are used but these are not used for internal reporting. While ANZSOC refers to burglary along with unlawful entry with intent to enter and break and enter, the New Zealand Police code table for the NIA still refers to the offence as burglary only so, for the purpose of this research, burglary is defined as “any entering of a building or ship with intent to commit a crime, or having entered a building or ship, remaining in it without authority and with intent to commit a crime” (Section 231, *Crimes Act 1961*). The definition of burglary was amended in the *Crimes Amendment Act 2003* which removed the requirement of evidence of a break-in before it could be classified as a burglary. This removal of break-in would have made the offence of burglary easier to prove but more importantly, for the police, would have increased the number of recorded burglaries.



The first examples of DNA being used successfully were in identifying the offenders in rapes and homicides and so it became expected that DNA would be used primarily for serious crime types. High-profile cases were the capturing of serial offenders and the resolution of cold cases largely due to DNA technology (see Chapter 1 sections 1.4 and 1.10). To legitimise creating and maintaining DNA databases and to establish that DNA was valuable in solving and preventing crime, it had to be demonstrated that DNA was also effective for the investigation of all crime. For these reasons DNA was portrayed as a valuable way to solve volume crime. Moreover, the police would invest in having laws passed that would allow them to target offenders who commit volume crime.

This chapter compares recorded burglary<sup>13</sup> statistics with other crime types including the resolution statistics. This is important as it puts into context the impact that burglary has on a community due to its prevalence and its low resolution rate. Similarly it is valuable to compare the New Zealand resolution rates for burglary with other jurisdictions as it illustrates that the New Zealand experience is not an isolated case and other countries deal with comparable issues. From there the chapter analyses data gathered from the subject district relating to DNA files from the 2005 calendar year. The data includes information from DNA files and the results from interviews with practitioners based on the findings from the files. There is discussion on how the police have encouraged their staff to attend volume-crime scenes and submit as many DNA samples as possible to the ESR, the reasoning being that a higher submission rate would equal a higher hit rate. This is an idea promoted by the ESR which has stated that not enough samples are submitted from volume-crime scenes (Buckleton, 2008).

#### **4.1 Capturing of Data**

With data entered into the New Zealand Police database, there are various ways that a crime can be cleared or resolved. This data is entered to show when and how the offence was resolved and enables it to be counted as a crime that is now solved. In the UK these are referred to as detected crimes. The New Zealand Police utilises different clearance codes by which to count the statistics (see Appendix 2). If there is no suitable code available at the time ‘Other’ is used initially but can then be changed if required.

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<sup>13</sup> Under ANZSOC burglary includes: unlawful entry with intent, burglary and break and enter. The statistics used from statistics New Zealand are based on the ANZSOC classification.

One method employed by officers to clear an offence is called custody clearance. This is used when the evidence is overwhelming or the offender admits to an offence but rather than charge the offender they clear the offences.<sup>14</sup> The offender will not receive any more punishment for the offence but it is acknowledged that this offender is responsible for the crime so the offence is cleared. It is believed that custody clearances have several benefits. Resolving other burglaries enables officers to concentrate their efforts on other unsolved burglaries (Ministry of Justice, 2005). If the offender were to re-offend the police would be well aware of the modus operandi employed by the offender and so s/he would be more likely to be caught (Ministry of Justice, 2005). Custody clearances also alert the police to unreported burglaries which are of benefit to intelligence gathering (Ministry of Justice, 2005). An unexpected outcome might be that since the offender cannot be tried for these crimes s/he may exaggerate the level of offending so as to receive more kudos in the criminal fraternity (Ministry of Justice, 2005). It also means that those crimes are cleared without penalty against the offender.

As well as clearance codes the New Zealand Police also use apprehension codes. These codes identify how a suspect was initially arrested. The accurate use of these codes is important in that it allows the police to quantify the effectiveness of various types of processes. The use of DNA or fingerprint evidence to catch offenders would be captured by the use of “forensic” as an apprehension code. As stated earlier (see Chapter 2 section 2.3.), prior to 2003 there was no option on the Law Enforcement System to enter “forensic” as an apprehension code. Therefore “forensic” data is not available before 2003. Appendix 3 shows the apprehension codes used to capture this information. All the codes are agreed to by the Organisational Performance Group based at Police National Headquarters in Wellington. These codes allow the group to provide the government with data relevant to police performance. The accurate use of these codes would enable the Organisational Performance Group to provide the government with data that correctly reflects the work done by the police. As described in the methods chapter (see Chapter 2 section 2.5) there are different ways to complete a file. To highlight these variations and to illustrate the example of associated files, two files have been identified to demonstrate the methods employed by the New Zealand Police to capture information (see Chapter 4 section 4.4).

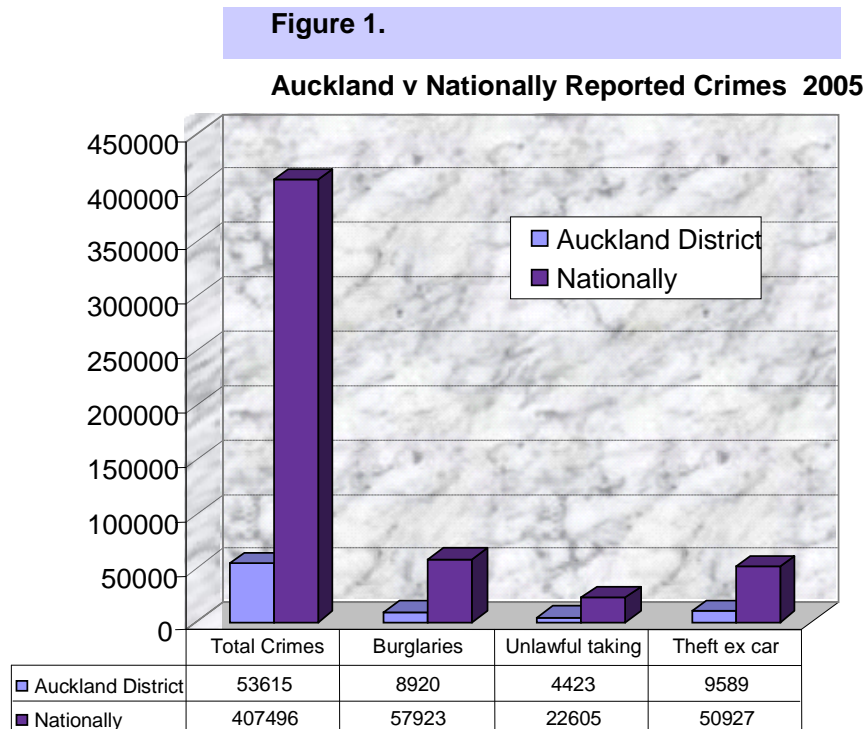
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<sup>14</sup> These may be reported and/or unreported crimes.

## 4.2 Volume Crime

The largest crime category in New Zealand is dishonesty. Within this category, general theft constitutes the largest sub-group with burglary being the next largest. The next sub-group is vehicle crime. Vehicle crime includes unlawful taking and theft from a motor vehicle. As stated previously, the government and the police have singled out burglary as being of greater importance than the other crime types due to its impact on the community. As illustrated in Figure 1, for the calendar year of 2005 the police recorded nationally the unlawful taking of 22,605 motor vehicles with the subject district recording 4,423 unlawful taking of motor vehicles. For the same time 50,927 cases of theft from motor vehicles were recorded. The subject district recorded 9,589 reports of theft from motor vehicles for the same time period.

□



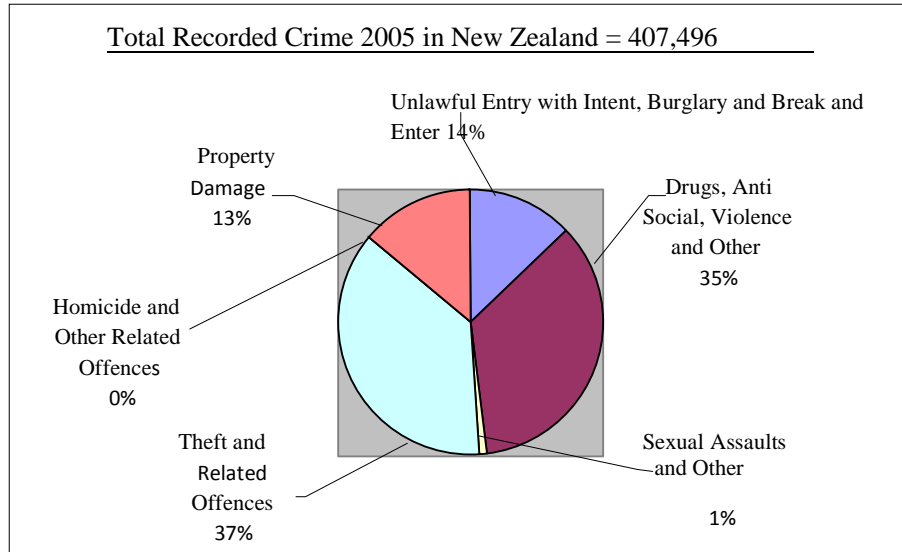
Of the 146 files examined, 44 related to theft from cars, unlawful taking of a motor vehicle, criminal damage and general theft. Unlawful taking of a motor vehicle had the most (33 out of 44 files). Of these files, eight were never resolved even though the suspect had been in police custody several times. From the 33 files, 11 had a resolution which in these cases included charging, custody clearance or a warning. For those

suspects who were interviewed regarding the DNA alert, three suspects denied the allegation and were released with no further action. Once again there were difficulties with the files and the information entered on to the computer. In one case the file stated that the offender had been dealt with for the offence and the alert had expired on the computer. However, there was nothing on the computer or the file to show what action had been taken. If suspects are not dealt with in a timely manner and/or they have been before the courts in the interim, the courts become reluctant to allow them to be prosecuted for old offences. It is considered by the judicial system to be an abuse of process. This can make it difficult for officers to deal with a suspect if they can see that the suspect has been in custody many times previously. Likewise, if an offender is in prison and needs to be interviewed regarding a DNA alert, the police liaison officer will not interview the prisoner if there is no likelihood of a charge. It is believed to be a waste of everyone's time.

#### **4.3 Burglary in New Zealand**

Most crime recorded in New Zealand is made up of a range of offences included in the dishonesty category. The most prevalent is general theft which is followed by burglary (Statistics New Zealand, 2010). The Ministry of Justice (2009) states that burglary is one of New Zealand's highest-recorded crimes. Figure 2 shows that in the 2005 calendar year 57,923 unlawful entry with intent, burglary and break and enter offences were recorded, making it the third-highest crime type (14% of all recorded crime). The highest recorded crime was theft and related offences at 151,649 (37% of all recorded crime), followed by property damage and environmental pollution next at 51,762 recorded offences (13% of all recorded crime). Therefore volume crime accounted for 261,334 recorded offences out of the 407,496 total recorded crimes (Statistics New Zealand, 2010).

Figure 2, Total Recorded Crime in New Zealand 2005



Burglaries tend to be serial in nature as offenders rarely commit only one (Ministry of Justice, 2009). It is uncommon for there to be any descriptions of burglars as they are likely to operate when people are not around and so it is difficult to link a series of burglaries to one offender (Adderley & Musgrove, 2001). Perhaps more significant is that individuals who commit property crimes have a higher recidivism rate than those who commit other types of offences. Therefore, arresting and imprisoning a single burglar increases the chances of a significant reduction in burglaries in a community (Roman et al., 2008). Similarly it has been noted that when unknown DNA from a murder scene is checked against the national database in the US it has often found a match with the DNA of a burglar (Zedlewski & Murphy, 2006). A review of the first 1000 hits on the New York database showed that 82% of the offenders were already on the database for a less-serious crime such as burglary or drugs (Zedlewski & Murphy, 2006). The resolution rate for total crime in New Zealand for 2005 was 43% with the burglary clearance rate for the same period being 16%. In contrast Table 1 indicates that the resolution rate for homicide was 87% with rape having a 55% clearance rate (Statistics New Zealand, 2009).

Table 1. Recorded Crime vs Resolved Crime in NZ 2005		
Crime Type	Recorded Crime 2005 in NZ	Resolved Crime 2005 in NZ
Homicide and other related offences	103	87%
Sexual assaults and other related offences	2,465	55%
Unlawful entry with intent, burglary and break and enter	57,923	16%
Total	60,491	

It is acknowledged that there is an under-reporting of rape and other sexual offences (Neame & Heenan, 2003) and at first glance it may seem redundant to compare these figures. However, this research does not seek to examine the under-reporting of crimes but rather aims to review those crimes that are reported to police and how the police make use of DNA technology to investigate them. This under-reporting of crime is of concern to the police as it affects intelligence and crime patterns and as a consequence impacts on police deployment (Taylor, 2002). However, this research shows that even when crimes are reported to the police the resolution rates suggest that they are not able to cope with those numbers. Therefore, this chapter focuses on burglary offences because they are a volume crime and research has shown that there are benefits to using DNA technology in resolving burglary offences (Dunsmuir et al., 2008; Roman et al., 2008). Also, the New Zealand Police are committed to using DNA technology to investigate volume crime as discussed below. Burglary resolution rates are not high in other jurisdictions either with the UK having a resolution rate of 13% for the 2004/2005 year (The Home Office, 2010). According to the FBI, the percentage of burglaries cleared in the US by arrest or other means in 2005 was 12.7% (FBI, 2006).

Due to the impact of burglaries on the community, the New Zealand Police and the New Zealand Government have identified burglary as a priority for crime reduction. The

police aligned their strategic outcomes to the government's crime reduction strategy and identified reducing burglary as a three-to-five-year priority plan (Controller and Auditor General, 2006). The Ministry of Justice and the New Zealand Police conducted a policy review over a three-year period (2002-2004) on police practices of investigating burglaries and their effectiveness. A steering committee was formed by the Ministry of Justice and the New Zealand Police to develop policy proposals targeting repeat burglary victims and burglary locations. The review was conducted in four police areas including a mix of urban and rural centres. A combination of factors was examined in viewing police practices and the New Zealand Police instigated various strategies to help reduce and resolve burglaries with DNA being integral to their policies. They focused on the obtaining of voluntary samples from suitable candidates as well as the collection of DNA samples from the scene and submitting such samples to the ESR. The position of Crime Scene Attendant (CSA) was established to improve the attendance rate at burglaries. A CSA is a police employee who does not hold the office of constable but who has been trained in forensic gathering and report writing and whose primary function is to attend all reported burglaries (Ten One, 2006). As previously described in Chapter 1 section 1.6, a CSA attends a scene and collects forensic evidence and intelligence. If any samples are found at the scene they are sent to the ESR for analysis. Both the police and the ESR agreed that populating the national DNA database with as many personal samples as possible was important and the collection of DNA from crime scenes was found to be equally important. One New Zealand Police district implemented a policy that once a DNA crime-scene-to-person link was received from the ESR the staff were required to act on the result within three days. The report does not state how successful this policy was or how many burglaries were resolved as a result.

In 2001 the Auditor General of New Zealand reported on how the police investigate and work to prevent dwelling burglaries and made several recommendations (see Chapter 3 section 3.2.3). In 2004 the government asked the Auditor General to review these 2001 recommendations and see what progress, if any, had been made. In his 2004 report the Auditor General identified that the police did not make the best use of forensic techniques because policies on their use differed from one district to another and there was no clear business plan for the financing of forensic services. The Auditor General made the recommendation that districts prioritise the use of forensic techniques based

on cost and effectiveness and develop a budget for the use of forensic services. In summing up his report the then Auditor General commented that the police had made many improvements since 2001 in how they dealt with dwelling burglary. He stated that the police had made more effective use of forensic and intelligence analysis. Notably he mentioned that the police budget for the ESR forensic services had increased from \$9.9 million in 2000-2001 to \$18.8 million in 2005-2006. However, this figure refers to the amount spent on all work completed at the ESR and not just DNA analysis. The increase in budget was due to an increase in the number of cases submitted to the ESR and this demonstrated that police were making greater use of forensic services for criminal investigations. By 30<sup>th</sup> June 2002 this number was 6,532, increasing to 9,466 in 2004 (Brady, 2006). While the police had clearly made some changes to their investigation of dwelling burglaries and had taken steps to follow the recommendations, the Auditor General had not been able to measure the extent to which these improvements had led to a general downward trend in recorded dwelling burglary offences. Attendance at all burglaries is reassuring for victims of crime and it is important for them that the police are seen to be proactive. Burglaries have both a financial and emotional impact on victims and affect many households in New Zealand. Many victims become more cautious and wary and often have problems sleeping (Morris & Reilly, 2003). According to victimisation surveys, burglaries can have a profound effect on victims and therefore householders are concerned about the possibility of being burgled (Clark, 2009). As shown, burglaries affect more people than serious crimes and yet the resolution rate for burglaries in New Zealand is proportionately much lower than that for serious crime. The increase in resolution of burglaries might ease the trauma of victims of these crimes. However, the statistics do not provide the reassurance that more burglaries are being resolved due to DNA evidence.

The files relating to this research refer to a time when the New Zealand Police and the New Zealand Government were focused on crime reduction and what to do about it. During the writing up phase of this research a change in police and government strategy has superseded their previous strategies. The Better Public Services Reducing Crime and Reoffending Result Action Plan (New Zealand Government, 2012) shifted the focus from “what shall we do?” to “how shall we do it”? The police response to this question was Prevention First (New Zealand Police, 2011) which required the police to reduce



recorded crime by 13% and 19% fewer (non-traffic) prosecutions by 2014/15. The ultimate objective of Prevention is less actual crime and fewer victims across New Zealand (New Zealand Police, 2013). To achieve this, the police have been concentrating their efforts in five areas identified as the Drivers of Crime, namely: Families, Youth, Alcohol, Road Policing and organised Crime and Drugs. The drivers of crime refer to the underlying causes of criminal offending and victims' experiences of crime (Ministry of Justice, 2009). Although these strategies signal a shift from a reliance on reactive policing to reduce crime, the over-arching aim is still to reduce the number of victims. Prevention First requires the police to be proactive in preventing crime and this would still tie in with using DNA to prevent further crime and therefore more victims. If the police were to charge a person where a DNA intelligence link has been received from the ESR placing the person at the scene of a burglary then the likelihood of this person going to prison and being unable to commit further crimes is increased. Whilst the DNA is taken in a reactive way, it could be used proactively to prevent further offending. However, if the police do not connect the dots then the proactive nature of DNA would never be realised. Therefore, the effective use of DNA technology could prevent more victims of crime.

Table 2 below illustrates the number of recorded burglaries versus the number of resolutions. In 1996 the database was established and in 2003 the Act was revised, giving the police more powers to obtain suspect compulsion orders from burglary suspects. The two years after the databank was established show a decrease in the resolution rate. However, 1999 onwards showed a sudden increase in resolutions which would coincide with the increase in the number of DNA samples sent to the ESR. Another factor to be considered is that there has been a steady decline in reported crime since 1999.

Table 2. Burglary Resolution Rates 1995 – 2005			
Year	Number of recorded unlawful entry with intent, burglary and break and enter in NZ	Resolutions	Percentage
1995	77,961	8,757	11.2%
1996	80,773	9,158	11.3%
1997	80,769	9,209	11.4%
1998	78,550	8,482	10.8%
1999	74,274	8,098	10.9%
2000	66,267	10,279	15.5%
2001	60,148	9,496	15.8%
2002	60,184	9,411	15.6%
2003	61,423	9,998	16.2%
2004	57,476	9,769	17%
2005	57,923	9,209	15.9%

Nonetheless, this concentration on attending crime scenes, submitting more samples and taking DNA samples from suspects is only one half of the equation. Improved reporting and an increase in testing DNA samples become redundant if the police do not have processes in place once the results are received from the ESR. Arguably, the reason for making these changes and investing heavily in DNA is so that offenders can be identified, arrested, charged and convicted. If an offender is in prison it is likely that there is one less potential burglar committing a crime. The work completed by the Auditor General and the Ministry of Justice in conjunction with the New Zealand Police has looked at the value of putting robust systems in place to identify offenders and support victims of crime. All parties involved state that these policies have been successful.

In 2005 there were 407,496 total crimes reported to the New Zealand Police. Of those 58,133 (14.2%) were classified as a burglary. During the same year in the subject district the total number of reported crimes was 53,615 with 8,920 (16%) being classified as burglaries (Statistics New Zealand, 2010). Table 3 shows all the crimes

reported in the subject district for 2005. Of these reported crimes, 302 files were identified as having DNA found at the scene and of those 84 were burglary files. This means that 0.5% of crimes reported to the police resulted in DNA being found at the scene. Of the burglaries reported to the police, 0.9% had found DNA at the scene. Therefore DNA is found at very few crime scenes as supported by comments from the UK that DNA is found at less than 1% of crime scenes (House of Commons Home Office Affairs Committee, 2010).

However, according to the ESR, samples from only 2% of volume crime scenes are submitted for processing and they are able to extract a profile from 64% of those; a link to a potential offender is made in about 38% (Buckleton, 2008). Looking at submission rates for three months in 2007, Auckland had 5,738 recorded volume crimes. Of these 2.37% resulted in submissions to ESR, which suggests that this district does have a slightly higher than average submission rate to the ESR. Buckleton (2008) posits that if police submitted more samples from volume crime scenes more burglaries would be resolved, offering a greater opportunity to reduce recidivism. This does not match the results which show that, of the 146 files examined that contained DNA evidence, 68 did not have charges attached to them. This would refute Buckleton's assertion that more samples would equal more resolutions when the police are unable to manage their current workload although it is arguable whether the police are unable or unwilling to manage their workload. The difference between the ESR identifying a potential offender and the offence being resolved is still great. The real challenge is establishing the number of files resolved due to the use of DNA evidence and it is this information that tends to elude the police.

Table 3. Total crimes recorded in Auckland City District 2005 vs Recorded Number of Burglaries.		
	Auckland District	Nationally
Total crimes reported 2005	53615	407496
Burglaries reported	8920	58133
All files with DNA found at scene	302	N/A
Burglary files with DNA found at scene	84	N/A

#### 4.4 Illustrative Case Histories

##### Case One

This particular burglary case relates to one main file with 98 associated files. These files are associated as the same offender was allegedly responsible for all the crimes. This offender was a prolific burglar with a severe drug habit. These files highlighted offending that dated back to 1997 and resulted in over \$100,000 worth of property being stolen or damaged. In June 2001 the ESR sent the police a databank report linking this offender to 15 burglaries. He had been offending from 1997 until 2001 without being caught. As well as DNA evidence there was also fingerprint, CCTV and eyewitness evidence. The offender was charged with 26 counts of burglary and one count of aggravated burglary on 23<sup>rd</sup> January 2001, five months before the DNA results were received from the ESR. The court outcome was that the offender pleaded guilty and, according to the file, 89 offences were cleared. 62 offences were cleared using the resolution code of "other" and 27 offences were cleared as "prosecution". It is hard to establish why the 62 offences were cleared as "other" as it would suggest that the officer did not know how the crimes were resolved. Moreover, there is no reason given on the file for the decision made. Likewise, it is difficult to know why samples were still sent to the ESR for processing if the offender had already pleaded guilty and there was other evidence linking him to the crimes. It could be speculated that once the samples had been sent to the ESR the officer did not think to review the file and question the need for DNA evidence. Another possibility is that the officer may have wanted to have

the best possible evidence at court as a precaution against the offender changing his plea.

The apprehension codes used in this case for the many files were Patrol, Interview and Forensic. Patrol suggests that the offender was arrested at the scene by police. If so, were there outstanding files that could have been dealt with at the time? It is difficult to establish at what point the files were associated. When apprehension is shown as Interview it means that officers interview the offender who then admits or provides more evidence to charge. However, in reviewing the use of Interview it is clear that the only reason the police are talking to the offender is as a result of receiving a DNA hit placing the person at the scene of the crime. The argument then becomes which is the more accurate reflection of the means of apprehension? If the Forensic code is not used there are significant implications for measuring the effectiveness of DNA in the identifying and conviction of offenders.

The policy at the subject district was that all DNA results received from the ESR would be examined to see if an apprehension and clearance code could be entered at the time of receipt. If the DNA evidence was identified as belonging to the victim the offence would not be cleared. However, if the DNA result had most probably identified the offender the apprehension code was entered as Forensic and the clearance code entered as Other. Once the officer had dealt with the case the clearance code would then be altered to accurately reflect the disposal of the case. There is a time consideration behind this decision making. The police statistics run from the financial year 1<sup>st</sup> July to 30<sup>th</sup> June and if an offence is not cleared within that financial year, plus 14 days, it is not counted within the official clearance statistics by the government. Many police investigations are time consuming and therefore often run outside the financial year; this is more so in volume-crime cases due to the numbers. The clearance of such files using the information received from the ESR was one way of overcoming this issue. The onus was on the officer on the case to ensure that the statistics accurately reflected the outcome of the case. In 2005 there was no national policy on capturing statistics so each district had its own local policies regarding recording clearances. This changed with the introduction of the National Recording Standards in 2008. The National Recording Standards were implemented to give some cohesion and guidance to the recording of statistics by the police. It is an information collection standard as opposed to a data

entry standard (New Zealand Police, 2008). Previous to this policy, district clearance rates were compared without any national standardisation, therefore comparisons were flawed. However, as there is no data entry standard there will still be flaws in comparisons as data entry and information collection are inextricably linked.

### Case Two

This case is a burglary file with 82 associated files. The apprehension code is shown as Patrol which may be inaccurate due to the same reasons discussed in Case one. This file named three offenders and involved the unlawful taking of vehicles as well as an aggravated burglary. The method employed by these offenders was dangerous as they were unconcerned if they found anyone at home at the time of their offending. This usually meant that they were willing to use violence which they did in several cases. One of the offenders was linked to four burglaries but the result from the ESR appears to have been received after the offenders had been charged. The file does not contain a final covering report so it is hard to establish how the offenders were caught and what role DNA had in their capture. In reviewing the report written for court, also known as the summary of facts, the police state that they spoke to the offenders but it is not made clear how they were initially identified. This poor quality of file preparation makes it very difficult to establish what impact DNA had on the effective closure of these offences. Once again the results from the ESR were received after the offenders had been charged. It is not known why the samples were sent to the ESR if the offenders were going to be charged irrespective of the results. If an offender is charged it usually means there is a prima facie case, thus suggesting that ESR results would have been redundant to the case. Every time a sample is sent to ESR there is a cost to the police<sup>15</sup>. Costs vary depending on what the sample is and as there is a limited forensic budget it is important that this resource is not wasted. It is hard to know why the officer sent the samples to the ESR. Perhaps he/she did not have the experience to know what evidence would be required. Another possible explanation is that the officer wished to have the best possible evidence ready for court in case it was required. Another scenario is that a lack of supervision of the officer meant he/she did not receive guidance when submitting the sample. The supervisor could have decided against sending it to the ESR if it was felt that the evidence would be redundant.

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<sup>15</sup> This is sensitive information and the police did not want the costings published.

#### **4.4.1 Tracking the Results**

These two cases are examples of the disparate manner in which the police capture information, yet there are national policies on data entry and file assembly which appear to go largely ignored. This could be as a result of new information being given to the police so often that it becomes too difficult for officers to understand. Chan (2003) would suggest that the rules of the game keep changing, altering the field of policing and creating resistance to change amongst officers. There may be a simpler explanation in that officers get change fatigue and struggle or do not want to keep up. The UK has also struggled to find statistics to support their claim that DNA can make a significant difference to the detection rate of volume crime. The Scientific Work Improvement Model (SWIM) was a programme of work looking at the police scientific support function in England and Wales. It was the most comprehensive study conducted in the police use of forensic support in a decade (Evans, 2007). One element of the programme was to look at the detection rate. This was broken down into four main process stages contributing to the progressive conversion of reported crime into successful detections. The four stages were: attendance, submission, identification and detection. The conversion of identification into detection was shown to be a weak point in the four stages. The reasons for the level of attrition at this stage were given as:

- Poor processes so that many results were not followed up
- Many results named the victim or people with legitimate reasons for being at the scene
- "Insufficient evidence" –used for a variety of reasons including lack of supporting information to aid the interviewing officer to secure a detection or conducting a poor interview
- Limited effort employed by the police officers; if initial attempts to arrest the suspect were unsuccessful the person was entered on to the Police National Computer (PNC) but was then never followed up (Lanner Group Ltd, 2007).

In reviewing the 146 files of the subject district it became clear that there was a high attrition rate in turning identifications into detections. As shown in Table 4, of the 146 files examined 68 did not have any charges attached to them. Burglary accounted for 33 and of those 31 of the offenders had been in custody but had never been interviewed about the offence for which there was DNA. Yet all of the files had an alert on the

police computer informing staff that the person had an outstanding DNA intelligence link. Alerts are mechanisms by which the NIA automatically prompts a system user that some special condition applies to the record being viewed (New Zealand Police, 2008). These alerts can be placed on a variety of subjects including persons, organisations and vehicles and cover many specific issues. Of those 68 files, 55 of the offenders had been in police custody in the interim yet were never dealt with for the outstanding DNA matter.

Table 4. Number of Files Examined with Police Charges Attached.		
		In Police Custody
Files examined	146	
Charges attached	78	
No charges attached	68	55

#### 4.4.2 Interview Results

In view of the findings from the files in relation to police response to DNA hits, two of the questions that were asked of interviewees were:

- When you receive a DNA hit are you pleased or is it just more work?
- Do you take notice of DNA alerts on offenders? What action do you take if there is an alert (see Appendices 6 and 7)?

The first question garnered a positive response with the majority of those interviewed considered a DNA hit as helpful.<sup>16</sup> Participant D was a Detective Senior Sergeant who managed an investigative team with responsibility for budget and deciding if DNA samples will be sent to the ESR for analysis. Participant J had a similar role.

Participant D: “I’m rapt, it’s great. I guess as you well know in the last two years we’ve had a number of quite high-profile matters resolved because of DNA hits that are sometimes five or 10 years old and the guys are just like justice finally comes and it’s really great to find and see and the complainants are just over the moon their case is finally being resolved.”

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<sup>16</sup> See Appendix 18 for a breakdown of interviewees and their roles in the organisation.



Participant J: “Oh pleased, of course you’ve got to be pleased. Another DNA hit we have to deal with. No, it’s excellent, it’s all part of the process, it’s good.”

These participants see DNA as an immediate help to their work in that it virtually assures an arrest. Participant D is referring to the successful use of DNA in old cases or what are known as cold cases. Participant F was a Detective Constable who worked in an adult sexual assault team.

Participant F: “Hugely pleased, very, very pleased, it’s great it also just helps you build up a profile of your sex offenders and that’s a really big thing. I don’t know if we’ve touched on that but just building up this databank, some profiles of sexual offenders and that can be used in conjunction with people that commit burglaries and that’s obviously a huge stepping stone into invasion-type intruder rapes which is probably the homicide if you like of the sexual assault unit.”

However, the above staff worked in areas that did not have a high volume of DNA hits which may have given them a different perspective. When the same question was put to staff working in the area of volume crime their responses, although positive, were more muted. Participant O was a Constable in a burglary team.

Participant D: “I get DNA hits on a regular basis as you know for car crime either theft ex car or unlawful taking which is generally done by SOCOs and I get DNA hits on a regular basis from exhibits or direct body samples found at the scene obtained by our CSA’s for burglaries and I’d probably say in the average month I’d probably get between 15 and 25 forensic so it’s probably not the excitement that there would be for a sexual violation, a rape. If I can call the car crime and burglary your routine, your day to day crime that we deal with on a regular basis.”

Participant O: Oh it’s just another file amongst many, many files that you know there’s no sort of yea or nay, you do think okay this is, hopefully a slam dunk one, or I can clear this one and get back to the harder ones that require a more prolonged investigation.”

Participant D sees volume crime as routine, day-to-day crime. This may be why burglary has such a low resolution rate in that officers find it to be mundane. It has already been established earlier in the chapter (see section 4.3) that DNA is found at only a small percentage of crime scenes. This would suggest that those working in volume crime would not be receiving a large quantity of DNA results from the ESR. These participants are not too excited when they receive a hit as they consider it to be just another piece of evidence. Yet those in serious crime stated they are thrilled to receive a result. It could be that there is a perception that volume crime and its attendant paperwork is not seen as real police work whereas serious crime is perceived as police racing about locking up the bad guys (Grant & Rowe, 2011; Graycar, 1999). It seems that volume crime simply does not carry the same importance or kudos as the serious

crimes and so the officers respond accordingly. In the investigation of serious crime the officers see DNA as enabling but when it comes to volume crime it is almost constraining. Chan (2001) argues that faced with this the officers can do one of two things: they can pervert the use of DNA for their own purposes or ignore it completely. In reviewing the responses of participants D and O, combined with the data from the files, it would seem that in relation to volume crime some officers may choose to ignore the DNA alerts.

When asked about dealing with offenders with an alert the responses revealed some common threads. All the interviewees acknowledged that there were problems with DNA alerts not being dealt with when the offender was in custody. The top five reasons were given as: lack of knowledge; northern communication centre pressuring staff to answer calls; unable to locate file; too busy and poor processes.

### **Lack of Knowledge When Dealing With DNA Alerts**

Of those interviewed, 13 felt that a lack of knowledge was possibly a reason for alerts to go unresolved. This encompassed responses that included poor training, incompetence, poor interviewing skills or lack of support. Participant E believed that front-line staff working through the night when offenders often came in tended to be the most junior staff. Due to their inexperience they were unsure of what to do with the alerts and so were reluctant to deal with them. This participant also commented that perhaps it was also a lack of supervision that contributed to this reluctance. Participant I believed that the supervisory staff were unsure how to investigate and interview and as a result were unable to offer support to younger staff. Participant L stated that the front-line staff lacked confidence and competence due to their short length of service. There was a general feeling from the interviews that most offenders were arrested (not during regular hours of work) by junior officers who were neither trained nor supervised well enough to handle even the most basic interviews. Interviews were integral to the satisfactory resolution of a DNA hit. Participant E was a Detective Sergeant who managed an adult sexual assault team. Participant I was a Detective Senior Sergeant who managed an investigation team and was responsible for deciding on what DNA samples were sent to the ESR for analysis.

Participant E: "My feeling is that junior staff who are probably locking up these guys on a regular basis for disorderly, drugs-type offences, they're scared of alerts, they

don't know what to do, they don't know how to deal with them. Maybe it's a training issue, maybe it's a supervisory issue but at their direct supervisory level and in the watch-house my understanding in central is basically no one should be allowed out of the watch-house until all of their Wanted To Arrests (WTAs), Wanted To Interview (WTIs) and DNAs are cleared on the system or there's evidence that they've been dealt with but I could stand corrected on that."

Participant I: "It wouldn't surprise me I think that you know particularly Incident Car staff and Strategic Traffic Unit (STU) staff they don't have the luxury of time at jobs and they constantly have comm's on their back you know there's always jobs stacked up in the system and you know they've almost been reduced to gathering results as statistics rather than policeman rather than taking the time at a job and doing it properly. I think some of that's down to supervision. I think that in a lot of cases supervisors don't know how to interview properly, they haven't had the benefit of investigative experience or investigations training. They themselves are uncertain and it becomes a case of the visually impaired leading the partially sighted. It's just easier for the supervisors to ignore the fact and just send the file through."

Participant I comments on the police officer being reduced to gathering statistics rather than having the time to complete a job properly. It is not unsurprising that the participant would feel as if the police role has been reduced to filling out forms and ticking boxes. Ericson (1994) refers to the police as "knowledge workers" in that they collect a large amount of data as part of their work. However, there is nothing to suggest that this would prevent officers from interviewing a suspect. Participant I also believes that the supervisors are not trained in investigative techniques and would not be able to mentor the younger constables in interviewing suspects. It is surprising that any police officer would not be experienced in interviewing as one would expect that to be a basic skill taught to all. Participant L was a Detective Inspector with the overall responsibility for the effectiveness of the investigative staff in the district.

Participant L: "Most of the officers who bring people into the custody suite here in Auckland are young officers who work in the streets in central Auckland so there's issues of confidence and competence and doing more than a simple interview or a simple investigation and there's pressure on them to get back on the road."

This lack of knowledge could also refer back to the police not putting systems in place to help officers deal with new technology. DNA evidence was always going to result in the need for interviews so officers should have received more training on how to interview before DNA was enshrined in law. Although when participants with more length of service were interviewed they articulated that interviews were an integral part of policing and did not know why that skill had apparently been lost.

### **Northern Communications Centre Pressuring Staff to Answer Calls**

The Northern Communications Centre receives calls for assistance from members of the public. Police officers tend to refer to the centre colloquially as North Comms or Comms. These calls can range from life threatening to more mundane events. The three communication centres (Northern, Central and Southern) deal with 600,000 111 calls a year (The New Zealand Police, 2010). Call centres dispatch I (Incident) cars via radio to respond to these calls. Call centres have a Memorandum of Understanding with each district to provide an agreed level of service. The district expects the call centre to take calls from the public and then dispatch these calls to front-line staff in a timely manner. The centre feels pressure to perform well and thus puts the onus back on the front-line staff to answer calls. There is also a feeling that when urgent calls come in, the I-car staff want to answer them. The police are traditionally action-oriented and see a rapid response to calls for service as the most effective way of catching offenders (Graycar, 1999). They regularly have to balance the need to respond to the public and the need to finish the job in the watch-house. The job in the watch-house may be seen as less exciting as it involves paperwork. Just under half of those interviewed felt that the pressure exerted on them by North Communications was a factor in the reluctance by officers to deal with DNA alerts. Participant T was a Senior Sergeant with responsibility for the day to day management of a station.

Participant T: "I think there's that and the pressure to get back out on the road because of the urgent jobs and that's why they shouldn't be tied up interviewing."

Participant T does not define what an urgent job would be although it is clear by the response that interviewing a burglar is not important. Participant Y was a Senior Sergeant with the responsibility for the custody suite where prisoners were brought to be processed.

Participant Y: "Quite often they'll come across my desk in the middle of a night shift, a busy night shift and it's not a priority but if it's a quiet night and we can get hold of the file hey! go and get the file out, have a look at it, interview them on it, deal with it, clear it. We may charge, we may not you know but again it's having the time and the staff with the ability to conduct the interview to actually deal with it. Okay I know we're supposed to do everyone that comes across but realistically we just don't have the time or the staff to deal with it. I can't afford to grab a car, for a start, as soon as I take someone off the street they've got to go and do a video interview, they've got to go and read the file, you know plan some sort of interview with the guy minimum we're looking at probably an hour and a half, two hours."

Participant Y does not see interviewing a burglar as a priority, irrespective of what the organisation has stated. This could be due to the gap between the street cop and the management cop (discussed further in Chapter 8 section 8.3). However, as a supervisor there are other considerations that need to be taken into account. If there is only one car on the road it makes sense that he would want that car to remain on the streets. Participant M was a Constable working in a tactical support group that provided support at large public events.

Participant M: “Not so much pressure coming from above or anything, it’s more the fact that you know your mates are out there doing work and you don’t want to leave them with all the jobs.”

This participant feels guilty about the workload that his colleagues might have if he is off the streets dealing with a prisoner.

### **Unable to Locate the File**

Of those interviewed, 11 believed that being unable to locate a file contributed to the reasons for DNA alerts remaining unresolved. Prior to a person being interviewed regarding a DNA hit, an officer would need to read the file to prepare for the interview. The file should contain a full picture of the case so that the DNA evidence can be put to the suspect. Every aspect of the case should have been investigated with the result of the DNA evidence being the last piece of the puzzle. In essence, if the file is comprehensive enough anyone should be able to read it, get a good overview and then be able to interview the suspect confidently. The issues raised by those interviewed were that the files could be inaccessible during out of hours or that the quality of the files was so poor that an informed interview was impossible. Participant V (a general duties Constable) believed that the file should only be dealt with by the original officer as it was too difficult to interview someone about a case that you had no knowledge of, whereas the other participants implied that they would deal with the case if the file contained enough information. Participant A was a Detective Senior Sergeant who managed an investigation unit with responsibility for deciding if a DNA sample was sent to the ESR for analysis.

Participant A: “A lot of them now are saying well it’s not our area, it’s not our district, it’s not my file, I can’t find the file, I don’t know what it’s all about and, for me, you know there’s been times, I talk about the old days and it’s probably not fair to do that, but where you had to interview someone blind and that was your job and if you did a

good interview you'd find it, you'd get the information although the laws have changed and the times have changed so."

Participant O: "If he's going through the watch-house that's sort of standard, we try to clear one way or the other or deal with every point on their alerts where there's a wanted to interview, even (if just) to say we're unable to interview at this time because we can't get the file."

Participant L: "It's not easy at the time for the arresting officer to access the investigating officer or the investigating officer's file if it's a LET team (Law Enforcement Team) in Otahuhu or Henderson, even Mt Wellington or Avondale, if it's in the middle of the night."

### **Too Busy to Interview Suspect for DNA Alert**

It was believed by 11 of those interviewed that officers were too busy to deal with DNA alerts. This differs from the pressure felt from the Northern Communications Centre as they believed that they had a responsibility to the public as well as to their colleagues. Participant N (detective in a burglary squad) states that often the suspects were brought in during the early hours when only front-line staff were at work. He states that if other squads were available they could deal with DNA alerts. However, other staff interviewed felt that people perceive that they are busy with participant B (a detective senior sergeant) suggesting that people only think they are busy. Participant Z (a detective sergeant managing a child abuse team) was more forthright, stating that you can only deal with one job at a time.

Participant N: "Too busy. I think especially around Auckland Central anyway lack of resources for the general or the front-line staff could be one as well. Well I guess not enough police to police the streets and because you find a lot of these guys are caught sort of two, three in the morning sometimes and the crime squad or the Criminal Investigation Unit or Burglary Investigation Unit don't work 24/7."

Participant B: "I know that in the current day and age everybody is so busy or they think that they're so busy that they've got to deal with what they're dealing with purely so they can be out and available for the next one but we need to be dealing with all of them."

Participant Z: "I don't buy the crap you're too busy because you're only as busy as the job you're dealing with."

### **Processes**

Only six of those interviewed felt it was the processes that prevented the staff from dealing with DNA alerts. The processes employed by the police can either hinder or assist in the smooth running of the organisation. With the perceived increase of

workload by the staff, the easier the system the more likely it is that they will adhere to the policies. Several participants commented that the processes were not conducive to reducing the workload of front-line staff. Participant C was a Detective Inspector with the responsibility for the administrative side of the investigative teams, i.e. the staffing.

Participant B: "Once again that comes back to people knowing the process, you know what I mean, and so if you see a DNA alert or some sort of forensic alert perhaps it's not for you to interview but you need to advise somebody so that somebody from CIB comes down or there is some enquiry process."

Participant C: "Absolutely failing in our system and it's bullshit, it's a lack of supervision and a lack of common sense."

Participant Z: "A lot of that's our internal processes but I think if you are arresting someone it's like a warrant to arrest, wanted to interview you should notify someone about it and it's the NCO's responsibility."

Even though these participants felt the processes were lacking, they all agreed that someone should take accountability for the alert.

#### **4.5 Interview Results for Volume Crime**

The staff interviewed regarding the use of DNA felt that it was of value for volume crime but they struggled with the sheer numbers, the budget constraints and the legislation. Participant K was a Sergeant who managed an enquiry team that investigated volume crime.

Participant K: "Unfortunately it comes down to money at times which is another bugbear of mine. I think if we can get convictions for crime okay, some of these volume crimes are considered the lesser of the scale however, half these guys start with theft ex cars or burglaries, not that we're involved directly with burglaries and I think look if we're going to go to the problem of taking swabs and things for these sort of things it should be followed through to use."

The participant states that if they are making the effort to attend scenes and finding DNA samples then the police should exploit this resource. However, the participant raises concerns that perhaps the crime is not serious enough to warrant the effort. This participant is also frustrated that money prevents the full use of DNA technology.

Participant K: "The problem with it is because of the way this law goes we have to get a sample off them to prove that, now they don't want to give it then we've got to look at compulsion orders and that costs money and therefore if it doesn't go down that line it's a waste of time and that to me is where we've either got to go the whole hog or don't stutter in the progress and that's where I just think the laws are stupid. I think surely if they've had it taken, why do we have to keep comparing every time this guy's locked up, get another sample."

Participant N: "I had fingerprinted one person back in 2002 and he was in prison for three years and nobody spoke to him and then I spoke to him not long ago but it's very difficult to charge somebody because the abuse of process. So he's only been given a warning for this particular offence but it's frustrating."

Participant O: "There's always too much on I mean I've got files sitting here that I'd love to put some hours into but I've got other things that I need to do more urgently. I guess that's down to the bosses, I mean as long as they resource certain squads at a certain level they can only expect so many clearances and so many prosecutions for the amount of manpower they've got."

Participant O felt that the workload was too great to be able to deal with all the DNA results they receive from the ESR. This participant suggested that the police should prioritise the crimes that would be resourced as it would appear that volume crime is not always treated as a priority. However, he made it very clear that the decision was down to the bosses as to how the squads were staffed which influenced their ability to investigate certain crimes. Participant W was a Sergeant in a burglary squad.

Participant W: "I think it's the allocation of staff into the crime categories. If you look at burglaries in the eastern area, well burglaries across Auckland, we have six investigators (...). West have a similar amount and I think the city do as well. West and East have a Law Enforcement Team (LET) however our job's not to do burglaries but West operate their Burglary Investigation Unit (BIU) and LET as one. (..) Since our sergeant changed here and moved across the LET we've started taking forensics from vehicles so they don't go to the Combined Investigation Units (CIU) because they just get inactivated. We're helping the BIU now with any burglary files so there is more of a resource there however a few months ago because of the management of the office it was like nothing was leaving the BIU come hell or high water. We go to homicides for a month and come back and no one would've touched a thing because the old LET wouldn't, no not our job. Look there's staff there, (..) you only need to look outside of Auckland (...) if you look at Christchurch break team it's stocked with detectives and we have one detective and five constables and the constables probably have an average of six to seven months off the I car. (...)."

Participant W believes that the staffing across the district has at times been mismanaged with homicides always taking priority. He compares the subject district with Christchurch where they are able to staff a burglary team with detectives. He considers this to be impressive as detectives usually have more service and certainly a higher level of training in investigation. In the participant's district the burglary team is inclined to be staffed by officers with very little service and not as much investigative training.

Irrespective of what the New Zealand Police and the Government state about the importance of dealing proactively with volume crime (thereby reducing the number of victims of crime) there seems to be an issue with the resourcing of the units that deal with these crimes. From the interviews and the examined files it seems that the



difficulty is not the attendance at the scene or the timeliness of the results from the ESR but rather dealing with the results once they have been received by the police. It could be argued that prioritising responses to crime is a way of dealing with the volume of work and the lack of resources. The less serious the crime the less time and effort was expended in dealing with it. After unlawful taking of motor vehicle, unlawful interference of a motor vehicle had the most number of files. Four files related to this offence type with two of those files receiving a conviction. One file required a suspect compulsion order to obtain a DNA sample but as he was on remand for other offences it was felt that there was no point in pursuing this case. Theft from a dwelling accounted for three files and none of these files had charges. One file had the suspect being interviewed but he denied the offence and there was deemed insufficient evidence to charge in spite of there being a witness. Wilful damage had two files and both suspects were charged with the offences.

#### **4.6 Discussion**

Research has shown that volume crime has a significant impact on the community (Clark, 2009; Controller & Auditor, 2006; Morris & Reilly, 2003). Of volume crime burglary, being one of New Zealand's highest recorded crimes (Ministry of Justice, 2010), has been identified as a priority by the New Zealand Police and Government. Moreover, as burglars tend to be recidivist offenders and can go on to commit more serious and violent offences (Adderley & Musgrove, 2001; Zedlewski & Murphy, 2006) there are good reasons why reducing burglary is seen as a priority by both the New Zealand Government and the New Zealand Police. Yet there seems to be a disconnection between what the New Zealand Police as an organisation promotes and the reality at district level. Certainly in one district the figures tell a different story. As shown, of the 53,615 reported crimes, the number of crime scenes with DNA present is only 302. From those 302 scenes, 84 related to burglary and of those 84 burglaries, 51 were resolved by the police. This does not suggest that burglary is high on anyone's list of priorities. This is further evidenced by comments made by interviewees. Several comment that staffing is a problem for those investigating burglary and volume crime. They state that when a serious crime is committed staff are taken from other squads to help in the investigation. This would suggest that the managers in the district (responsible for staffing levels in specific squads) are not prioritising burglary either.

DNA is viewed as an effective means by which volume crime can be resolved but several studies highlight the weaknesses in the application of forensic services both in New Zealand and the UK (see Audit Commission, 1990; Auditor General, 2001; Williams, 2004; McCulloch, 1996; Tilley & Ford, 1996). These reports reason that there needs to be better strategic use of forensic services, especially in relation to crime scenes attended. It was believed that the more crime scenes attended the more samples would be obtained, meaning that more offenders could be identified. To a certain extent this was the case. The police in both New Zealand and the UK attended more scenes and tried to obtain as many crime-scene samples as possible. This policy was seen as a success in that by obtaining samples they achieved exactly what they intended. The DNA expansion programme in the UK achieved its target of having 2.5 million profiles on the database by April 2004. This programme also ensured that there was a 10% increase in the number of crime scenes attended (Home Office, 2005). The New Zealand Auditor General in a follow-up report to his 2001 report concluded that the New Zealand Police had made more effective use of forensic and intelligence analysis and they had doubled their expenditure with the ESR. He believed that this was indicative of the police making greater use of forensic services for criminal investigations (Controller and Auditor General, 2006). However, the Auditor General did not define this greater use of forensic service.

The files examined during the research show that there is a disparity between the identifying of potential offenders by the ESR and the arresting of these offenders by the New Zealand Police. Although the emphasis by the police continues to be on attendance at crime scenes it seems that more time should be spent locating and interviewing the identified offenders. The participants interviewed highlighted clear reasons why DNA alerts were ignored. A lack of knowledge was chief amongst them. An inability to interview suspects, to access files, have time to deal with or understand processes all led to the DNA alert not being cleared. The strategic application of DNA requires a full understanding of the issues facing front-line officers. They are the staff who most frequently deal with these alerts and yet they are the least equipped to deal with them satisfactorily. This issue is not just a problem in New Zealand. The UK has shown the capacity to deal with half the dynamic of DNA evidence but also stumbles when trying to turn hits into detections. These similarities in behaviour between the UK and New Zealand Police in relation to the use of DNA technology may suggest that police culture

has got in the way of it being truly effective. If the New Zealand Police wish to lay legitimate claim to the many benefits of DNA technology, it will need to ensure that it is in a position to reassure the public and the government that it is utilising this resource to its full potential.

The following chapter reviews the interview participants' views and perceptions of DNA in that they discuss what they 'feel' and 'think' about the technology of DNA. This is to illustrate the environment in which this technology is/may be embedded and what impact, if any, these views can have on the effective application of DNA to investigate crime. This chapter is placed before the chapter that discusses the actual use of DNA to highlight any disparities between what interviewees talk about DNA and how they state they actually use it.

## **Chapter 5: The Operational Use of DNA**

### **5.0 Introduction**

This chapter begins with the interview participants expressing their views on DNA technology and explaining how this technology could aid them in the day-to-day investigation of crime. This distinction is made as this chapter explores what the participants think DNA can do. This is compared to chapter 6 which will review the participants' actual use of DNA. There is discussion as to whether DNA technology is all the police require for a successful investigation and what the implications for the police would be if that was a belief held by the majority of those interviewed. This concept is linked with accountability and legitimacy when police use DNA technology including the taking and retaining of samples. The subject of whether police officers in the New Zealand Police are equipped to interview is also explored. The chapter ends with a discussion on the responses from participants and whether DNA technology has been successfully integrated into operational police use and if not, why not.

The chapter also reviews whether the New Zealand Police make the best use of DNA technology in criminal investigations. It explores this subject by analysing the interviews of 28 participants. While this topic is a wide and at times subjective one, it is appropriate that the question is asked of these practitioners as they are best placed to provide an informed view. The aim of these interviews is to delve into the many uses of DNA to establish the participants' views on how effectively the police apply its use to investigations. The participants are specifically questioned on their use of DNA and in which ways they believe DNA aids them in criminal investigations. As discovered during the interviews, attitudes to DNA are partly shaped by the experiences of the participants in relation to the two types of crime, burglary discussed in the previous chapter and serious crime which is covered in the chapter 6.

Identifying participants' thoughts on the day-to-day use of DNA technology is also covered in this chapter. It includes all aspects of their investigations and explores their views on how often DNA should be used and specifically how they believe it enables the New Zealand Police to be more effective at resolving crime. The responses vary depending on the roles of those interviewed but all participants have had some dealings with DNA. DNA technology can be seen by the police as being a sexy technology that

will assist them in solving crime, irrespective of the reality of its application. In reviewing the initial use of fingerprinting in 1903 it would appear that the police experienced similar issues with the legitimacy of the use of this new technology as it has had with the initial use of DNA (Hill, 1989). As ever, there are always unforeseen problems when something new is introduced to an organisation. This has been especially so of DNA over the years as the rise of technology in the police has been rapid, with an increase in information technology as well as other technology. It could be that all these technologies are vying for attention and could almost be a distraction for the police.

### **5.1 What Do You Think of DNA?**

The 28 participants were asked the question, what do you think of DNA (see Appendix 12), to establish the investigators' perception of DNA's effectiveness in criminal investigation. All viewed DNA in a positive light, although there was usually a word of caution within their full responses.

Participant C: "Oh look it's a fantastic investigative aid but it's got to be taken in context. Instead of leaping to the conclusion that it is the offenders, there's still a lot of work that's got to be done with that so it is a valuable tool. It also gives you a head start in what and where you may be looking."

Participant D: "I think it's a great tool, (...). Our ability to use it to identify offenders and clear offences is growing by the year, by the month almost to the stage where the amount of information coming in to identify offenders through DNA hits is almost greater than the staff we've got available to go and follow up and interview the persons identified by the DNA."

Although participant D considers DNA to be a great tool, he tempers his enthusiasm with the comment that the number of DNA hits being received is almost more than the staff can cope with. This is an important consideration when the ESR are calling for the police to send more samples to them or if the police are requesting law changes to allow them to take a greater number of samples. The capacity for the police to respond to these links is important if the full benefits of DNA are to be realised. Being overwhelmed by this workload may prevent the police from making effective use of DNA to investigate and solve crime.

Participant E: "DNA in my opinion is a fantastic crime-fighting tool. It's a crucial element to what I do, it's something virtually in every investigation we automatically look for, it's not always there, obviously, but it is an absolute crucial element to what I do and what my squad do. I think the advances that have been given to us via ESR with Low Copy Number (LCN) and the other types of methodology they use are

outstanding, we have the ability to look for and think about DNA in so many different aspects of the job now, it's just brilliant, it's great."

Other participants express the opinion that DNA is good as it is conclusive evidence.

Participant G is a detective working in an adult sexual assault team.

Participant G: "Because of its certainty, because that's what a jury is looking for in their own minds eyes so you know."

This participant notes that juries are looking for DNA evidence. This opinion was shared by several other participants.

Participant O's view was that "DNA is really good just because it's so specific". This was also true of participant P whose role was that of a Sergeant with responsibility for a team of crime scene attendants.

Participant P: "Love it because it's conclusive. My staff will do a better scene examination because if there is a chance of obtaining DNA they know that there is a hundred percent chance if that person's on the database and it's good quality DNA they're going to get a result."

Both these participants feel that the success of DNA is that it can identify a person almost without doubt which is always going to be of use to the police. Yet this belief has been contested by others who would argue that it is unsafe to rely on DNA evidence as it is not as infallible as people would believe (Bieber, 2006; Lynch et al, 2008; Taroni & Aitken, 1997). Other participants such as B expressed their doubts regarding the use of DNA and believed that it should be treated with some caution.

Participant B: "Well DNA's not the be all and end all, a lot of the enquiries that we've talked about before and it certainly assists with perhaps enabling a focus that some people will be caught in the trap and you referred to them before when you suggested that people get DNA so that's the be all end all of the enquiry and they focus on that. Well no that's actually a part of the investigation but it shouldn't be the singular focus. DNA is certainly a strong investigation tool and there is no doubt about that."

Participant H: "Well I think it is good; it helps resolve crimes in a faster fashion, because you attend a scene, you gather a sample, it gets analysed and a person is hopefully identified if the previous samples have been taken and recorded. A lot of these crimes are quite intrusive on people such as sexual-related crimes. I guess all crimes involve some fear or uncertainty from people but those particular crimes are higher (...)"

Participant H was a Constable working in an enquiry team and for him the fact that DNA enables the police to solve crimes quickly is a bonus as the impact of certain

crimes on victims can be great. However, the next participant sees DNA as having many disadvantages as well as benefits.

Participant I: "I think that it has made our jobs easier in some respects and more difficult in others; it is very much a double-edged sword. For the likes of offenders who leave DNA at the scene whether it be by blood or other body fluids, however they leave it there, it's a great tool for identifying offenders. That said, particularly with the sensitivities around DNA analysis now it means that we really have to be on top of our game and places a great deal more significance on a thorough and well-managed scene examination."

Participant I is mindful that DNA is a good method of identifying offenders but the police need to be aware of the ease of cross-contamination and not compromise the integrity of the evidence at scenes. Yet other participants do believe that DNA is a great technique to identify and prosecute offenders.

Participant L: "I think DNA is a very useful investigative and prosecutorial tool for sheeting home criminal responsibility."

Participant R: "Oh I mean it does wonders, I think it's definitely something that we're going to progress from a crime point of view certainly but more from a science point of view as well you know as far as finding cures."

Participant T: "Oh I think it's become a great tool for us to obtain or to help us investigate crimes and solve crimes."

These participants see DNA as more than just identifying offenders and it is important that those identified are prosecuted. This would be at odds with the results found in this research where offenders, although identified through DNA, are not necessarily prosecuted. Some participants feel that everyone should be on the database and that way more offenders would be identified. Participant X was a uniform Constable working in an enquiry team.

Participant K: "I think it's great, I think it's a very worthwhile advancement as far as policing goes in general. If I had my way I think everyone should have to give DNA."

Participant M: "From my limited understanding of it, it seems like a good tool to me obviously I mean if you've got nothing to hide every single person should be DNAd."

Participant X: "Oh I think it's a fantastic tool, I think we should have DNA of everyone on our database. That's my personal opinion."

However, participant F found the paperwork involved so frustrating that the positives of DNA were almost lost on him. When he did praise it he noted the importance of DNA to a jury as a result of the CSI effect (this is discussed further in section 5.3).

Participant F: “I’ve always thought that our procedure, the documentation side and the form side for getting DNA, could be upgraded immeasurably. I think in terms of the various components from different types of DNA samples that we take, namely from every databank suspect dual elimination etc the fact that a lot of these forms are duplicated between the various different processes, I think that it is extremely time consuming to fill them out. I find them confusing (...) you could probably have a single form or perhaps maybe a form that incorporates the disclaimer, the information, the consent if it’s applicable and you cross it out if it’s not and then a single form in quadruplicate or whatever which outline the details of the person, the offence or the reason etc. Then the various parts of that could be distributed to wherever they need to go and to be honest I can’t see why there would need to be anything more than that.”

Participant F: “I think it’s good as our DNA databank gets bigger, I think certainly the credibility of it all is getting better and I think it’s probably been mentioned before, the CSI effect, juries more and more getting to the point where they almost require as a matter of course some sort of DNA evidence whether or not it’s applicable in the situation.”

The paperwork sentiment was echoed by participant N who felt that police procedures hampered the use of DNA.

Participant N: “DNA is a great tool but it can be made a bit complicated by procedures in the police. The problem I see with DNA is we get a DNA hit we get a suspect and then we ask the suspect for a second DNA sample to compare the one we’ve already got from the offender previously. If he doesn’t want to give a sample voluntarily you’ve got to go through the whole procedure of a compulsion order which has to be sent through a supervisor on this floor then through the O/C CIB upstairs. For some reason they don’t always authorise it so then we’re losing out on burglary convictions because they’re not willing to go the compulsion order route and it just takes a very long time.”

Some of these procedures are tied up with legislation but it is obvious that this participant is discouraged by what she perceives to be excessive bureaucracy which can be time-consuming and at times can thwart the use of DNA entirely. This frustration at an excess of paperwork and bureaucracy is often a distraction for some police officers and can detract from the issue at hand which is preventing crime, reassuring victims of crime and crime reduction (Gill, 1998; Goldstein, 1979; Ratcliffe, 2003). However, if the police were using DNA technology to its full extent this could perhaps prevent crime, reassure victims of crime and assist with crime reduction. This frustration is also articulated by the next participant who suspects that DNA is under-utilised. Participant AA was uniform Sergeant with responsibility for a team of general duties constables.

Participant AA: “I love it; I mean I was called Dracula for a while there five or six years ago. I just think it’s huge to use that word tool that’s probably still underutilised. I mean I’ve been out of it for a while with two years in the



Solomons where they don't have DNA. They've only just got fingerprinting, they don't do rape kits and things like that."

## **5.2 In What Ways do you Think DNA Technology Aids Investigations?**

The participants fully explained what they thought of DNA. Most of them believed that it was an excellent tool for investigation. They were asked to describe in what ways DNA specifically was able to help the police investigate crime (see Appendix 11). The general view of those interviewed was that DNA can identify suspects, give the police focus and make it difficult for a suspect to deny their presence at a scene. However, it was clear that some participants believed that while DNA can place a person at the scene, the police still have to prove that that person committed the crime.

Participant B: "Well it certainly brings up if you've got a DNA sample in a key location or in an exhibit or directly related to the inquiry an immediate link to the inquiry, and if that DNA is identified then it certainly provides a quality line of the investigation. Just because somebody's DNA is present in a certain location or in an exhibit doesn't necessarily mean that they're the offender."

Participant A: "Well if you find DNA, one of the things you are looking for when you do a scene examination is for DNA because we have a database, a DNA database and if we're lucky and we find DNA, ESR then checks if the offender's on the database, it immediately gives us a focus."

Participant L: "Now that we have a decent number of active criminals on the DNA database that's certainly true, it certainly does focus a lot of criminal investigations, yes."

These responses were also in reply to a question as to whether DNA meant that the police did not have to cast their net so wide. Several participants used similar wording to say that DNA was of great use in reducing the range of the investigation and as a consequence it identified the suspect more quickly than other investigative techniques.

Participant F: "It would be ID and it definitely speeds up the ID of people. Do you want an example?"

Participant F gives an example of two rapes in a local park. The police believed they were committed by the same male but they could not be sure. They were able to obtain DNA from both victims and extract a profile from the biological samples. The DNA came back to one male and this enabled the police to make an arrest with a certain amount of optimism whereas without the DNA it may have taken several weeks longer, with possibly more victims before they could make such a quality arrest.

Participant AA: “Target suspects and eliminate suspects, that’s how I used to sell it to a lot of our offenders. Look, you know you’re a Maori male, male Polynesian six feet tall. When we get that description having this on file we’re not going to come looking for you and interrupt what you’re up to, we’re not going to come and disrupt your life. Yep, narrows it right down. I mean think if Thompson’s blood had been on there. They had a huge net that first cast.”

The example given by participant AA could be construed as police coercing members of the public into giving a DNA sample for spurious reasons. The suggestion that giving a DNA sample is one way of being eliminated from police enquiries is a means of scaring the person into providing a sample. This participant is also suggesting that Māori or Pacific Island males are more likely to be offenders, which suggests racial profiling. It is this attitude that has prompted some Māori to be vocal in their distrust of the police and refuse to voluntarily supply them with their DNA. One politician compared these coercive tactics to those of Nazi Germany (Harawira, 2010). The participant is also suggesting that DNA can not only target suspects but can also eliminate them from enquiries which speed up the investigation process. The participant is referring to Joseph Stevenson Thompson who was also known as the South Auckland rapist (see Chapter 1 section 1.4.1). Thompson’s offending was prior to the creation of the DNA database but had there been a database at the time the police would not have had to take blood from 4,500 males (dragnet) in order to catch him. Participant AA believes that the database would have mitigated the need for the net to be cast so wide. Those interviewed also commented on the benefits of DNA preventing suspects from having a good excuse for the presence of their DNA at the scene of a crime.

Participant D: “Firstly probably most importantly it identifies suspects for offences; it basically identifies a particular person that was at a scene when an offence was committed.”

Participant K: “Probably once again because it’s very hard for an offender to give justification as to why for example a stolen car which is one that we deal with quite frequently if a DNA is found in a stolen car, their DNA, it’s very hard for them to give a reason why they’re in there.”

Participant P: “If you get a positive hit then you’ve got that person in the scene, you’ve got an interview technique, you’ve got something to throw at them that they’re going to find pretty hard to answer or they may well have an answer.”

Participant S: “It enables Burglary Investigation Units (BIU) to do further enquiries to have some solid questions that they can then go and ask the suspect, why was your jumper found in this car?”

All these participants found DNA of great use when interviewing suspects and having them explain how their DNA was found at a particular scene. It is of note that two

participants (K and S) refer to interviewing suspects for volume crime. In Chapter 4 section 4.4.2 it was discussed that officers might be reluctant to interview as they are not confident in doing so. It was suggested by those interviewed that the reason DNA alerts were ignored by officers was the fear of interviewing. It is interesting that the same interviewees should feel that DNA is a useful tool to aid officers when interviewing. However, the interviewer will still need to ensure that the suspect does not have a valid reason for being present. This is where interviewing skills become important. Other participants, whilst commending DNA, also qualify its use in crime investigations. There is an acceptance of the benefits of DNA but also that it should be used with caution and not prevent the user from conducting a thorough investigation.

Participant I: "It can speed it up. I would never ever go into an investigation and hang my hat on DNA. It is just one tool in the box of tools that is available to an investigator."

This officer sees DNA as one of many tools that the investigating officer can use. Participant I specifically states that he would not rely on DNA to close an investigation, a view shared by participant Q whose view is "I think it's another good tool not just solely by itself". Participant Q was a general duties Constable.

Other participants had different thoughts on how DNA could aid an investigation.

Participant H: "I think it increases the thought process of people going to these scenes thinking about what else they may have done in the house such as maybe drinking from an alcohol bottle or (...) when they may have gone into a woman's underwear drawer rather than just thinking about they've broken this window, I'll deal with this and they took A, B and C or they broke the window and blood was left behind."

This response to the question was quite different from others. This officer believes that people attending scenes are now more mindful of forensics and give much greater thought as to where DNA could be left behind at a crime scene. If crime scenes are processed more thoughtfully the chances are increased that DNA will be found, thus increasing the likelihood of identifying an offender.

Participant J: "In New Zealand (...) we're able to use scientists to give evidence who are employees of another organisation. (...) so these people who are highly qualified come in and give the evidence who are separate to the police and I guess it's a way of the community standing together in a prosecution but they're saying, well we don't know what the case is, we don't know what the other evidence is but I can tell you what our evidence is and (...) they don't say this is the man, the man the police arrested, this is his DNA. They use statistics and the statistics they use depend on how many sites, how many of the 12 sites they have, they're able to confirm is a certain

person's DNA. It shows up on their testing and the more sites that show up the more probable the person is and they come up with these and there's only about four million people in New Zealand but they come up with these terms like seven hundred million, million, million, million times more likely that it's (...) this person than any other person in the general population in New Zealand (...) and they're separate from the police so it's very strong evidence."

The view of participant J is that the DNA evidence is provided by scientists as expert witnesses. He believes that this makes the evidence more powerful because it is presented in court by a separate organisation and therefore is given more credence. The ESR is employed by the police to conduct scientific testing so it could be argued that they are merely another arm of the police when presenting such evidence. The ESR is also the only laboratory the police can use in New Zealand which might suggest that, due to their monopoly, they are not completely independent. However, the participant is emphasising that the ESR is able to give the statistics and the probability of the DNA belonging to the person in the dock. He believes that this makes the evidence very strong. However, a scientist when asked "Do you think juries and even judges understand the statistics?" responded with "No, not at all".

This response in some ways detracts from the views of participant J who states that it is these very statistics and probabilities that make DNA evidence more reliable in court. However, not unsurprisingly, the scientist's view on how DNA aids investigation was very positive.

Participant AB: "Well if we go back (...) the invisible sample so you can get a result from something which is pretty hard to see. I mean that has to aid an investigation if there's no big bloodstain or no sort of cigarette butt left there is still the ability to possibly find something less obvious and that might be all that there is."

So at times there may be DNA evidence but it will be so tiny that it cannot be seen by the naked eye. Another participant felt that DNA could aid investigations when nothing else was available. Participant R was a scenes of crimes officer.

Participant R: "When there is no other option, (...) when there is no line of enquiry, it's another tool (...). There's so many tools that will help find a final outcome (...). It's a tool that to me I use it if I've got it that's the tool that's going to help me get that person then that's why or when I'll use it."

Notwithstanding the participants' views of the value of DNA, they do not believe it guarantees that the offender would be charged and convicted. Participants U and Y were crime scene attendants.

Participant U: “They might be charged but they might not be prosecuted. You’d think so but it doesn’t seem to work like that, funnily enough.”

Participant Y: “No it doesn’t, it doesn’t. Other elements as well, just because DNA’s at a scene it’s like a lot of the DNA hits we get and fingerprint hits we get for that matter on cars. You know someone could have said I was in Queen street at 5 o’clock on that day and I might have leaned on the car or done this or done that. At the end of the day you’ve still got to be able to put that person doing something at that scene so it’s not definitive in that regard, no,”

Participant S: “I don’t think it ensures, no. I think at the end of the day it comes down to the skill of the officer and how thorough they’ve been all over that investigation. There’ll still be steps to take and you know if you miss out one of those steps the whole thing could be thrown out.”

The example given by participant Y illustrates the difficulties that police encounter when dealing with investigations. A suspect might have a very good reason why his or her DNA was found at a crime scene. The police need to look at every aspect of an investigation before charges can be laid.

### **5.3 Do you Consider DNA to be All You Need for a Successful Investigation?**

After establishing how DNA aids investigations, the next question put to the participants was whether DNA was all that was required for a successful investigation (see Appendix 10). Surprisingly, some of the participants based their answers on the views of the juries and the supposed CSI effect.

Participant A: “Well, in this day and age, juries like the CSI effect and whether we like it or not they like to have some form of DNA or forensic evidence and some of the studies done on jurors show that even when you’ve got all the evidence in the world, without DNA their question will be, well hang on where’s the DNA, but for some instances you just don’t have it so in some cases, yes it is all you need, in other cases you don’t have it but the jury might expect it.”

This attitude suggests that the police have to think through the investigation of a crime, not just at the investigation stage but at the trial stage as well. However, the research has shown that there is no empirical evidence to back up the existence of the CSI effect (Cole & Dioso, 2005; Shelton et al, 2006; Schweitzer & Saks, 2006; Tyler, 2006b).

Participant E: “Sometimes yes, obviously a good proportion of our work depends on credibility and likeability of complainants and the jury are looking at him or her under a microscope so it’s going to come down to that and DNA then I would be happy to go to court with those two items, if it’s a pure identification thing then DNA yes, I’d certainly go, go just with that.”

Participant O: “Assuming there are no questions over where it came from, it’s pretty cut and dried. It’s almost unnecessary to go further to where you might if you didn’t have it, the need to speak to half a dozen witnesses as long as you’ve got the core

witnesses there, DNA's pretty irrefutable I guess. I mean assuming the sample and you can say that it was left by the offender, quite happily, yeah.

If there is DNA available and it has been found and handled correctly, this participant feels that the science of DNA is so good that a case could stand solely on that evidence. There are no misgivings about taking a case to court where the only evidence is DNA as participant O believes that identifying the offender is the key to the case. However, 23 of the participants interviewed were firm in saying that they would require more than just DNA evidence to take a case to court.

Participant I: "Emphatically no, as most investigators would tell you that having evidence is one thing but the evidence needs to be admissible. To hang your hat on one evidence type in a serious crime prosecution is a disaster waiting to happen. DNA is much like an interview in that if the process isn't followed properly and the law isn't adhered to then the interview may be ruled inadmissible. You always have other evidence, the interview is the icing on the cake much the same as DNA. It's one of those threads of an investigation, one of those threads of evidence that when taken in totality will support the way it's required by the prosecution. But to rely on DNA alone I think is dangerous in a serious crime investigation. Sometimes there are no alternatives where there are perhaps burglaries where an offender has cut themselves, there is a bit of blood on the glass, no admissions, property's long disposed of, there's no other evidence but they can't explain how their blood got to the scene and they are not known to the home owner well then of course you're going to prosecute based on that. But for serious crime investigations, major assaults, sexual violations, homicides, that type of thing you need more than just DNA to secure a conviction."

The emphatic reaction of participant I is that it is not safe to take a case to court with only one evidence type. He comments on the possibility of process being mismanaged and the consequences of that. Even if blood is found at the scene there is still a need to establish how that blood got there which is where a good interview is required. The importance of the interview in the investigation process was raised by many of the participants.

Participant T: "I don't know whether I'd say it's all you need, I think you might have DNA but I think with that you've got to make sure you interview the offender. I don't think just because there's DNA that you could automatically say oh we don't need to interview them that's it done and dusted because you just never know, especially (...) in bars or anywhere you're getting offences in those areas there can always be an excuse or a reason that someone's put their DNA there."

Participant L: "No, because you've got to be able to reconstruct what the offender or your suspect did in your crime scene. You've got to be able to reconstruct the circumstances of the crime so you need good interview skills to interview your complainant or your witnesses. You need other circumstantial evidence as well, at best DNA is just another piece of circumstantial evidence, powerful but I'd hate to get to a

situation where repeatedly we relied only on that. I think that happens sometimes and I think we've had some difficult cases in court because of that reliance on it."

Participant N: "No, not all you need. I still believe (...) a good interview with the offender I think that's always good as well especially on DVD or video (...) when you interview them about the offence you can usually see his mannerisms or the way he looks on camera and the silences that he has, I think that is just as compelling as DNA a lot of the time as well."

For these participants the interview is crucial for a variety of reasons. It gives the suspect an opportunity to explain the presence of their DNA at the crime scene. It also provides a bigger picture and the suspect's possible role in the events. One participant stated that his aim in interviews is to get a confession.

Participant W: "No. Confession. I push for, that's the biggest thing I push for with those guys. Enough experience? No. Enough training? No. (...) I tell them all (...) when you are interviewing, someone else should be watching the monitor in the other room with a notepad and pen because when you're Johnny on the spot it's hard to think up the smart questions when someone else hasn't got any pressure. I judge, watch them on the camera, it's easy and I push that a lot with these guys so it's not so much a formal training. I sit down and watch interviews when I can and whoever's monitoring I give them questions to ask and that has (...) a very good success rate and if not getting the confession at least getting the obvious lies caught."

Interviewing is taken very seriously by this participant. He believes that his staff are not trained sufficiently in interviewing skills and he emphasises the need for them to spend time gaining experience in this area. If DNA is going to be used well, interviewing skills will be required to prove that the person was at the scene and they can give no good account as to why their DNA was found there.<sup>17</sup>

Other reasons given by participants as to why DNA could not be used solely were that it needed to be corroborated or used in conjunction with other investigative techniques.

Participant B: "No. It's certainly one of the parts of the evidence but it's not the whole case, so just because you've got DNA present there's got to be enquiries too, or there's got to be other evidence submitted to either (...) explain how that's there or why it should be there (...). There's obviously many other parts to the case as well, obviously the victim evidence and the potential witnesses and the offenders."

Participant C: "You'd have to assess it, probably. (...) in fact I don't think it would be the only thing you'd have because you would use that (DNA) and you would mount your case around where it was, how it was obtained, what it was. (...) the SOCO wouldn't be going to court and saying I found the blood spot on the kitchen floor of this house and there was no evidence of why someone should be cut. I think that would

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<sup>17</sup> Investigative interviewing is now mandated training in the New Zealand Police. This will be further discussed in Chapter 10.

be naïve to just front up with something like that. (...) So you're putting all that circumstantial evidence in support of it but you're not using the DNA (...) as your sole evidence but you're supporting it by the way you're presenting your case."

Participant Z: "Well, sorry it's only a tool in the tool box as you know Catherine but you can't hang your hat on it. If you hang your hat on it you come unstuck and a classic example of that is from say a sexual offence point of view the fact that the person's DNA is left behind doesn't disprove or doesn't prove whichever way you look at it, it was conceptual. All you're proving is that there was that person's DNA there."

When a scientist was asked if DNA was all that was needed for a successful investigation the response was, "that would be interesting". However, when further questioned, he said that DNA was simply another tool to support crime investigations. The reply was that the statistics would support that supposition.

Participant AB: "Well no, I agree with that because when I think of crime stats for New Zealand in total and the amount of work that ESR sees it's only a small fraction so obviously you don't need DNA all the time otherwise it would be the amount of work that we would be getting in would be huge so it can't be necessary for a successful investigation because the numbers just don't stack up."

#### **5.4 Do Police Officers Know How to Interview?**

The participants stated that interviewing the suspect was seen as a key element when using DNA. As interviewing was often mentioned by the participants, those who did raise this issue were asked if they believed that officers were well trained in interviewing techniques (see Appendix 15).

Participant A: "Investigative interviewing, the Peace model we in the district right at the moment have started a level one course, we have a number of staff who are level three trained and I know from headquarters they're looking at in terms of level three training, because most of the training now relates to witnesses and victims, are looking at suspect offender interviews."

The response from this participant suggests that interview training was a recent addition to training in the New Zealand Police. According to this participant, although there is now interview training provided, interviewing suspects has not yet been addressed with most of the training aimed at the interviewing of victims and witnesses.

Participant B: "I think those skills are being lost, not because of DNA but because people aren't being taught well. They aren't getting quality training. In the good old days (...) there would have been time taken to teach you the investigative process. (...) I think one of the things that I see now with DNA is that people get DNA samples and they drag in a suspect and they talk about DNA straight away, we've got your DNA, so you're the offender and they go well, no I'm not and (...) the interview process itself should be a lot more clever than that."



This participant believes that staff are not being taught how to skilfully interview a suspect which is a requirement when trying to establish how DNA was left at a crime scene.

Participant E: “I think interviewing and just getting off the subject, (...) interviewing in New Zealand Police is abysmal. It’s the idea level, it’s probably okay there’s certain officers who are very good at it but they’re in the minority and I think at uniform level it’s again abysmal.”

This participant is referring to front-line officers when he talks about “uniform level”. It is these officers who would most likely be interviewing suspects for DNA alerts regarding volume crime. However, as has been highlighted in Chapter 4.4.2, it is these staff who are the least qualified to be dealing with such files. This participant has a different slant to the question.

Participant K: “I certainly wouldn’t think that of any of my staff I’m not sure whether the younger more junior guys would think like that but theoretically the offence is an unlawful taking so they should be able to deal with that interview.”

Whereas some participants believed that staff were not well trained in interviewing suspects, participant K was bemused by the thought that, as with volume crime, the interviews should be quite straightforward. In her mind an unlawful taking should not be a difficult case to interview. If the DNA was found inside the car there would be few possibilities of it having got there lawfully. However, not all participants felt that the front-line officers were incapable of interviewing. When participant V was asked if front-line officers were more than capable of interviewing, his response was an emphatic “yes, they are”. Participant V was a general duties Constable.

His reasoning for why the staff might prefer not to interview is because they are too busy.

Participant V: “Yes, well today we’ve only got two cars on and they’re going to be very busy tonight. If that ties him up for a whole evening that leaves one car (on the street).”

It is hard to know if participant V is being defensive of his colleagues and wants to portray them in a good light. Participant K does not blame the officers for their lack of skills but states that it is out of their hands due to the environment that the police now find themselves in, with the reporting of everything tied into performance management. Participant K suggests that police are constrained by having to meet performance targets such as the timely attendance at a priority call. This prevents them from being able to

take the time to fully investigate crime or deal with an offender with a DNA alert as there is an expectation that the officer should get back out on the street as quickly as possible. When participant Y was asked if he thought officers felt a real pressure to be back out on the street his response was a succinct "Oh shit, yes".

When asked if this pressure to get back out on the street prevented the officers from dealing with DNA alerts as they should, his response indicated the frustration that was felt by those who appeared to be in a juggling act when deciding where their priorities lay.

## **5.5 Discussion**

This chapter has reviewed the police use of DNA technology to investigate crime as perceived by the interview participants. They have given their views and thoughts on how DNA might help them (the participants) to investigate crime. All the participants interviewed said that DNA was a good crime-fighting tool and they were enthusiastic about its uses and how it has enabled the police to investigate crime. The participants all use DNA in a variety of ways but for most of them the ability to identify suspects was of the most use. For staff investigating serious crime, DNA allows them to narrow their search field and speed up the inquiry process. The investigation of sexual offences, especially by unknown assailants, can be enhanced by the discovery of DNA and is often a leverage with offenders which precludes the need for a trial and so spares the victim the distress of a court appearance. They said DNA was conclusive, irrefutable and helped the police investigate crime. Yet the participants also emphasised that although DNA was another part of the puzzle which added to the investigation, it could not be relied on solely to solve a case. One participant felt that a case could be taken to court with only DNA evidence but others interviewed believed that there should always be corroborative evidence. Many believed that more evidence was needed to assist the DNA and this support was usually in the form of interviews although the same participants felt that the skills to interview were lacking in many police officers. The consensus was that DNA found at the scene would reveal a name but the interview would establish how and why the DNA was left at the scene. Some participants even stated that to rely on DNA without other evidence was dangerous and would do more harm than good.

While the participants enthused about the value of DNA as an aid to investigations they also made it clear that a combination of many things attributed to a successful investigation. No one tool or instrument was seen as the most effective in solving crime. All participants acknowledged the positives of DNA in reducing stress on the victim or speeding up the identification process but they also accepted that staff and training were integral to effective policing. More importantly, the participants highlighted areas where they felt their work was affected by processes employed by the police organisation. There was acceptance that the police were not making the most of DNA due to operational requirements and a feeling that staff were too busy to spend time dealing with offenders. Likewise, it was felt that even if officers did have time to commit to dealing with offenders properly they would not know how to interview as they were too busy to be trained or to practice their interviewing skills. Therefore the general feeling from participants was that DNA is a great tool that they really like but they are frustrated by the lack of training for the staff in connected areas such as interviewing and a belief that staff are too busy to deal with the workload relating to volume crime. The staff who investigate serious crime were not so constrained for time or for training. Hence it is difficult to establish if DNA is a useful crime-fighting tool if it is unable to be fully realised by staff.

In referring to the reasons as to why police may not be able to make the most use of DNA technology to investigate crime the participants are highlighting the culture within which they work. The belief that they are too busy or not given the tools be it training or less paperwork to be effective can be attributed to the staff reverting back to what they know. If the organisation does not institute robust practices or articulate the policy clearly to staff then they do not know what is expected of them. This includes what the organisation would expect them to do with a suspect who has a DNA alert as well as what the consequences would be if that policy was not adhered to. The interview participants all stated in their responses that they liked the technology of DNA and used it where they could but they all also identified weaknesses in the system that prevented them from making the most of the technology. Some of the participants were managers and/or part of the district leadership team who would be involved in delivering the strategies and policies of national office. However, they too expressed their concerns in their responses as to the limitations in making the most of DNA technology to

investigate crime. This is an example of the disconnection between the 'head office' and the district

The following chapter reviews the data from the research to establish if DNA technology is just another tool, amongst many others, for the police to use to investigate crime. This chapter looks at serious crime in relation to DNA use and reviews case studies as well as interview results from the participants. It compares the participants' perception of DNA technology to that of the reality of day to day use by them of DNA technology to investigate crime. The chapter concludes with a discussion on training.

## **Chapter 6: The Use of DNA to Investigate Serious Crime**

### **6.0 Introduction**

This chapter explores the use of DNA to investigate serious crime. It begins with case studies from the files and defines each category of crime to be reviewed. These case files are used as a means to illustrate the way in which the subject district uses DNA to investigate serious crime. The New Zealand Police is a national police service and has centralised policies in place to ensure consistency in the process of crime investigation. This implies that the behaviour and practices employed by the subject district are indicative of the behaviour and practices employed by other districts in the New Zealand Police. However, there will always be slight differences in practices as each district is semi-autonomous and is responsible for its own budgets. The chapter then examines responses from the participants to the questions asked and should put into context, or at least explain to some extent, the outcomes of the case studies. Also discussed in the chapter is the issue of the budget in relation to making use of DNA technology and the need and implications of being responsible for a budget. The discussion on the "best evidence" rule is required to understand the complexities of legislation, the court room and police practice and other influences on the police when a decision to prosecute is made. This chapter examines what other influences, both external (legislation) and internal (budget), may impact on the police's ability to effectively make use of DNA technology. These influences are important if balanced conclusions are to be made regarding DNA use by the police.

This chapter looks at the use of DNA in serious crime and reviews the impact the technology has had on identifying offenders and in assisting victims of crime. It also explores what knowledge police officers have of DNA and what training, if any, they receive on its importance and relevance to their work. Linked into this is the police tradition of employing the latest technology without necessarily training staff or fully explaining its benefits (Davis, 1989; Colvin & Goh, 2005; Nunn, 2001a). The police may employ new technology but implement it using old processes. This chapter explores what negative consequences there might be for the police if there is a belief amongst younger officers that DNA is all that is needed to bring an offender to court. If this is the case, it might be that some officers lose or may never learn other investigative

skills, believing that DNA precludes the need for interviewing, search warrants and speaking to witnesses. Answers are gathered from the interviews with practitioners and it is their opinions that are expressed in the chapter. The aim is to establish whether DNA should be viewed with caution and used as a means of narrowing down the investigative search area or whether it is deserving of the rhetoric.

## 6.1 Serious Crime

Serious crime encompasses violence and sexual offences. In the 2005 statistics, violence is the third-highest crime type after dishonesty and drugs and anti-social offences. Sexual offences have the least number of recorded crimes (Statistics New Zealand, 2010) and this is affected by the under-reporting phenomenon which has been discussed in Chapter 4 section 4.3. In 2005 48,337 violence crimes were recorded nationally. In the subject district 5,031 cases were recorded. Violent crimes come under the 1000 crime code that is used on the NIA to track crime reporting. That crime code covers any crime that involves violence or threats of violence. These figures cover the most serious crime of murder right through to criminal harassment. Sexual offending has a 2000 crime code. In 2005 3,271 sexual crimes were recorded nationally. For the subject district the figure is 328 with the total number of crimes recorded for 2005 being 53,615 as illustrated by Table 5. Sexual offences amount to only 0.6% of all crime.

Table 5. Violent and Sexual crime in NZ v Auckland City District, 2005		
	Auckland District	Nationally
Total crimes reported 2005	53615	407496
Violence offences	5031	48337
Sexual offences	328	3271

Serious crime, as its name suggests, involves some very grim offending and it is reassuring that it is less prevalent than volume crime, even if the police are not aware of all the crimes actually committed. It does, however, mean that the police take this type of crime very seriously and invariably assign many officers to investigate such crimes.

At times, officers can be removed from other units to assist in the investigation of serious crime. Such other units may involve staff who investigate volume crime. In looking at the 146 files from the subject district, serious crime covers rape, robbery, aggravated robbery, grievous bodily harm, attempted murder and other sexual offending. Although homicide is certainly within the serious crime category there were no homicide files amongst those available for the research. This is not unusual, given the small number of homicides and the length of time it takes for a homicide case to be investigated. Of the 146 files only 17 related to serious crime. One reason for this is that the more serious crimes can take a long time to be investigated and work their way through the court process. It is not unusual for such a file to take several years to be completed and filed, therefore making it more likely to be unavailable to be examined for the purpose of this research. As stated above, the number of reported serious crimes is considerably less than that of volume crime. The limited number of serious crime files is part of the study. Therefore the study has to make do with the small sample regarding serious crime but taking all this into consideration there is still enough data to reflect the true nature of crime in this District, that is, there is enough information to provide a valid description as to how serious crime is investigated within the District. The information on the files is augmented by the staff interviewed who state that for those investigating serious crime, they are resourced appropriately to do the job. Moreover the resolution rates are much higher than volume crime and the overall figures for recorded crime are much lower for serious crime. The serious crime cases explored later in the chapter examine the time and effort the police do put into these investigations but also highlight some of the entrenched behaviour that appears to be present in some investigations. For example, why have a medical examination of a vulnerable witness who would never be able to give evidence in Court. Although it is standard practice to have such an examination for a sexual offence why put a victim through such an ordeal if there was no endgame.

The serious crime files reviewed were broken down into the following categories:

Three rape files

One sexual exploitation file

Six aggravated robbery files

One robbery file

Two wounding/grievous bodily harm files

One other sexual violation file

Two unlawful sexual connection files

One attempt to murder file

### **6.1.1 Rape**

Three rape files were reviewed but only two are given as case histories as these are sufficient to illustrate the investigation process. In the subject district a dedicated unit called the adult sexual assault team investigates allegations of rape involving adults. The larger metropolitan districts within the New Zealand Police also have dedicated units to deal with such crimes. These specialist teams have the required training to interview victims and be forensically aware when investigating the allegation. The legal definition details what specific factors are necessary to constitute a rape. The issue of consent is often a key component when trying to prove the offence of rape.

“Person A rapes person B if person A has sexual connection with person B, effected by the penetration of person B’s genitalia by person A’s penis, without person B’s consent to the connection; and without believing on reasonable grounds that person B consents to the connection “(Section 128, *Crimes Act*, 1961).

Of the three rape files examined, two resulted in convictions and one resulted in exoneration. In all cases DNA was an integral part of the evidence. One offender pleaded guilty to the rape, one offender was found guilty at trial and the third suspect was eliminated from the enquiry as the DNA evidence corroborated his story.

#### Case One

This case involved a victim with mental health issues. She reported to the police that she had been raped by a known offender. As in all rape cases, the victim was required to undergo a full medical examination so as to document any injuries and capture any possible forensic evidence. A Medical Examination Kit (MEK) is used to collect the forensic evidence during the examination and officers often refer to a MEK being completed. As with many rape cases, the parties knew each other and therefore the court argument becomes one of whether the victim consented to the sexual contact (Select Committee on Home Affairs, 2003; Stratton, 2008; Rozenberg, 2007). The offender will argue that the victim had consented to the act. This can make any DNA found on the victim irrelevant if the suspect admits to having had consensual intercourse. However, as a matter of good practice, a medical examination should be conducted in case there is



a need to prove that sexual intercourse had taken place. In this case a MEK was completed and DNA was found. This DNA did not belong to the alleged offender but to another male with whom the victim was in a consensual relationship. The alleged offender denied ever having a sexual relationship with the victim and the DNA evidence added weight to his claim. The male was released without charge. In this instance the DNA test exonerated this male. A combination of DNA and interviewing enabled the police to investigate this crime to a reasonable conclusion.

### Case Two

In this case the victim was raped and received serious head injuries during the assault. She was taken to hospital where it was initially believed she would die from her injuries. She did not. When she was well enough to talk to the police she was very reluctant to do so as she could not remember anything and thought that she was to blame for her injuries. A medical examination revealed that sexual intercourse had occurred. When she learnt of this she was more cooperative with the police. The DNA evidence identified a male who had been released from prison on the day the rape had occurred. He denied ever being in Auckland. However, with a combination of witnesses and the DNA, the evidence was enough to secure a conviction. The male would have had difficulty explaining how his DNA was found in the victim. The offence occurred in October 2004 and he was charged with rape and wounding with intent to cause grievous bodily harm. The offender was charged on 4<sup>th</sup> April 2005 and was convicted and sentenced on 13<sup>th</sup> June 2007. As can be seen by the dates, this case took almost three years to reach a conclusion at court even though the offender was identified early on in the investigation.

In these cases it can be seen that DNA has helped both convict and exonerate. Some of the people interviewed in the course of the research work within the specialist area of sexual assaults believe that DNA has a positive effect on victims of sexual assault.

Participant F: "In terms of DNA once you explain at the end of the interview, or during the interview, the nature of the evidence you have against them it gives you huge leverage (...). At the end of the day DNA for that sort of stranger type rape violation, a man and the victim aren't known to one another, his DNA full profile found within her body (...) it's pretty damning stuff."

Participant F comments on the strength of the DNA evidence and the perceived power this gives to the police when negotiating with the defendant. The implication is that

when it is a stranger rape and a suspect's DNA is found, it becomes harder to defend the charge. Participant G was a Detective in an adult sexual assault team

Participant G: "It certainly strengthens a case against a particular named suspect, it also may rule (them) out (...) whole sorts of aspects around identification around the speed in which things like that may in a more sort of public interest role. The strength of the evidence and anything that (...) alleviates the stress for a complainant has got to be a great thing because, let's be honest, society should make small efforts towards being more victim oriented but actually you know by and large we don't, we're so focused on reporting people, reporting, catching."

Participant G states that DNA evidence not only provides a good source of identification but is regarded as being sufficiently strong evidence for offenders to plead guilty rather than risk a trial. For a victim the advantages are two-fold. DNA can increase the speed at which an offender is identified and it can also preclude the need for a victim to go to court and give evidence in a public trial. Another useful aspect of DNA is that it enables the police to narrow down their search area. In rape investigations where the attacker is unknown, the search for the offender is labour intensive, especially when the police have very little information. DNA can speed up this process and release staff to follow up other lines of enquiry. This participant also comments that society should be more victim oriented but then comments that it is the police who need to change their priorities and be more victim focused. When interviewing the participants it becomes quite clear from some of the responses that each person has their own agenda, depending on what is expected of them. As shown in Appendix 18 which breaks down the roles and responsibilities, a custody supervisor will have a different perspective from that of a detective senior sergeant in charge of a serious crime unit because different results are expected of them by the organisation. They are judged by different standards and so their decision making is driven by different needs.

Of those interviewed, several had experience in dealing with major inquiries. When asked how DNA could reduce their work load the responses were positive.

Participant A: "I had an example a couple of years ago. I ran an investigation into a home invasion rape, you don't have any idea who the offender is, there are no fingerprints at the scene and it was as a result of I think six to 10 days that we got the urgent request back which identified the offender and immediately put us on the right track so instead of (...)a list of a hundred suspects and you'd just go through each suspect shaking the tree, now you might put up a list and start putting up suspects but within that couple of weeks well in fact they say 21 days now from when you start

you'll get an urgent request back in relation to DNA which if it is in the databank if that person is on the databank, you know who you're looking for straight away."

Participant A is unimpressed with staff when dealing with DNA suspect compulsion orders. Concern is expressed that staff are relying purely on DNA evidence rather than using all the investigative tools at their disposal. Relying solely on DNA is unwise as it could prevent staff from looking at every lead and if the DNA evidence were to be discredited there would be no other evidence to corroborate it.

Participant A: "No, no, we still have to do an investigation and that's one of my issues with (...) the suspect compulsion orders sent in through the burglary investigation units. They tend to get a DNA hit they go straight to the offender is that your DNA at the scene, oh I don't know what you're talking about. Not saying anything, you're under arrest and they only arrest on the DNA evidence, they don't do an investigation some of them don't do search warrants some of them don't sit down and do a proper interview plan."

Participant C: "Yes, in the big investigations that you have a focus and are able to do that (...) so yes look it gives you a starting point and it also gives you a focus but by no means should it be relied on as being the be all and end all."

Participant D: "Well it depends, how or whether that person's already been identified through other means (...) but I would say probably 90% of the cases that's just a figure up here for a bit, 90% of cases the person when we get a DNA hit that will be the first time that that person has been linked to that offence so that is very important. Whilst I wouldn't necessarily say that's where the investigation starts I would say that's when it basically accelerates and gets a suspect focus."

### **6.1.2 Sexual Exploitation of a Person with Significant Impairment**

This law specifically protects vulnerable individuals who may not be capable of giving informed consent for sexual activity. This is important as consent is a vital element of other sections of this Act with the issue of consent often being the defence for such charges.

"Everyone is liable to imprisonment for a term not exceeding 10 years who has exploitative sexual connection with a person with a significant impairment" (Section 138, *Crimes Act*, 1961).

There was only one case within this category. It related to a female with a significant cognitive impairment. The suspect had similar psychological behaviour and stated that the sexual connection was consensual. The female was not able to be interviewed but she was medically examined using a MEK. Without a statement from the victim this case would never be able to go to court. It is arguable whether a medical examination

and samples sent to the ESR were of value. A medical examination for an alleged sexual assault is very invasive and the decision to have one should never be made lightly. Therefore, if the victim had psychological issues that would prevent her from being a good witness at court, the police would need to question what purpose would be served by conducting a medical examination. Likewise, is it worth the money to send samples to ESR if the case is very unlikely to go to court? The difficulty facing the police is that they always need to be seen to be conducting a thorough investigation but sometimes a pragmatic stance may be of more benefit to the victim and might save time and money for the police.

### **6.1.3 Aggravated Robbery**

Within the category of robbery there is a clear distinction between a theft that includes an assault and an assault committed in order to rob someone. Aggravated robbery is when the assault is serious and this assault amounts to grievous bodily harm.

“Everyone is liable to imprisonment for a term not exceeding 14 years who robs any person and, at the time, or immediately before or immediately after, the robbery cause grievous bodily harm to any person; or being together with any other person or persons robs any person; or being armed with an offensive weapon or instrument, or any thing appearing to be such a weapon or instrument, robs any other person” (Section 235, *Crimes Act*, 1961).

Six cases relating to aggravated robbery were examined. Of these, four resulted in a prosecution. It is unclear what happened with the remaining two cases as the files did not contain any reports explaining the outcomes. Only two cases are used here to give the reader an idea of the processes but also to highlight the weaknesses in the processes behind the use of DNA technology.

#### Case One

This file has an apprehension code of Forensic. The offence occurred on 24<sup>th</sup> November 2004 with the result from the ESR received on 18<sup>th</sup> January 2005. The offender was charged on 28<sup>th</sup> February 2005 and convicted on 16<sup>th</sup> June 2005. The DNA alert was entered on to the NIA on 18<sup>th</sup> January 2005 and should have been removed from the NIA when the offender was charged. For some reason it was not removed until 2008. This would suggest that someone noticed that the offender had been charged for the offence and decided that the alert could be removed, which would explain the delay.

## Case Two

There was no apprehension code for this case. However, as the offender was caught when leaving the scene, it would seem appropriate that Patrol was the apprehension code. The offender admitted the offences. The offence occurred on 25<sup>th</sup> November 2004 with the ESR result received on 24<sup>th</sup> December 2004. This raises the question why the police would send DNA samples to the ESR if the offender had been caught at the scene and admitted to the offence. Every time police send a sample to the ESR it costs them money and adds to the ESR's work load. For this reason, all samples are screened by detective senior sergeants to ensure fiscal responsibility. Moreover, if the ESR is sent too much work their ability to achieve a five-day turnaround is reduced. For these reasons the police need to be very clear why samples are sent to the ESR. If the arguments for not making full use of DNA are both budget and time it makes sense to use both wisely.

### **6.1.4 Robbery**

Robbery is less serious than aggravated robbery in that it refers to an assault or threat of an assault in order to facilitate a theft. The level of the assault is not specified.

“Robbery is theft accompanied by violence or threats of violence, to any person or property, used to extort the property stolen or to prevent or overcome resistance to its being stolen. Everyone who commits robbery is liable to imprisonment for a term not exceeding 10 years” (Section 234, *Crimes Act 1961*).

There was only one robbery file available to view. This related to a male who stated he had been robbed by persons unknown. The offence occurred on 18<sup>th</sup> February 2005 and the police received the DNA result from the ESR on 26<sup>th</sup> July 2005. The suspect was not interviewed by the police until 13<sup>th</sup> June 2007. There was an alert on the suspect and he had been in police custody several times without being interviewed in relation to this offence. When the suspect was eventually interviewed regarding the offence it became apparent that he and the victim were known to each other. The allegation of robbery was not as it initially seemed and police were unable to follow up and charge the suspect. This crime was left open for over two years, resulting in the police having an unresolved robbery on their statistics. If the suspect had been dealt with as soon as the result was received from the ESR, this file could have been resolved within a short time. The suggestion made by the interviewee (participant G) that DNA evidence can speed up an

investigation is true only if the police actually make use of this information expeditiously.

#### **6.1.5 Wounding with Intent**

This section of the Act is divided into two to distinguish between the more serious assault of grievous bodily harm and an assault. The levels of seriousness are reflected in the length of prison sentence available to a judge.

“Everyone is liable to imprisonment for a term not exceeding 14 years who, with intent to cause grievous bodily harm to anyone, wounds, maims, disfigures, or causes grievous bodily harm to any person.”

“Everyone is liable to imprisonment for a term not exceeding 7 years who with intent to injure anyone, or with reckless disregard for the safety of others, wounds, maims, disfigures, or causes grievous bodily harm to any person”(Section 188, *Crimes Act*, 1961).

Although there are two cases of wounding, one has already been dealt with as part of a rape case. The remaining wounding case refers to a male who was severely beaten by a man he knew. He was able to identify him to the police, as were several witnesses to the incident. The offence occurred on 27<sup>th</sup> July 2004 with the result from the ESR being received on 7<sup>th</sup> November 2005. The offender had already pleaded guilty at court on 16<sup>th</sup> August 2005. The slow return from the ESR was probably due to the fact that the suspect’s DNA was not on the national DNA database. The suspect surrendered himself to the police the day after the assault. He pleaded guilty to the crime and, once convicted, his DNA would have been taken as a matter of course. When the sample was received at the ESR there would have been a match with the crime-scene samples. This would explain the lateness of the result. However, in these circumstances it would have been preferable if the police had withdrawn the scene samples from the ESR as there was no argument regarding either the circumstances or the identity of the suspect.

#### **6.1.6 Other Sexual Violation**

Sexual violation is the general term used when referring either to rape or unlawful sexual connection. The charge itself would specify whether it was sexual violation by rape or sexual violation by unlawful sexual connection. Unlawful sexual connection is defined in the next paragraph.

“Sexual violation is the act of a person who rapes another person; or has unlawful sexual connection with another person” (Section 128, *Crimes Act*, 1961).

According to the file, this case resulted in a male being convicted of sexual violation. However, information in the file made it clear that the offender was convicted of sexual violation by rape. This highlights the difficulties when viewing police files and the ambiguity of the nature of police reporting and coding of offences. The offence occurred on 23<sup>rd</sup> October 2004 and the victim took the police to the offender. As in all sexual cases, a MEK was completed. The suspect was charged on 25<sup>th</sup> October 2004 with the DNA result being received from the ESR on 22<sup>nd</sup> February 2005. The suspect was convicted in 2006. The DNA evidence would have supported the victim's allegation but if the issue at hand was one of consent then DNA does not assist the prosecution in any way. DNA evidence in cases of rape where the suspect is unknown to the victim is very useful in identifying the suspect. When the parties are known to each other the DNA evidence can confirm that sexual intercourse took place but it does not assist with the issue of consent. This issue is often problematic in rape cases.

#### **6.1.7 Unlawful Sexual Connection**

This section of the Act covers any other form of sexual assault that does not include rape but is more serious than an indecent assault as it involves penetration.

“Sexual connection means

- a) Connection effected by the introduction into the genitalia or anus of one person, otherwise than for genuine medical purposes, of
  - i) A part of the body of another person;
  - ii) An object held or manipulated by another person; or
- b) Connection between the mouth or tongue of one person and a part of another person's genitalia or anus; or
- c) The continuation of connection of a kind described in paragraph (a) or (b)” Section 2 (*Crimes Act*, 1961).

There were two cases of this crime type. One resulted in a prosecution with the other inactivated by the police. When a file is inactivated it means that it is not closed and may well be investigated at a later date should more evidence come to light. However, in these circumstances there is very little to be gained by inactivating this file as explained further

### Case One

This offence occurred on 4<sup>th</sup> June 2005. The DNA result from the ESR was not received until 13<sup>th</sup> December 2005. The length of time taken to receive a match is more than likely due to the fact that the suspect did not have a DNA sample on the database until later. He may have been arrested or convicted of a crime and his DNA added to the database. Once this happened there was a match to the unlawful sexual connection and this information was sent to the police. An alert was put on the police computer on 13<sup>th</sup> December 2005 and the suspect was charged with the crime on 17<sup>th</sup> January 2006. He was convicted on 17<sup>th</sup> November 2006.

### Case Two

This offence occurred on 20<sup>th</sup> December 2003. On 26<sup>th</sup> December 2004 the suspect gave a voluntary DNA sample to the police regarding an unconnected matter. On 15<sup>th</sup> February 2005 the ESR returned a match to the unlawful sexual connection case. The DNA alert was entered on to the police computer. The suspect had been in police custody several times prior to this date but on 30<sup>th</sup> November 2007 he was arrested again and the arresting police officer advised the officer in charge of the unlawful sexual connection case that he was now in custody. The officer was unable to locate the victim from the original case and so decided not to interview the suspect but let him go and the case was inactivated. It is very doubtful that the courts would allow this case to progress should the victim finally be located. The court (or defence) will reason/argue that the police had plenty of opportunity to deal with the suspect but did not do so.

### **6.1.8 Attempted Murder**

Attempted murder carries the same punishment as murder. However, in the definition it clearly stipulates that the person must have intended to commit murder. This is the difficult part to prove and explains why this charge is usually laid only when the evidence is compelling. Often this is reduced to a lesser charge at court for a variety of reasons.

“Everyone who attempts to commit murder is liable for imprisonment for life” (Section 173, *Crimes Act*, 1961).

“If the offender means to cause the death of the person killed” (Section 167, *Crimes Act*, 1961).



The attempted murder file was part of the rape/wounding file and the attempted murder was dropped to the lesser charge of wounding with intent. The offender beat the victim severely over the head and then raped her. He left her seriously injured and at first it was believed that she would die from her injuries. No doubt this was why the offender was initially charged with attempted murder. However, it is very difficult to prove that charge as it requires establishing the intent or mens rea of the offender. Due to the serious nature of the crimes of which he was convicted he received a heavy prison term. This could have included preventative detention which is a means of keeping dangerous offenders in prison for an indefinite period of time.

The above-mentioned cases have been used to illustrate the way in which police investigate serious crime and to highlight some common themes and issues for the police when investigating these crimes. These issues relate to the timely apprehension of the offenders, the correct information being entered in the National Intelligence Application and the superfluous taking of DNA samples. All of these issues create extra work for the police, impact on the budget and lessen the service provided to the victims of crime. The behaviour by the police with these cases could be attributed to the environment in which the police work or how easy it is to fall into a routine rather than treating each case on its own merits. The police do use DNA to investigate serious crimes but as these cases illustrate, DNA alone will not solve the crime and it is the application of the science that is important. Although these cases relate to offences investigated by the subject district, the method of investigation and the policies used are those used nationally for the New Zealand Police so there would not be too much difference in crime investigation from district to district. Any difference would lie in the talent and experience of the officers involved, including the quality of supervision and leadership in the district.

These cases highlight the willingness of the police to use DNA technology to investigate crime. However, the results do question whether it is worth putting effort into all serious crime at the expense of volume crime if this effort is not going to produce the requisite results. Are decisions made to send samples to the ESR, for example, based on need and worth or are they based solely on the crime type? It is worth considering whether the police slip into automatic pilot rather than thinking through the need to send samples to the ESR when they are either superfluous to the

case or the case will never reach court (this subject is expanded further in the next paragraph). Even though the cases mentioned above are deemed to be serious crimes, some of the offences have not been dealt with quite as expeditiously as could be expected with one case taking three years to get to court in spite of the offender being identified very early on in the investigation. It can be seen that there is still a reticence to deal with DNA alerts in a timely manner. While these crimes appear to receive immediate attention, if the offender is not caught early on in the investigation the enthusiasm seems to wane. If the offender is entered on to the police computer as being wanted in connection with a crime there does not appear to be any follow up.

## **6.2 Best Evidence or Fiscally Responsible: Which is Best?**

When the police are preparing a case for court they are required to put forward the best possible evidence. This increases the chance of a conviction. Likewise the presence or absence of forensic evidence can have a powerful affect on the jury. The CSI effect has been discussed at length in Chapter 1 section 1.10 but it is something of which participant E was mindful.

Participant E: "With some of the research that's come to us mainly through child type court work but I think it also comes across to adult work I think juries do know about DNA and they do expect it to be there or want it to be there. I mean there's obviously the few major factors that a jury looks for when they are looking at convicting somebody from such a serious offence like rape etc and DNA is invariably in the eye of belief, obviously we don't always have it."

The *Evidence Act*, 2006, states that: "Evidence is relevant in a proceeding if it has a tendency to prove or disprove anything that is of consequence to the determination of the proceeding" (Section 7,3). To acknowledge that forensic evidence has been found at the scene but (for financial reasons) decide not to have it tested could leave police open to criticism with the defence suggesting that the sample could exonerate the offender. An admission of guilt at the police station is no guarantee that the offender will plead guilty in court. The police are caught between the need to offer the best-possible evidence in court whilst dealing with budget constraints.

When interviewed about the importance of budgets, staff clearly understood the need for them.

Participant B: "Well we're constantly monitoring that and I have to go back through and look if there are any cases that are still in progress so as a detective senior sergeant

I'm one of the people that is authorised to sign off forensic samples being sent away and so that's one of the things I look at straight away, how much is it going to cost and whether it's going to get bang for buck."

Participant T: "There needs to be some control I think, I don't think you can, if there's unlimited I mean all those processes you have in place to check those, they've just like everything would go through and as I say for sometimes for the cigarette butt outside. I mean an investigator will end up getting that and look at it and say well hang on it's like a fingerprint on the outside of a car."

Participants B and T appreciate the need to be smart about sending samples to the ESR. There is little point in sending samples to be examined if they will provide little evidential value. An example of this is picking up many cigarette butts next to a river. This is a very public place and proving that someone was standing smoking in a public place does not implicate a person in a crime. Participant T gives the example of a fingerprint found on the outside of a vehicle. Evidentially this is of no real use as anyone can account for having their print on the outside of car as they are often parked in public areas. Not only does it lack evidential value but it also creates a lot of work for an investigator having to eliminate many suspects from the enquiry. There is nothing to be gained in spending money to have something analysed if it does not assist the case.

Participant O: "Well I realistically know that things will run out of control if there was no limit it's frustrating that the whole thing is so damn expensive when other methods aren't nearly so expensive, fingerprints for example are not nearly so expensive. I mean there's obviously techniques that are quite expensive but by and large the average dust print and lift is super cheap in comparison to DNA so it's just frustrating."

Participant O was frustrated by the expense of DNA testing. This participant compares the cost of the different forensic techniques, noting that fingerprinting is a much cheaper process. The forensic manager for the New Zealand Police told the researcher that some officers believe that fingerprinting comes at no cost to the police as it is an internal resource but they do not consider the cost of staffing and of purchasing a complicated computer database such as the Automated Fingerprint Identification System (AFIS). However, the belief is that samples sent to the ESR for analysis are a huge expense for the police. The researcher was shown the individual costings for forensic services but as the financial details agreed upon between the police and the ESR are deemed sensitive it was requested that these figures not be published as part of this research. The forensic programme manager at the ESR did explain the financial pressure of maintaining the database and providing forensic services. A forensic laboratory is required to use sampling kits that are acceptable to courts and have been extensively reviewed by their peers (scientists). Only two multinational companies in the world have this recognition.

This means that the ESR is not in a position to negotiate the cost of these consumables. In the UK the government funds its databank. This can keep down the cost of forensic analysis. In New Zealand the ESR has to factor in the expense of the day-to-day running of the databank, along with the expense of consumables, into the price of the analysis (Vintiner, 2011).

Ultimately the participants acknowledged that a budget is required to maintain control. Although a budget was widely seen as a requirement for any government department, some participants were unhappy about the impact this had on their ability to do their job well.

Participant K: "I do know that they are very reluctant (...) for unlawful takings. If they (the suspect) refuse to give a sample and require a compulsion order they (people in charge of the budget) will immediately look and see what's it for or how much has been taken. What I'm saying is it's ludicrous we're going to get someone to go and take a sample and go to do the work in the beginning and knowing that it's only for an unlawful taking at the time, why are they doing it? I mean I guess everyone needs budgets to be realistic, but it's not probably the police's fault to be fair it's the Crown that's going to end up doing the compulsion order and obviously they charge. It's just the system in place but I can see why it's frustrating that it's got to come down to money when we're trying to get these people's convictions because they're clearly active out there and okay it might be a lesser crime but as I said it moves on to others. I mean there's no hard and fast answer to it."

Participant K is perplexed by the attitude of attending the scene of a crime, obtaining a crime-scene sample and sending it to the ESR but when the intelligence link comes back deciding not to obtain a suspect compulsion order. A suspect compulsion order is required if the offender refuses to provide a sample to compare with the crime-scene sample. This participant thinks that the police will not pay for the analysis of the suspect compelled sample as the crime is not serious enough. If that is the case, the participant questions the logic in attending the scene.

Participant E: "I think I'm pretty careful with the budget but I don't really have an issue with budget because effectively I'm pretty much given open slather. But, they realise that the type of work that I do requires quite a lot of ESR work to be done so it's pretty rare that I would have anything turned down. But I still look at each individual case and ascertain as to whether we should be going down that track."

Participant F: "I think when it comes to our nature of work it's not such a big thing because it's a pretty serious crime generally but I do more and more. I mean we've got budgets and especially at certain times in the year you're aware of it."

Participant I: "I think we're spending the public dollar and we need to be fiscally responsible. Look it would be great if I could throw untold resources at every single scene. I think that our identification rate, prosecution rate would look a lot better as a

result but you've got to be pragmatic and you've got to look at the seriousness of the offence, the dollar value of the crime. It's no good throwing five thousand dollars at a hundred dollar burglary –you choose your targets.”

Participant J: “What price is law and order I guess and you'd have to link not doing a sample to say a reduction or an increase in crime. There's a certain rule saying oh I wasn't allowed to have certain samples analysed you'd have to link that to some risk of an impact on crime going up for it to be worthwhile. What I'm saying is there must be a process, there must be an accountability unless you can reduce crime by doing something that you're not doing at the moment. And, if that is the case then you make a payment for appropriate people and I'm sure you'd get whatever law changed to ensure that it was done. So I think ensuring you're working on a budget is important.”

Participant L: “I know about the budget and about the cost because I've been relieving for the detective inspector and I've been doing the monthly review. But when I'm an investigator I'm not trying to avoid costs or to cut corners and there are numerous examples where advice from an ESR scene examiner can show you how they can do things most efficiently.”

Although the participants understood and acknowledged the need for a budget, the most important consideration seems to be that for a sample to be sent to the ESR the DNA evidence must add value to the investigation.

Participant I: “Absolutely and that's one of my roles here in the district. All of the detective seniors are the ESR gatekeepers and anything that goes to ESR has to cross our desk and be approved by us for analysis. I'm seeing it on a daily basis where people are coming with stuff wanting to have things analysed and sometimes staff don't actually know why they want stuff analysed. Have you actually sat down and figured out how it's going to benefit your prosecution and your investigation and sometimes there are other ways of doing things without incurring ESR costs.”

The participants do not believe that all crimes are treated equally. Serious crimes appear to have more resources assigned to them and officers are not constrained by budget when sending samples to the ESR. This allocation of resources could be at the expense of other crime types such as volume crime. This seems to be at odds with the police and government's policy on giving priority to addressing the problem of burglaries as discussed in the previous chapter.

### **6.3 What Is The Most Useful Crime-Fighting Tool?**

There is a lot of rhetoric regarding the use of DNA as a crime-fighting tool, therefore the participants were asked the question: “What do you consider to be your most useful crime- fighting tool?” (See Appendix 16) Twenty-seven people were asked this question. The most common response was that people were the most useful, with 15 participants stating that staff or themselves were of the most use when investigating crimes. Fingerprints and DNA were considered the most useful by five participants with three

believing that it was a combination of things. The remaining four participants named other tools as being more useful.

The majority of those interviewed stated that staff were their most important crime-fighting tool.

Participant C: "My staff, because they are the people who have to go and put the information together so therefore they have to use their brains to gather all available information and evidence (...) young detectives as such are utilising or have been utilising DNA fingerprints as the be all and end all of crime investigation, which it isn't. It is a corroborative assistance to aid normal investigative policing".

Participant D: "Skill, basically the skill of your staff, your training of your staff and ability to analyse files, digest information and go out, follow up enquiries to come to a good conclusion. If you ask for one most important it would be the skill sets and abilities of your staff."

In summing up their reasons, participants C and D stated that the staff were able to gather information through talking to people and being able to absorb and analyse all the data that was given to them. Both acknowledge the usefulness of DNA but believe that it is of corroborative assistance and just another instrument for the police. It is seen as part of a combination of methods the police can use to solve crime. It is a thorough investigation that will catch an offender. DNA can enhance but not replace the skills of the detective (Roach & Pease, 2006). The response that garnered the second-largest number of responses was that a combination of things contributed to a successful investigation.

Participant N: "I the burglary squad, I'd say DNA would be one of them along with fingerprints obviously, positively identifying offenders that way and also CCTV footage. So, DNA, fingerprints, CCTV I would say are the three most important things."

Participant N believes that a variety of tools are required by the police including DNA, CCTV and fingerprints. There was a dominant view that there were no quick fixes when it came to crime investigation. No one technology was considered to be the best but rather a combination of the many tools available to the police provided the best opportunity to investigate crime successfully.

For a scientist rather than a police employee this question was worded slightly differently: "What do you think of DNA as a crime-fighting tool?"

Participant AB: "I think it's extremely important it is not the only crime-fighting tool, so it is one of a choice so it's not just about DNA but if you are looking to use DNA then it is very useful. I think it has evolved over the last 10 years, significantly, so that's the science and technology behind it so that means that we can now get results from samples which 10 years ago wouldn't even have tried to do and so that means, well adds to the fact that DNA has a place because it might be the only thing that you've got from a crime scene. And, therefore, we're now in a situation where there's a greater chance of getting a result from it than we were five years ago, (.....) it doesn't replace fingerprints or the other forensic evidence, it's a matter of well here's what we've got to work with, what can we best progress in the quickest timeframe. And, in amongst those options there is DNA. I think the other thing about DNA from a criminal perspective is that it's increasingly difficult not to leave DNA behind at a crime scene so with fingerprints you can kind of mitigate that by wearing gloves and so forth but with DNA blood, cigarette butts, take a drink from a container, have something to eat, leave a bit of food behind, touch stuff, it's actually getting harder and harder not to leave something behind."

The response from this scientist was that DNA is a good tool but is one of several that is and should be used by the police. She also explains that the technology used in DNA has improved over the past 10 years, making it more discerning and reliable. She stated that with each iteration this technology has become faster. The scientist also remarked that fingerprints can be avoided by wearing gloves but DNA is harder to evade. Of those interviewed, only three participants identified DNA as their most useful investigative tool.

Participant F: "I'd have to say DNA would probably be one of the top ones, because generally it's so black and white and in our field of work, the investigation of sexual violations, everything is such a shade of grey in terms of especially consent issue type situations that it affords at least in terms of identification a black and white indicator as to who has possibly perpetuated a crime or committed a crime."

Participant L: "DNA. It not only helps us to identify suspects but the degree of sensitivity and discrimination now allows us to identify what those particular suspects have done and in some cases what they haven't done which makes the court process a lot more precise, a lot more focused."

For these participants, DNA was a definitive result for their investigation. Both work in serious crime areas, more specifically in sexual crimes, and they see DNA as being of great significance in aiding them to identify offenders. However, although DNA is acknowledged as being an important tool there are also cautions.

Participant A: "DNA is definitely in terms of the technology these days a great assistance for investigations as long as it doesn't usurp the actual investigators doing proper investigations and just relying solely on DNA. It's not our bread and butter but it's the next best thing, we need DNA and the technology that goes with it."

Participant A is mindful that nothing can replace the ideal of a proper investigation. He believes that DNA is a good technology but that it should be seen in the context of

being one more resource to be used by the police. It cannot replace the role of the investigator or the requirement to complete a thorough investigation. Of those interviewed, six participants stated that their most important tools were interviewing, talking to people, witnesses, experience, telephones and communication. Although they used different words, it was clear that they all believed it was communication that was their most important tool. The participants voiced concerns that many staff were not able to do basic police work which is to talk to people and ask questions.

Participant A: "It is another tool, albeit a very powerful one, but staff still have to do some of our basics (...), interviewing offenders is still very important to an investigation."

Participant B: "There are obviously other factors that affect that. There's forensic evidence which is significant for us but the best part, the most important part of that investigation process is the ability of qualified or skilled interviewers really to solicit information."

Participant C: "I think a lot more reliance is placed on forensics (...) then it was in the old days because you didn't have it but yes looking for the easy short cut and some investigation managers are too, (...) it is of assistance, well it's a walk up (good) start but then you have to do the work it's not the be all and end all."

Participant M: "You're gathering information but a lot of people talk and don't actually listen to the answers they're given you know they don't listen to the question that they've asked."

A key theme from these participants was that any investigation relies on more than just one element. A good police officer will make use of a variety of skills and some voiced their concern that these skills may be lost or are no longer being taught. These concerns may be something that the police executive needs to consider when they are introducing technology and change. New technologies can alter the field of policing and, as highlighted by the participants, staff need to be supported and guided through these changes if they are to remain competent at what they do. They all agreed that there were no short-cuts to investigating crime.

#### **6.4 Is There Enough Training?**

When a new system or technology is introduced to the police, research has shown that they are not good at informing and training their staff in this new technology (Chan, 2001; Radcliffe, 2005; Marks, 2004; Small, 2000). The police will change the field but will not assist the staff to modify their habitus by giving them the tools to do so. This results in processes not changing to meet the needs of the new technology. The police will continue to do what they have always done because that is all they know. The



participants were asked what training they had received in DNA (see Appendix 14). The responses were grouped into eight main answers. Of the 27 people interviewed, 13 stated that they had received training. Five stated that they had received most of their training through their Criminal Investigation Branch (CIB) induction courses. A minimal amount of training was received by three of the participants with two stating that they were self taught. No training at all was the response from three of the participants with the remaining participant stating that he had received some training at the police college during his recruitment course but none in the district. This lack of training could expose the police to criticism if a case were to be lost at court due to incorrect paperwork or a breach in legislation. The implications for victims would be great if an offender were to be released from court as a result of police incompetence. While most participants felt that the training they received was adequate there was some disquiet expressed regarding the complicated paperwork required for DNA samples. There was also some discussion by most participants as to what specifically about DNA was being referred to in relation to training. They saw DNA as being in two parts: the samples taken from people and the legislation and paperwork covering that, and the examining of crime scenes and the dangers of contamination.

Participant M below refers to the forms that are in the DNA sampling kit. Some of these need to be sent with the sample to the ESR and the remaining forms must be attached to the DNA paperwork file. It is not uncommon for officers to find this aspect of the paperwork confusing. The TCR form to which the participant refers is a report for a traffic crash. These forms are self-carbonating and on the bottom of each states where that particular form should be sent. Participant M is suggesting that something similar could be done with the DNA forms.

Participant M: " Because the taking of the sample's easy you don't touch the thing. You put the gloves on, rip it open. I mean I can remember that and I probably haven't done one in about a year but yes it's that paperwork, (...) I don't know which bit to give them it should have it at the bottom like a TCR (..)"

Participant Q:" Oh definitely, there's too many selections if you open up the police forms and go to DNA there's people always tick the wrong boxes. Yes and the wording is just slightly different and you don't even notice (...)"

Participant Q comments on there being too many choices and as the wording is slightly different on each form it is very easy to pick the wrong form for the sample, thus nullifying the permission given by the subject. When a voluntary sample is taken it is

very important that the person is fully aware of the implications for giving a sample for inclusion on the DNA database. For this reason he or she must be given all the appropriate forms to read, sign and date. This ensures that the subject has made an informed decision and that she/he agrees willingly to provide a sample. If the wrong form is completed the sample has to be destroyed.

Although there were some concerns raised regarding training, the participants were also mindful of the time and financial constraints on the staff. DNA training has to compete with many other subjects that require frequent instruction and training and often came a poor second to operational demands.

Participant L: "Yes well I think we have to do the best we can really and there are a lot of competing interests for the education and training and timings available for front-line police officers."

Participant N: "I think everybody should do it at some stage if you're CIB or not but I don't know what the cost of it would be over time."

Generally L and N were satisfied with the amount of training they received regarding these areas. However, several participants raised concerns about a general lack of understanding of the use of DNA within the greater context of policing. This was a concern also expressed in several reports in the UK (see Chapter 3 section 3.2.3).

Participant B: "Yes, I think the process part of it is explained but the bigger picture, the system itself, is not fully explained. It's also interesting too that when you send exhibits off and there's no DNA, we don't actually think why there's no DNA but we should be thinking about the reasons why DNA's not present and that can be evidence as well."

Participant C: "I don't think that there's a very wide understanding of what the database is. I think police officers have a reasonable understanding of what DNA means to criminal investigations but it doesn't mean that they're forensically aware. I think that the establishment of the law-enforcement database could be a good thing."

As with the previous participant, this person considers the knowledge of some officers to be limited. In particular, participant C thinks that people should have a good working knowledge of the database rather than just an idea based on assumptions. This participant also comments that officers might have some understanding of DNA but that does not make them forensically aware, hinting at the dangers they pose to scene contamination. For this reason this participant remarks that a law-enforcement database would be a good idea. This is a database of DNA profiles volunteered by police employees who are likely to attend crime scenes. The idea of having such a database is

to eliminate any DNA that may have been left at the scene inadvertently by a police employee.

Participant F: "If someone with some knowledge actually sat the people down and said right in black and white this is it. There's enough grey in this job, it's nice to have some real black and white and just some real direction and some real insight within a specific sort of black and white framework that you can actually go okay that's in there and that's why that's done. I would've thought not just DNA-type situations or scenarios but other things in the police which would be nice just to be in black and white."

Participant F bemoans the lack of clear direction often missing from police training. This subject states that in the police people continue to do things the way they think they ought to be done until someone tells them that what they are doing is wrong. It is interesting to note that this participant wishes that things could be more black and white rather than the usual grey. He attributes this to ambiguity over guidelines and processes, not just with DNA but with many other things in the police. There is a pattern to this behaviour and it is obviously frustrating for him.

Participant J: "Oh no, I think, well I guess, there's an understanding of the staff that processing these DNA hits getting people arrested and people with DNA hits is linked to crime reduction but I, my question is can we link the increase in forensic hits to crime reduction? Have we made that link and I'm not sure we have."

This participant believes there should be a link between the use of DNA and crime reduction. This is what the government and the police want the public to believe but it is interesting that this participant does not think that the staff have made the link. Moreover, the participant does not believe that the police as an organisation has either. However, if an offender can be identified through DNA technology and the suspect is held to account for their offending quickly, there is the possibility that this may prevent future offending, thereby preventing and reducing crime.

## **6.5 Discussion**

The New Zealand Police say they are using DNA to help them solve crime (Allsop-Smith, 2005; Broad, 2009). They have told the government and reassure the public that they are. The ESR state on their website that they use DNA to help solve crime and this is evidenced by their hit rate (ESR, 2011a). The files reviewed for the research show that DNA is being used to investigate serious crimes such as rape, serious assault, robbery and attempted murder. However, of the 328 serious crimes reported for the 2005 year only 32 included DNA as part of the investigation. Of these 32 crimes, only

17 files were available for examination, with rape files appearing to be the most successful in terms of DNA use. The three rape files resulted in two convictions and an exoneration of a male falsely implicated by a mentally ill victim. The elimination from the enquiry of this male suspect was an example of the many benefits of DNA use. Moreover, several interview participants believe that another bonus of DNA is that it can protect the victim from the difficult experience of giving evidence in court. Presented with the DNA evidence an offender will sometimes plead guilty, believing that the DNA evidence is too strong to fight.

The belief amongst some of those interviewed was that they had more access to funds for their investigations due to the serious nature of the crimes. However, with only 32 out of 328 crime scenes yielding DNA evidence, it is a reminder that DNA is found at very few crime scenes, therefore the police cannot always rely on it to help them solve crimes. Perhaps it was unsurprising that the majority of those interviewed did not consider DNA to be their most useful crime-fighting tool. In fact, of those interviewed only three regarded DNA as their best method to identify offenders. Although they acknowledged the benefits of DNA, most of those interviewed believed that their staff made the most contribution to the successful conclusion to an inquiry.

If the police are to routinely look for DNA evidence at all scenes of crimes they do require the necessary training. Generally speaking it was believed by those interviewed that the training was adequate although some would prefer more training. It was also noted that staff might not be aware of the full implications of DNA and its use in crime reduction. The use of DNA to solve crime is understood to mean that it can identify an offender and thereby resolve a particular crime. However, whether DNA can be used to prevent crime is another matter. If the police were to deal with intelligence links as soon as they were received, there is a possibility that arresting and putting an offender in prison would prevent further offending and therefore reduce crime. Participant J also noted that the organisation itself probably did not know the full implications either, none of which is reassuring for the public who have been assured that the police will be able to reduce crime if they have greater access to DNA technology. However, this was the view of only a small number of police officers and cannot be said to be indicative of the entire organisation. It has been acknowledged that DNA could also be used as intelligence to link a person to other crimes and certainly the ESR states this on their

website (ESR, 2011b). One participant was frustrated that there were no clear directions on the use of DNA and referred to a desire for rules to be stated in black and white (something that is rarely done in the police). This lack of process has already been identified in the previous chapter and is a recurring theme that has been identified by both the participants and the data.

All participants recognised the value of DNA in helping them to investigate crime. They commented on the financial constraints experienced as well as the limited time but were still optimistic about its efficacy. Their biggest concern regarding its use was the complicated paperwork which they considered to be unnecessary. If this paperwork was completed incorrectly the sample had to be destroyed and the opportunity to add that person's DNA to the database was lost. A greater worry would be if an offender had to be released due to a breach in legislation as a result of incorrect paperwork. Another concern identified by some participants was the loss of experienced staff which may have contributed to an inability by newer staff to interview suspects. It was considered that the ability to talk to people coupled with old-fashioned police work such as searches, door-knocking and solid investigation were still the most important skills required to investigate crime. It would seem that while DNA is impressive, it is just another resource that the police can use when investigating crime. Moreover those interviewed do not believe that DNA has been fully integrated into police culture as the organisation has not supported its implementation despite the public pronouncements of its benefits. This has been identified by the lack of training for staff, difficult paperwork surrounding its use and a clear lack of framework for its operational use, resulting in a poor understanding by the staff as to what work should be prioritised. The police might need to look at whether it is more fiscally responsible to use DNA only for serious crime and to resource and train staff accordingly.

DNA may well be an exciting investigative tool and may in itself deserve the hyperbole that it receives. In terms of the police use of DNA evidence this praise may not be well deserved. In the subject district, DNA was found at only 302 scenes even though there were 54,000 crimes reported in that year. This does not necessarily equate to 54,000 crime scenes but is certainly fairly close to it. This would indicate that the impact of DNA on the overall level of crime will be minimal. However, when it is available it can provide some excellent advantages for the police. These have been highlighted by

participants. DNA can categorically identify an unknown suspect for rape, it can enable the police to narrow their search field and it can spare a victim from giving evidence at court. However, the numbers involved are not significant and it needs to be seen whether the police can make better use of DNA technology.

This chapter has highlighted the strengths of DNA in relation to investigating serious crime. However, the case studies have shown that there are several weaknesses in the police use of DNA technology to investigate such crimes. There is no indication that they have changed any of their processes to respond to DNA intelligence links as a matter of urgency. It appears to be sufficient to enter the information that a DNA intelligence link has been received on to the NIA in the hope that this person may come to police attention sometime in the future. However, in one of the case studies the person came into police custody and was still not interviewed regarding the offence. Likewise, it is important that police officers take DNA samples from the right people as was evidenced by one case study whereby a DNA sample was taken from the scene of a serious sexual assault and did not have a match for some time, suggesting that the suspect was not on the database. Another question raised by these case studies is whether it would be more effective for the police to invest time and money in the investigation of volume crime to aid crime reduction rather than focusing most of their energies on serious crime.

The following chapter reviews the reasons that may prevent the police from making effective use of DNA. The chapter discusses how often the participants believe that DNA should be used and what outside constraints may prevent this use. The topic of legislation is reviewed at length which leads into the use of the Guthrie test and how the police might make use of this database. The chapter concludes with the participants' views on the ethical application and use of the DNA database.

## **Chapter 7: The Perceived Constraints of Using DNA**

### **7.0 Introduction**

This chapter provides a closer look at operational issues. It begins with the participants explaining how often they believe DNA should be used. The chapter then explores the participants' views on the current legislation governing DNA use. As a result of their expressed opinions there is a discussion on the Guthrie test. The chapter ends with a discussion on the reality of applying DNA evidence within the confines of legislation, budget and processes.

By reviewing the interviews of the participants from the subject district, this chapter examines the use of DNA technology in investigations and what external pressures might be exerted on the police when investigating crimes. The statistics for DNA use over the years since its introduction are examined to try to establish a correlation between the growth of the database and the reduction of crime. This may prove to be difficult due to the manner in which statistics are captured on the police computer or it might be that the police do not use the evidence they are given. These are compared with the available statistics from the UK database. Several participants referred to the complicated paperwork as well as difficult laws in New Zealand so this chapter also reviews the laws and the recent changes made to them. These law changes will have an impact on officers' ability to do their work and it will be worth noting whether the changes will assist the police in reducing crime at a date later than the period covered in this thesis.

In 1995 when DNA was first introduced in the UK, police took DNA samples only from people arrested for violent or serious crimes. However, by 1999 Her Majesty's Inspectorate of Constabulary (HMIC) along with the Forensic Science Service (FSS) recommended that police should extend its use to clear up volume crime (McCartney, 2006). This resulted in the UK embarking on the DNA Expansion Programme. The New Zealand Police did not have the same powers as their UK counterparts to obtain DNA samples but from 1996 until 2010 there have been three major changes to the DNA legislation, largely at the behest of the police. This chapter examines the views of the participants regarding the legislation and why they believed it needed to be changed. This is linked to their views about how often DNA should be used. The participant's

comments are a reminder that the police view their main role in life as being to identify and prosecute offenders. For them, DNA is an irrefutable, infallible way of doing this while appearing to be using the latest scientific discovery which can be legitimately deployed (Ericson & Shearing, 1986; Johnson, Martin & Williams, 2003; McCartney, 2006) (see Chapter 5 sections 5.1 and 5.2). Although the participants may not couch it in those terms or even be aware that they are attempting to be legitimate, they do believe that DNA, along with their other skills, can help them to identify and prosecute offenders.

### **7.1 How Often do You Think DNA Should be Used?**

As discussed in the previous two chapters, participants were impressed with DNA and find it to be a good tool for investigating crime. They like the fact that it clearly places a person at a crime scene. After establishing why the use of DNA was good for the police they were then asked how often they believed DNA should be used to investigate crime (see Appendix 8). This question was posed to establish if the alleged accepted police use of DNA was supported by the staff, in that the reason the police chose to use DNA was fully understood and evidenced by the actions of the participants. Many of the participants commented on the need to put the best possible evidence before the court. Although the topic was raised in the previous chapter it is very relevant to the responses of how often DNA should be used. This matter was discussed by some participants when questioned regarding the idea that DNA might be superfluous to an investigation. Of the 146 files that were examined, 33 showed that the police officers clearly had a lot of evidence in the form of fingerprints, CCTV and eyewitness evidence but DNA was still sent to the ESR for testing (see Appendix 19). In looking at the cost involved, the question was raised as to why this might have been done. Best evidence rule was postulated as a possible reason, likewise the concern that the jury might be aware of forensics and expect to see it at a trial. All are reasonable responses. The concern is when samples are sent to the ESR and the person is charged and convicted before the results are received back. This may be an example of when DNA could have been discarded if the officers were going to take the case to court irrespective of the outcome. Participants talk about the difficulty of knowing what to choose regarding the best possible evidence. In response to this question participants often discussed exactly what was meant by using DNA. Some thought the question related specifically to the taking of DNA samples from arrested people and others assumed that it related to the searching



for DNA samples at a crime scene. In essence both are correct. If the DNA profiles of appropriate people are being put on to the DNA database and all crime scenes are thoroughly forensically examined, the optimum use of DNA and the database should be achieved. However, as has been highlighted in previous chapters, if the police are not taking action on all the information received from the ESR the attendance at crime scenes and the obtaining of samples from suspects will not garner the full benefits promised by the police and lawmakers (see Allsop-Smith, 2005: Goff, 2009; Key, 2009). The participants give their responses from both perspectives and qualify their reasoning.

When asked how often DNA should be used, just under half of the participants believed that DNA should be used all the time, every time, at all scenes and for all offenders.

Participant E: "All the time. In my case it should be one of the first things looked for in any particular case."

Participant E investigates serious crime and for this reason it makes perfect sense that all crime scenes he attends would be rigorously searched for DNA and any results received would be acted upon immediately.

Participant G: "I think minimally I would want DNA to be automatically taken off anyone charged with an offence."

This participant works in a squad that investigates serious crime therefore having more profiles on the database could make it easier to identify an offender and this squad would have the time and the resources to interview all intelligence links they receive from the ESR.

Participant H's response to the question of DNA use was: "If the sample's located and identified to a person, every time," but when asked if DNA could ever be superfluous the response was:

Participant H: "I think it's just covering more bases. Quite often we'll do photo boards when really there's no dispute that that person was there but it's just another box to tick to have a watertight case around more better strength."

Participant L believed that DNA should be used for all crime types because it was more reliable than the quality of the interview evidence produced during the 1970s and 1980s. When asked if this included unlawful takings, theft ex cars and volume crime the response was:

Participant L: "Absolutely, because it focuses enquiries if identifiable DNA is found at the crime scene. Then it's a matter for the investigator to ask the question what does this mean in terms of reconstructing the suspect's activity and it may very shortly and very quickly focus the investigation and that's applicable in any circumstance, secondly it reduces opportunities for injustice. I was in the police in the 1970s and the 1980s when the principal investigative method was protracted interviews leading to confessions. There were always issues of duress, there were always questions of fairness in those interviews and over the years it's been shown that a number of false confessions were obtained or unwarranted confessions were obtained whereas with DNA you're focusing on someone about whom there is circumstantial evidence that they were involved in the crime provided you interpret the DNA that you find correctly so that casting a wide net and rounding up all the usual suspects and perhaps getting an admission of sorts that's not justified or that's due to the dynamics of an interview situation or the vulnerabilities of the suspect that's not good for justice and that's not good for the police."

This is the only response where the topic of fairness for the suspect has been specifically raised.. This comment about interviews being conducted under duress in the 1970s and 1980s and that DNA benefits justice are very interesting reasons for using DNA as often as possible. Yet it is naïve of the officer to believe that DNA is tamper-proof, with examples in the US proving otherwise (Duster, 2006; Noble, 2006). However, the following participant believes that DNA evidence does not lie.

Participant M: If it's applicable I think every time it can be because a person's DNA is such a unique thing, even between brothers and sisters it can be proved so it's better than somebody's word, you can trust DNA because it doesn't lie really."

While DNA may not lie there have been examples when the application of DNA has been called into question (see Geursen, 2001; Gibson, 2001; Hibbert, 1999; Imwinkelreid, 1991; Lander, 1989; Williams, 2001). Likewise, if DNA technology is seen as the ultimate truth machine there do need to be robust systems in place to deal with the obtaining and storing of samples and the analysis and court application of DNA evidence (Hindmarsh & Prainsack, 2010; Krinsky & Simoncelli, 2011; Lynch et al, 2008). In New Zealand the database is populated by people who have either voluntarily given a sample or those who have been compelled to as a result of a court order, having been convicted of a crime. However, the belief amongst those interviewed supports the use of DNA for all investigations and that DNA is evidentially useful. These participants agree that DNA should always be used.

Participant A: "Oh look, we should be using it for all, it's just another one of those investigative tools, it's like the media are an investigative tool, how often do we use it, do we use it to a less advantage because DNA actually either identifies the offender or eliminates someone from the investigation that is very important."

Participant Q: "No, definitely always be looking for it as part of your evidence base."

Participant R: "I think that DNA should be collected always and used when necessary."

Some participants believe that DNA should be collected at all scenes and taken from all people arrested as this will enlarge the database and with the refining of DNA technology through the years more people will be caught.<sup>18</sup> One participant had very strong views on obtaining DNA and went so far as to describe what might happen in the future.

Participant W: "All scenes, all offenders who go through that watch house. Just getting the databank wider and the LCN technology and as that develops more I'm sure in 50 years we'll turn up at a homicide scene, put the robot in, it'll suck out the DNA and we'll show up at someone's house later that night and say why were you there but I don't think that's being stupid about things at all."

Several participants were certain that DNA needed to be used for all crimes as there was an expectation that the court should be presented with the best possible evidence. It was suggested by participant Z that the police needed to make the most of all the information available to them as it was something that they could not go back and examine later.

Participant Z: "Well I think it should be used in all cases like fingerprints. You shouldn't exclude it you should include it, whether you use it ultimately in court is another thing. It's like a photo ID board which you can now more readily use. It's like a lot of things, you've got to include them where applicable but don't exclude them because if you exclude them you can't go back to it once it's gone. It's the same with fingerprints, if you don't check you don't find."

Participant AA: "I just think we're losing a lot of opportunities. At one stage there was a directive that we should only be targeting you know forget your disorderly behaviour stuff but your disorderly behaviour is your 18, 19-year-olds who could go on to offend further and it's the broken window policies. I ignored it back then as well if you were inside as in the watch-house you were there for a reason, you had a disregard for law and social norms. I'd be surprised if we weren't nowadays and you know ignore the CSI factor I think members of the public would be surprised yeah you know I think I was around when the car swabbing came in for DNA and that was a biggie and you know people talking about the expense of that for a car theft. Well a car theft is a car theft and what else are they doing. But that's not a good excuse for not doing anything that's about resources."

Participant AA sees DNA as an important resource for the police. For this reason she did not agree with the initial policy that DNA was to be taken only from certain criminals. More importantly she states that she chose to ignore this directive which

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<sup>18</sup> The law change in December 2011 enabled the police to take DNA samples from all people where there is an intention to charge for imprisonable offences.

would have been a national policy decided by the executive team at Police National Headquarters. This is an example of the disconnection between the street police officer and the manager police officer (Grant & Rowe, 2011; Reuss-Ianni, 1983). This participant did not agree with the directive on when to take DNA samples and her reaction was to ignore it. This was only one person's view from a small group of people interviewed but it does raise the question as to how many officers would disregard this or other directives that they did not agree with. Participant AA's belief was that anyone who came into the watch-house had already shown a disregard for the law and the opportunity should be taken to get a DNA sample from them. The participant fails to acknowledge that a police officer is able to arrest a person on suspicion so just because a person is in the watch-house does not mean they have shown disregard for the law. It is for precisely this reason that there need to be tough laws around the obtaining and storing of DNA samples. The subject of the CSI effect is also touched on again as the public do expect there to be some mention of DNA in a criminal investigation. However, that topic has been covered sufficiently in previous chapters. There is frustration that a lack of resources limits the use of DNA but the participant does not accept that a lack of resources is reason enough not to make full use of DNA.

Participant C: "Well, I was just going to say the best evidence rule, look I think it's incumbent on us to provide the best evidence we can on every case and if you have DNA evidence, which part of the evidence do you not give, the CCTV, the DNA. You know certainly on burglary and things like that, yes it does seem to be an overkill but in saying that the day that you lose something because something falls by the wayside and you haven't done something there's going to be a degree of criticism."

Similarly participant C agrees that it is difficult for the police to choose which evidence should be presented to the court. There is a belief that there could be criticism levelled at the police if steps are not taken to provide all the facts. The participants who did not state that DNA should be used all the time believed that it should be used as often as possible or at least on a case-by-case basis. It was stated that criminals were becoming more forensically aware so it was important that the police keep ahead of them.

Participant D: "If you identify a suspect through a DNA hit at the scene of a crime for a serious offence and by serious offence I mean aggravated robbery, sexual violation, murder, wounding, I would say 100% of the time use the DNA either as the only evidence available or in conjunction with other evidence but still use that even if you've got other evidence, still use the DNA. For less serious offences where you have other good evidence and a person declines voluntary suspect blood I would say you probably wouldn't use the DNA. For less serious offences where the only evidence you've got and you can only prove a prima facie case through the DNA and they decline to give you a suspect sample I would say you'd probably have to do that on a

case-by-case basis. If they were a dangerous person you wanted to keep off the streets definitely, mainly to oppose bail but it would be probably by a case-by-case basis."

The key message of this response is that DNA should be used for all serious crimes but when it comes to lesser crimes such as burglary each case needs to be viewed on its own merits. From this it can be surmised that the work required to obtain a suspect sample from an unwilling suspect needs to be weighed up with other factors such as the other evidence that is available and whether it is important for this suspect to be convicted. This is a very realistic view of DNA use and the work that is involved in obtaining samples from reluctant suspects.

Participant F: "I would think especially with the advent of technology, low copy number etc I think I mean it should become more part and parcel of what we do, it already is to a large extent but even more so."

Participant K: "Whenever it can. I think if we can get convictions for crime, okay some of these volume crimes are considered the lesser of the scale however they start, half these guys start with theft ex cars or burglaries, not that we're involved directly with burglaries and I think look if we're going to go to the trouble of taking swabs and things for these sorts of things it should be followed through to use not just an oh perhaps it's not serious enough."

Participant P: "Oh, I think so. I think these days everyone should be looking at that opportunity because criminals are getting smarter. I mean CCTV's brilliant as long as they're not disguised or you know they're not aware of it but you can't skive DNA."

The above participants acknowledge the importance of police using technology to investigate crime. Participant P suggests that criminals are becoming smarter so the police need to be more sophisticated with how they investigate crime. The technology of DNA evidence is becoming more advanced and the police will be relying on it more so it should be considered a normal investigative tool. It was also considered that DNA should be used for all crime types because criminals often began their offending with lesser crimes and build up to more serious ones. Likewise, because criminals are becoming more forensically aware, DNA is an excellent method of identifying offenders as it is very difficult to avoid leaving DNA behind whereas it is easier to wear gloves or fool CCTV. Financial constraints were also given as reasons for not using DNA all the time. Also, in terms of sophisticated crime such as cyber crime or fraud, DNA was of limited use.

## **7.2 Are Current Laws Adequate for Obtaining DNA Samples? What Changes Would You Like to See?**

This question received quite strong responses with some participants talking about the laws before the question was asked (see Appendix 9). Only four participants felt that it was adequate yet they still raised some concerns about certain aspects of the law.

Participant P: "Yeah, I do actually. Hard one because it's a really personal thing DNA and if we're going to get it from everybody there's going to be some people that do need that second chance that aren't going to re-offend but I think it may be a little, I don't know I have to think about that question. It's also got the ability and this was only brought to my attention by Greg O'Connor (President of the New Zealand Police Association)<sup>19</sup> about being set up, very easy to set someone up using DNA so I don't know, serious offenders yes we need it, voluntaries yes we need it but I also think there needs to be a limit or the ability to say no for your own reasons."

This participant is concerned that DNA could be maliciously placed at the scene of a crime in order to put suspicion on an innocent person. The participant's reasoning for this was not explored in the interview so it is not known on what this fear is based. Likewise it is not known in what context Greg O'Connor was talking about DNA.

Participant AB: "Obtaining DNA as a first legislation because we were early on in the piece 1995 straight after the UK I think we did it really well but crime has changed since then and the science has changed since then so the amendment that came along in 2004 that allowed buccal scrapes, excellent because that meant that it was cheaper and less invasive and I think we're moving away from the law, we are reliant on people giving voluntary samples up front and people have it's been excellent, the links we've seen from that have been amazing. I don't know how much longer from here on for the next 10 years we can rely on people volunteering samples before they've been convicted and I think it takes a while for this to sink down into a criminal's mind. It has been adequate but where it's now possibly time for a review. The second area where I think it has shown not to be adequate is the under-17-year-olds. As soon as you take a sample from a 17-year-old and you load it to the databank they are hitting crimes from when they were 14, that occurred from when they were very young and the percentage of samples from under 17-year-olds or who have just turned 17 on the databank is tiny because you just can't take those samples until there's been a conviction but the link rate to that particular group is huge and sure we just send the kind of top end of it those that are offending and to the point where they're ending up on the databank but I think there is scope there to widen that sampling."

Participant AB believed that the law was adequate when first enacted in 1995 but it needed to change as the technology and the criminals evolved. This was done with two amendments. This interview was conducted before the recent 2009 law change but it would seem the two changes that AB suggested would be of use have been made.

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<sup>19</sup> New Zealand Police union

Participant Z: "There are weaknesses and they're being addressed. Well the new bill is to be had next Monday on that but if you follow the spirit of the intention yes it is adequate but the biggest flaw is we historically have gone down the consensual road based on part two of the act and it's a flaw with the databank because if someone elects to remove it we can suddenly lose a massive amount out of the databank because a lot of those people have not been convicted and that's the flaw."

The question of voluntary samples is also an issue for participant Z who does believe that the spirit of the law is adequate. He believes that relying too heavily on voluntary samples and the ease with which that permission can be rescinded may cause the police some problems in the future. However, the new law does not change this because if a person is not convicted their profile must be destroyed. Eighteen of the participants interviewed did not believe that the current laws, at time of interview, were adequate. Of those 18, 10 favoured DNA being taken on arrest but agreed that the sample should be destroyed if the person was acquitted at court.

Participant A: "I don't think it is wide-ranging enough. I think anybody arrested should have to provide DNA. And if they are acquitted and then they'll have the opportunity just like fingerprints of having it removed and I just know an example from speaking to some of the UK converts who talk about how at traffic stops there's road blocks with breath testing and they do a check and bingo some serial rapes have been solved because somebody who had been arrested for a driving offence and their DNA's taken is actually the offender because we know most offenders are mobile and so if they're driving, committing driving offences and being arrested for it let's get their DNA because they'll be doing other things."

The UK converts are police officers from the UK who have moved to New Zealand and joined the New Zealand Police. Participant A is suggesting that DNA should be taken from people who commit traffic offences as offenders tend to travel and a simple traffic stop could yield more serious offences. However, if the subject is acquitted at court the DNA profile should be destroyed.

Participant J: " I think in terms of arrest, DNA should be taken from every person that we arrest, it seems sensible to do it. To fingerprint people and not take their DNA it's the new millennium fingerprints I think the legislation was drafted with this fairness thing in mind which means that the police have to go through hoops to get a suspect compulsion order or there's this overarching issue of fairness and I don't for one minute think that members of the police don't want to be fair to people but I think there's an idea that we could be a little more efficient with how we deal with it, having to draft a compulsion order and inspectors having to swear in front of judges where I mean it might be nice for their OC of the case to do those types of things could be improved so that it just becomes a little more efficient and then the merits of the case can be argued at the appropriate time. Absolutely, why couldn't we do that and I'm sure that there are all sorts of things you could put in place to ensure that you know mystery samples aren't kept and all sorts of things."

This participant acknowledges the need for fairness but believes that the system could be more efficient without impinging on people's rights.

Participant L: "No, I think they are nonsense. It should go back in principal to and that's where the incoming government is going of course we should go back to the principle where everyone coming into police custody was fingerprinted because that was a way of identifying them. DNA identification is equally important nowadays and everyone should be identified by DNA. And of course we deal with a lot of young people now and there are provisions in children and young persons and Family's Act that prevents us from arresting most of the young people we deal with for criminal offences but the fact that we're going to report them for a Family Group Conference (FGC) should be sufficient grounds to take a DNA sample from them too. That's the provision for fingerprints and photographs, so the same for DNA."

These participants do not consider the current laws are sufficiently far-reaching to maximise the benefits of DNA technology, which for them means being able to identify and arrest offenders. However, they all believe that the DNA profile should be destroyed if the person is acquitted. These views are different to those of previous participants who believe everyone should be on the database. For one participant, fairness should be the overarching philosophy whereas for another DNA should be treated like fingerprints and the police should use the same provisions already in place for photographs and fingerprints (see *The Policing Act*, 2008). The police have historically used fingerprints as a means of identification when suspects were brought to the watch-house. This is because fingerprint identification is instant but DNA requires time for it to be analysed, so the capabilities are different. *The Police Act* 1958 made provision for the taking of fingerprints and photographs on charge and if the person was acquitted the police were required to destroy their fingerprints and photograph. The 1958 *Police Act* was replaced in 2008 by the *Policing Act* whereby, as well as a photograph and fingerprints, police officers may now also take palm prints and foot prints. These participants could see no difference with the use of DNA as a means of identification. However, the power to take a persons' DNA is set within the *Criminal Investigations (Bodily Samples) Act* 1995 and so the legislation governing the obtaining and retention of DNA is quite different from the powers given to the police through the *Policing Act*.

Other participants did not think that the destruction of the DNA profile was important.

Participant C: "Everyone that gets arrested should have their DNA taken. I'm not talking about charged. Just arrested, everyone that goes through the watch-house should have their DNA taken if they haven't had it taken previously. As part of the



processing, with certain riders, like the 90-year-old shoplifter, if they get arrested is probably not a necessity, in South Australia anyone that gets reported can have their DNA taken. I suppose the starting point you've got to say everyone that gets arrested maybe we should say should have theirs taken and then before it gets determined as to whether it gets processed it maybe should go through a check process, I don't know how, what the criteria should be because you have the 12-year-old who comes through as a burglar who's now the bloody rapist and robber at 19. I suppose you could draw the line and say if you're 60, if you're 65 and it's the first time you've been brought in you got to ask the question of why they're being arrested for a start so I'd like to think that everyone that's being arrested should have their DNA taken because they are being arrested for a reason as opposed to not being and I think with the *Policing Act* the move towards less arrest or more process of sight."

Participant C does not believe there should be any exceptions to the taking of DNA, unless subjects are very old or clearly not a threat to society although it is not stated how the latter distinction could be made.

Participant E: "Absolutely not, DNA should be taken off every person that goes through the watch-house just like fingerprints are. None of this cut-off point at a certain level of crime, it's just ludicrous I think the ability of us to be able to obtain compulsion orders is way too heavily weighted in favour of suspects, it's far too difficult, it's far too paperwork intensive and that's right across the board. We were talking about voluntary samples, suspect samples, the paperwork that's got to be completed, the level of information that has to be imparted between the police officer and the suspect if you want a better word is too encompassing."

Complicated paperwork is a recurring theme through many of the interviews. This participant believes that the police have to work too hard to get a compulsion order and that it would be and should be much simpler if everyone had their DNA taken on arrest.<sup>20</sup> The suspects appear to have more rights which creates an unfair balance, according to this participant.

Participant I: "I would like to see just with as with fingerprints you know everybody who goes through a watch-house now is DNA'd because it is a method of identification just confirming who it is that you have there and it's not as invasive as it used to be you know just do the buccal swab is not like you're sticking holes in them, drawing blood so certainly that aspect of it I think also the fact that it's not as invasive as it once was could also lead to a relaxing of a situation, compulsion orders they are very time consuming and convoluted."

The view of these participants is that DNA is another method of identifying offenders when they are brought into the watch-house. For this reason it makes sense that DNA should be taken on arrest. They are dismissive of compulsion orders as they state that the paperwork for the application for the orders is clumsy and time consuming and in some cases benefits the suspects. There are also concerns that, as discussed in Chapter

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<sup>20</sup> The police obtained this power in December 2011.

4.3, some suspects start with minor crimes and build up to more serious offending (Zedlewski & Murphy, 2006) and taking samples from them on arrest would be one way of ensuring that their DNA was captured. For this reason participant C could see the value in taking DNA samples from all those who have been arrested. That way all potential serious criminals would be on the database. However, these participants do not mention the potential for misuse of these powers or the impact this may have on suspects who have not actually done anything wrong. There is almost an implied acceptance by the participants that the police would administer this technology fairly.

Two of those interviewed had no knowledge of DNA legislation. These participants were not police officers but attended crime scenes to forensically examine the area and take detailed crime reports. Although not an integral part of their job, it was surprising that they had no idea of the law covering DNA considering that understanding the legislation might put their work into context.

Participant R: “No, I have read the law but that would have been three or four years ago so I couldn’t even, couldn’t even well I could probably dredge up some of it in the back of my mind but no, it doesn’t affect me as a gatherer as opposed to a hunter.”

Although participant R had read the legislation he did not believe he needed to have a firm grasp of it as it was not relevant to his role.

Participant S: “I don’t know anything about the swabs as far as the offenders and what not, no I don’t really know a lot about it.”

Likewise, participant S did not have any knowledge of the legislation and did not appear to be concerned by this. They both knew what was required to complete their roles and that was what was important to them. The legislation did not immediately impact on their work. However three participants deemed the laws inadequate and wanted DNA taken from babies at birth.

Participant K: “Well, the reason a lot of it isn’t being used as I said with an example is because of the costing I just feel surely once it’s taken and it’s clearly identified as being from that person this theory of having to continue every time they are arrested to get another sample to compare to, with the technology in this day and age a little bit out of date. Absolutely, I think it would be ideal, I’d love to see something come in like everyone that you know at birth as a matter of course it’s taken. I mean I think it would solve a heck of a lot of crime a lot earlier and I just, I know it’s human rights and all that but I just can’t see the big deal if everyone’s on there from the very beginning as a baby when they do a blood test.”

Every time a person is identified by DNA a suspect sample must be taken for comparison. Participant K feels this is an unjustified expense and suggests that taking everyone's blood at birth would be a great way to solve crime more quickly. Interestingly enough there is pause for thought regarding human rights but then he decides that it is not really an issue. As one participant pointed out, if you have not done anything wrong you have nothing to fear from giving a DNA sample.

Participant F: "To be honest, no not really, no. Well, I mean I think with the influx of UK cops we've had discussions about the DNA the differences between systems both the administrative form side of things as well as the powers and the situations where you can take a DNA and I think the DNA upon arrest is fantastic. You know I think it should be part and parcel of an arrest, it should just be part of a procedure. To be honest, I'm a great believer if you haven't done anything and you're a good person then you haven't got anything to worry about."

This attitude is not uncommon but there are pockets of the population who may not agree with this participant. One person interviewed even raised her concerns about the apparent ease by which DNA can be placed maliciously at a crime scene. For those members of society who have traditionally felt vulnerable to unscrupulous policing methods, the idea of their DNA being taken at birth may well fill them with dread (Duster, 2006; Noble, 2006; Washington, 2011). The concept of having nothing to fear if you have done nothing wrong, will not reassure them. The comment regarding the UK police relates to the different legislation that is in force in the UK relating to the obtaining and retaining of DNA samples. This legislation has been discussed at length in previous chapters (see Chapters 1 section 1.5 and 8 section 8.4.2) but it is worth reiterating that the UK legislation has been amended to reduce police powers as a result of public opinion. However, it still remains much wider than the sampling regime available to the New Zealand Police. The following paragraph discusses the Guthrie test as it was a subject raised by two participants and relates to a database containing sensitive information that needs to be protected by tight legislation. For this reason, it is likely to be an emotive subject should police (or anyone else) ever have unfettered access to it.

### **7.3 The Guthrie Test**

The Guthrie Test is a colloquial name for metabolic screening of newborns. It was named after Dr Robert Guthrie who developed an inexpensive method for screening newborns for the genetic disorder of phenylketonuria, or PKU. Early detection and

treatment of PKU can prevent brain damage that would occur within the first three years of the child's life. This screening commenced in New Zealand in 1964-1965, initially only in several hospitals in large centres. The testing programme is now operated nationally, is administered without charge and is voluntary. However, it is thought that almost 100% of babies born in New Zealand are tested (Privacy Commissioner, 2003). The programme tests for seven metabolic disorders. The blood is collected on a blood spot card and once the samples have been tested the cards are stored indefinitely by the National Testing Centre. There has been some concern raised by the public as to who has access to this databank (The Privacy Commissioner, 2003). In 2006 the Ministry of Health and the New Zealand Police signed a Memorandum of Understanding (MOU) about when the police might have access to the information held by the national testing centre. The MOU sets out that the blood spot test is first and foremost a tool for health purposes only. The police may access this information only in rare circumstances. Primarily the information on a blood spot card would be shared with the police only if it related to an unidentified body and all other avenues of identification had been exhausted (Ministry of Health, 2006).

The Ministry of Health has released information to the police 13 times in the past 20 years (Barton, 2009). However, in spite of this there are still concerns that the Guthrie Test has provided an unregulated biometric database of over two million people in New Zealand (Barton, 2009). In 2003 the Privacy Commissioner completed a report that recommended the Ministry of Health develop clear rules for retention of the samples and described in exact terms what third parties, if any, would have access to this data. All this needed to be incorporated in legislation to ensure that rules were enforceable (Privacy Commissioner, 2003). The MOU with the police was one of the outcomes. That the police should have full access to the Guthrie cards was strongly opposed. With New Zealand having almost 100% compliance rate, the Guthrie Test is a successful way of managing treatable metabolic disorders. If parents were to have any doubts about who had access to the data from the blood samples of their children they might choose not to allow their children to have the Guthrie Test. This would be catastrophic for children's health and not worth any gains that might result from identifying an offender.

Participant V: "No. Well, people coming into the country, immigrants should give a DNA sample and newborns if they give them vitamin K injections when they're born all they need is a spot of blood for a DNA sample. Well, that should be put onto the

national database because it can help a lot with disaster victim identification, people who turn up dead particularly if we don't know who they are. I think the Guthrie Test should be put onto the national database. Because that gives you a comprehensive library then because there'll be a lot of people out there who've committed some pretty heinous crimes, never been in trouble before, never given a DNA test, a one-off murder or a one-off robbery and never come to the attention of the police again where their DNA's sitting there but they haven't matched it up to anything but if the Guthrie Test was they could say oh yeah it was this one just like that."

Participant AA: "I want access to the database that the hospitals have, you know the pin prick stuff. Oh, that would be Utopia for the police but it's not going to happen because of privacy and I know we have special access to it in extreme cases."

Participants V and AA both believe that if the police had access to the Guthrie database it would help immeasurably in identifying offenders. One reason to have this information as suggested by participant V was that it would assist with disaster victim identification. As stated, in extreme cases the Guthrie cards could be used to identify a body that could not be identified any other way. However, participant V feels that there are offenders at large who have never given a DNA sample and who have probably committed one serious crime in their life. Putting the entire metabolic disorder database on the national DNA database would identify these people. Participant AA uses the word Utopia to describe a place where the police have unregulated access to this database but also realises that this will not happen as there would be privacy issues. Other people might regard this same place as a police state whereby the police have access to any private information on any individual (see Billings, 1992; Jost, 1999; Rosen, 2003; Simoncelli, 2006; Steinhardt, 1999; Webster, 2000. Although the majority of those interviewed (23 out of 28) felt that the law was inadequate and wanted to see changes, there was still a strong belief that privacy and fairness were of concern to the public. The minority (5 out of the 28 interviewed) believed that those who had done no wrong need not fear their DNA being on a database.

The size of the database was also raised by several participants. There is a belief amongst them that the more samples on the database the more effective it will be, therefore taking samples from everyone arrested would aid the police in identifying offenders. However, research conducted by Goulka et al (2010) revealed that an important factor is the number of crime-scene samples entered onto the database as opposed to the number of individual profiles there. A crime scene may well yield DNA evidence whereas obtaining a sample from a person who may have offended or might

offend in the future was less cost effective. The Home Office also notes that the number of matches obtained from the database is driven by the number of crime-scene profiles loaded into the database (The Home Office, 2005). In the UK the number of stored personal profiles rose from 3.1 million in 2005/2006 to over 5.5 million in 2008/2009 and the number of recorded crime declined.<sup>21</sup> The percentage of recorded crimes detected involving DNA remained stable, fluctuating between 0.63 and 0.76%. The presence of more profiles on the database has not increased the percentage of crimes cleared up even though the number of recorded crimes has been decreasing (House of Commons Home Affairs Committee, 2010). For the 2007/2008 year, there was an 8.6% decrease in the total number of crime scenes for which one or more suspects had been nominated in the previous year (The National Policing Improvement Agency, 2009). This was said to be as a result of fewer new crime scenes being loaded to the database. However, during 2008/2009 there was an increase of 0.7% in the total number of crime scenes for which one or more suspects had been nominated in the previous year. In 2008-09 there was a crime-scene investigation in respect of 796,780 crimes and 42,572 crime-scene profiles were added to the database. If one profile per crime was added, then DNA profiles were obtained for less than 1% of recorded crimes. From this it can be seen that DNA is involved in solving only a small proportion of overall crimes. The above figures relate to all crime types and many crimes do not have a "scene". They are minor and are often solved because the victim and the offender are known to each other. Other crimes can be solved by other police methods or because the police came upon the crime in progress. If DNA is found at a scene there is no guarantee that it is always usable (House of Commons Home Affairs Committee, 2010).

New Zealand has a population of 4.2 million and the national DNA database contains 108,000 profiles (ESR, 2010). Therefore, 2.57% of the population is on the database. This is compared with 5.5 million or 9.1% of the UK population (GeneWatch UK, 2009). In New Zealand, of all unsolved crimes loaded on to the crime-sample databases, 63% are linked to individuals and more than 30% linked to another crime (ESR, 2010). The UK database produces its data in a different manner. It states that from 2001-2010 the total number of crime scenes matching one or more subjects in all offence types was 361,381. The number of subject profiles on the database is higher

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<sup>21</sup> A trend across liberal democratic states.

than the number of individuals, due to duplicate profiles. This occurs when a sample is taken from an individual on more than one occasion, either because they give a different name or different versions of their name (National Policing Improvement Agency, 2009). In spite of New Zealand's database being relatively small it is considered more successful than the world's largest database housed in the UK (Buckleton, 2008). No doubt Buckleton bases this on the fact that the New Zealand database has the highest hit rate in the world. It would suggest that the size of the database is not as important as the quality of the profiles and the number of crime-scene samples entered on the database. If the right individuals are on the database and crime scenes are attended assiduously there should be a happy marriage between the two databases. Moreover, as has been evidenced, the New Zealand Police struggle to cope with the results they receive from the ESR. If the database were to be increased, how would the police cope with the potential new work load?

#### **7.4 Discussion**

This chapter has examined how the participants perceive the use of DNA in their day-to-day policing. They were asked to explain their views on DNA use and to clarify their beliefs. The participants all value DNA as a useful tool for investigating crime and this has been well established in the previous two chapters. Some of those interviewed stated that DNA should be used for all crimes and as often as possible. This view was justified by some participants to mean that DNA samples should be taken from all people arrested as well as searching for DNA at all crime scenes. While there was an acknowledgement of budgets and resourcing issues there was a feeling that this is not reason enough to prioritise cases where DNA will be used. Some participants were frustrated by the fact that although all burglaries are attended this does not mean that all samples will be sent off for analysis. This tended to be true of vehicle crime where the cost of the investigation may well outweigh the cost of the items stolen. They raised concerns about the need for DNA to be presented at court as the public may well be expecting DNA evidence which, according to some of those interviewed, is another good reason to use DNA for all crime types. Another suggestion raised by some of the participants was that criminals were becoming smarter and the police should have more resources at their disposal to defeat them. One participant suggested that DNA was more reliable than the interviewing techniques employed by the police in the 1970s and 1980s. This interviewee suggested that the police would subject suspects to duress in order to extract confessions from them. He believed the use of DNA would eliminate this need as DNA was infallible and could identify suspects without question, although this does not mitigate the reasons for using violence to extract a confession from a suspect. This belief was probably based on the concept that DNA removes the ability

for the police to subvert the evidence yet research has shown that the application of the science of DNA can still be abused (DiFonzio, 2005; Schweitzer & Saks, 2006).

There is a clear mismatch between the idea of using DNA and the reality of dealing with the work load that occurs when hits are received from the ESR. It is obvious from the files that staff are not able to cope with the hits, especially in relation to volume crime. Yet those interviewed were keen for DNA to be used as much as possible, regardless of cost or time. Likewise, when questioned about the state of the current laws, at time of interview the majority of those interviewed believed that all who were arrested should have their DNA taken. Some of the participants believed that the bigger the database the more likely that offenders would be captured. However, the UK has the world's largest databank but it does not have the highest hit rate in the world. GeneWatch UK (2006) and Goulka et al (2010) would argue that it is not the number of profiles on the databank that make it a success but rather a combination of having a high attendance rate at crime scenes and the right DNA profiles on the database. New Zealand's hit rate is considered to be one of the highest in the world yet its database is nowhere near the size of the UK's (ESR, 2011a), further supporting the argument that it is not the size of the database that is important.

The question of privacy was addressed by many of those interviewed. It was acknowledged that if a person was not charged or acquitted their DNA should be destroyed just as it is for fingerprints and photographs. Of those interviewed, two participants stated that the Guthrie Test should be made available to the police, backed up with the potentially naive belief that only bad people need to be fearful. They did not take into consideration the impact this might have on children's health. These comments showed a lack of understanding of the opinion the public may have of the police.

In summation, the participants like the idea of being able to use DNA freely and at times feel hampered by the law. Almost all who were interviewed wanted some legal changes to make DNA easier to use. While most of the participants understood the need for privacy, the more radical ones could see no harm in using the Guthrie Test as a good databank for catching future criminals. The implications of using that databank in such a way would be significant for the health of newborns. There would also be considerable implications as to how the police would manage such information without abusing that power. The perceived legitimacy of the police would be more difficult to maintain, the governance of such a database would be extremely complex and quite beyond the police. It would need an independent body to oversee such an enterprise which would bring with it a whole new set of rules.



However, irrespective of the powers that the police currently have, it is still doubtful if the use of DNA evidence would be maximised. The previous amendments made to the DNA legislation do not appear to have made any improvements to the way police deal with the DNA hits. The participants are ready to identify the limitations of legislation, budget or resources but never comment on police behaviour and the restraints these cause. This entrenched behaviour and cultural views such as racial profiling and an absolute belief that police would never misuse a power are not unsurprising responses from police officers who quite possibly would not realise what they were doing, other than trying to catch offenders. The views expressed by the participants suggest that time should be spent by the police improving their current processes in managing DNA intelligence links to maximise the DNA technology and legislation that they do have.

The following chapter seeks to explain why police deal with DNA technology in the manner that they do as evidenced by the previous four chapters. The chapter will articulate police culture as adapted by Chan's 'theory' of field and habitus of policing and how this affects their (the police) ability to successfully implement new technology.

## Chapter 8: Field and Habitus of Policing

### 8.0 Introduction and Setting DNA in Frame of other Technologies

This chapter discusses how police introduce new technology to their work environment and what influences the successful application of this technology. It will be examined from the theoretical perspective of Chan's (2001) adaptation of Bourdieu's *Field and Habitus*. Chan refers to this as the field and habitus of policing, a theoretical construct that will be referred to throughout this thesis. For this reason, Bourdieu's further concepts on social, cultural and symbolic capital are not explored in any detail. Chan's work on the field and habitus is used to illustrate the reasons why police culture may inhibit the organisation's ability to implement change and therefore maximise the use of new technology. Some of the examples given in this chapter have been chosen to describe the history of previous attempts to introduce new technology into the police. These examples illustrate how the police manage these changes and whether a reluctance to change is part of the culture or based on previous negative experiences. Although the research is specific to DNA technology, understanding how any technology is greeted by the police enables the research findings to be put into context. Therefore this chapter also reviews studies of the impact of DNA technology on staff after the history of other new technologies and the police have been traversed.

In line with the field and habitus of policing, this chapter will also examine police culture as any changes made to the working landscape (field) of the police has an impact and it is the culture (habitus) of the police which will enable or disable these changes. An important consideration for the police when making any changes to its working practices is how the public perceive their legitimate application of this technology. This is especially so if new legislation has been created to support these changes and if this legislation has an impact on the rights or freedom of individuals. For this reason this chapter will also review police legitimacy with examples pertinent to the New Zealand Police which may have eroded the police's legitimacy in the eyes of certain sections of society. Likewise the recent European Court ruling in *R vs Marper and S* is examined at length as this legal outcome called into question how the largest database in the world was being managed. This ruling could have implications for the management of all databases and highlights the importance of the legitimate use of these databases by the police.

### **8.1 Field and Habitus of Policing and Police Culture: Conceptual Framework**

The police have a working culture. There are a variety of terms for this culture, including “cop culture” (Reiner 1992), “canteen culture” or “canteen talk” (Waddington, 1999a) and “working personality” (Skolnick, 1966). However, there is an acknowledged difference between cop culture which is the actual behaviour of the police and canteen culture which tends to be where police vent their more extreme views (Reiner, 2010). According to Waddington (1999a) this canteen talk – the banter amongst police officers where only their peers are present – is merely an oral tradition which does not always translate into behaviour on the street. Waddington (1999a) believes that these views are mainstream, functional aspects of police life and are not to be considered deviant or bad. Traditionally, when commentators talk about police culture the term is used in a negative sense as if everything that is bad about the police is due to its culture (Crank, 2004; Chan, 1996; Prenzler, 1997). That being said, there are two negative aspects of police culture that will be addressed in this section: racism and sexism. Although these topics are not central to the research, it would be remiss not to devote the following two paragraphs to them as allegations of racism and sexism have been levelled at the police (see Chapter 3 section 3.1.2), and these allegations impact on its ability to appear legitimate in the eyes of the public.

Much has been written on racism within the police (see Black, 1970; Crank, 2004; Scarman, 1981; Skolnick, 1966; Reiner, 2010; Reiss, 1980) and it is not intended to conduct an exhaustive review of the relevant literature here. This paragraph is to acknowledge the long-recognised phenomenon of racism within the police and the implications this has when the police attempt to legitimately apply new technology to a wary public. This is particularly valid when one of the participants in this research admitted to racial profiling when identifying persons from whom to take DNA samples (see Chapter 5 section 5.2). The concerns raised by commentators in New Zealand (Katene, 2009) quote the numbers of ethnic minorities and indigenous peoples over-represented on DNA databases. These concerns are based on a negative history with several significant public-disorder events being attributed to heavy-handed policing tactics aimed at ethnic minorities. One example is the Brixton riots in London in 1981. Lord Scarman’s report (1981) on these riots highlights a breakdown in communication between the community and the police as being one of several causes of the riot (Ackroyd, 1993; Hough, 2007; Reiner, 1985). Brixton had a large ethnic

community and this group felt they were unfairly treated by the police, especially during stop-and-search procedures. In 1981 the police were using a law dating back to 1824 to justify their right to stop and search people. This law was referred to colloquially as the "sus" law as anyone could be stopped and searched by the police if it was suspected they might be planning to commit a crime (John, 2006). The Metropolitan Police accounted for 55% of the UK's sus charges in 1976, yet London accounted for only 15% of the population. Of the arrests made under the sus law, 42% of those arrested were black, as opposed to 12% of all arrests (Open University, 2009). Another significant event was the death in 1992 of Stephen Lawrence, a black teenager from South London, and the subsequent mishandling of his homicide investigation by the police. One of the outcomes of the ensuing inquiry was that police were said to be institutionally racist. In his 1999 report, Sir William McPherson stated that the Metropolitan Police Service had failed to properly investigate the death of Stephen Lawrence because of the colour of his skin. He attributed this to institutional racism whereby an organisation would discriminate through unwitting prejudice, ignorance and racist stereotyping (McPherson, 1999). This is as a result of entrenched views, attitudes and behaviour and this culture can be applied to all aspects of policing, for example when dealing with new ideas or changes to their working environment. The public perception of the police being a racist and sexist institution will have consequences when legitimacy is in question. This type of institutionalised behaviour could be carried over into sexist behaviour which is discussed in the next paragraph.

The very nature of police work attracts a certain type of person (Reiner, 2010). This person, usually a male, will enjoy the exciting aspect of police work, of catching the bad guys and keeping the streets safe. For this reason, policemen have a reputation for machismo (having a strong or aggressive masculine pride) (Fielding, 1994; Frewin & Tuffin, 1998; Smith & Gray, 1985). As a consequence the police are seen as a macho organisation and not necessarily a conducive environment for women to be accepted into on equitable terms (Fielding, 1994). The use of force is seen as a requirement for all policing institutions as a means of upholding the law. Therefore this work is seen as being physically unsuitable for women as they are perceived by police culture to be weaker than men (Fielding, 1994). Linked with this view is the manner in which crimes against women have traditionally been investigated by the police

(Westmarland, 2008). The now infamous documentary on Thames Valley Police dealing with a rape victim has become mandatory viewing on how not to deal with a victim of any crime. This documentary was aired in 1982, much to the embarrassment of the police, and resulted in many reviews on police handling of sexual-assault victims (Mesure & Hamilton, 2012). Yet the percentage of reported rapes in the UK which resulted in a prosecution in 2012/13 was 11% (Morris, 2013), suggesting that the investigation and prosecution of sexual offences against women was still problematic. Jordan (2004) suggests that these figures will not improve until the police change the way in which they view women, which historically has been with distrust. A mindset of stereotypical assumptions and being offender focused has prevented any discernible change to the way in which female victims of sexual offending are handled. Any unit that investigates crimes against women and children is invariably staffed by women police officers as, anecdotally, male officers do not consider the work “sexy” and the organisation does not appear to place any kudos on this work. These views can make a difficult work environment for women and impact on the service offered to women victims of crime (Westmarland, 2008).

It is this same culture which provides the glue that keeps police officers doing what they do, good and bad. Waddington (1999a) states that “no culture is free standing: police sub-culture does not just exist, but exists for a reason” (p.295) From a New Zealand perspective van der Hayden (1997) identifies that some of the policing symbols, ideology, values and assumptions create ‘organisational cohesiveness’ (1997, p.6). These are useful ‘anchors’ and enable the police to do what they do often in trying circumstances. However, he suggests that the while the police need to change its organisational culture in order to offer the best service to the public, the trick is identifying which of these anchors are valuable and which are not. Skolnick’s view of “working personality” was as a result of interviewing police and criminals as well as spending time with detectives, including observing investigative interviews conducted by them. Reiner’s (1992, 2010) views are based, inter alia, on analysis of media and social reactions to police behaviour. Indeed, there are so many studies on police culture that there is room for only a selected few to be mentioned in this work.

Reiner (2010) identified four themes in policing: mission, action, cynicism and pessimism. This mission is exciting and action-oriented and involves catching the bad

guys and locking them up or punishing them. Cynicism and pessimism may manifest themselves in officers after the reality of police work is realised. Reiner (2010) posits that many police officers join the police as they believe victims of crime are at the centre of policing, thus making the work seem worthwhile. However, this supposes that police officers consider being victim focused as exciting. The reality, of course, is that the majority of policing is mundane and pedestrian (Waddington, 1999b). A great deal of police time is spent on paperwork and work that is more akin to social work as often when no one else is able to deal with it is the police who are left to clean up (Skolnick, 1966; Waddington, 1999b; Westmarland, 2008). Therefore the reality of policing can sometimes trigger cynicism and pessimism in police officers (Reiner, 2010; Vick, 1981.) The reaction of individual officers to this reality would depend on what drove them to join the police in the first place. If they were drawn to the mission and the action but discover that this is not the mainstay of policing they may struggle. Police culture can be a support system for these officers. The so-called canteen culture is where the talking is done, the job talked up or exaggerated, and is its own therapy session where a hard day can be excised. Waddington (1999a) refers to this as the "repair shop" of policing (p.295). The research that was conducted on canteen culture identified that what was said in the canteen did not necessarily translate into what was actually done on the streets (Policy Studies Institute, 1983; Reiner, 2010; Waddington, 1999a). This reinforces Waddington's belief that the views expressed in the canteen were a way for the officers to vent and not necessarily an expression of any strong beliefs – in short a way of combating pessimism. However, Chan's paper is a re-conceptualising of police culture, drawing on Bourdieu's field and habitus and focusing on resistance to cultural change which may be influenced by this pessimism.

Chan's view of the field and habitus of policing is that when new recruits join the police they enter the organisation with their personal views of the world already formed, based on their life experiences. This is their habitus. When they first join an organisation such as the police with its own culture, they can initially feel like a fish out of water (Chan, 2004). In order to be socialised into this new environment they adopt the values of the police so as to fit in and be accepted by their peers. They need to adapt to fit a police role so they conform to become part of the team (Frewin & Tuffin, 1998). After a time they become comfortable in their environment and are accepted as being part of the team. This becomes their field (working environment) and (reworked) habitus (culture).

When the police make changes that affect the working practices (or the field) of the organisation, staff who have worked in that environment for some time and have formed their culture based on the old habitus may struggle to cope (Chan, 2004). Therefore, understanding what happens to the workplace when new technology and new processes/procedures are introduced is helpful in establishing what makes this change effective.

Chan proposes that a useful way to conceptualise technological change is to examine its relationship to the field and habitus of policing. Bourdieu (1930-2002) describes a field as a system of social positions. These are semi-autonomous, structured, social spaces characterised by discourse and social activity (Bourdieu & Wacquant, 1992). He states that all human action takes place within social fields which are arenas for the struggle of resources. Habitus is the means by which the "social game" is inscribed in biological individuals; that is habitus is adopted through upbringing and education (Woolfreys, 2000). Bourdieu posited that "capital" was an index of social power and that within "fields" people tried to distinguish themselves from others by acquiring capital. This capital could be represented by position and power: for example, money and property or "symbolic cultural capital" (Carrington & Allan, 1997). In the context of policing, capital and symbolism could be described as officers gaining promotion (or working their way up the ranks), giving them power over other staff. The symbol of this power is displayed by the insignia on their uniforms.

Chan adapts Bourdieu's perspective that changes in the social game (field) would create new necessities that might require the creation of new (cultural) strategies (habitus) for coping (Bourdieu & Wacquant, 1992). Chan argues that the new computer technology has fundamentally altered the field of policing through the various resources (capital) it provided and the constraints (necessities) it imposed on police work. The research shows that information technology can be less effective than one would hope (Manning, 1992) or highly successful (Harper, 1991). Several studies have looked at police interaction with new technologies and officers' acceptance of/resistance to these new processes (Chan, 2001; Chan, 2003; Chan et al, 2001; Davis, 1989; Colvin & Goh, 2005; Nunn, 2001a). Research has shown that understanding the impact of technology on the police might explain why it was either accepted or rejected by officers (Manning, 1992; Smith, Caputi & Rawstorne, 2000). However, in adopting Chan's view of the

field, coping strategies need to be in place for officers to accept technology. These coping strategies may involve communication, training and a collective understanding and acceptance as to why these innovations are required. This method may prove more successful than crossing fingers and hoping for the best.

Chan's focus on the field and habitus of policing examines how police staff manage change (Chan, 2004). For the purpose of this research, the researcher has adapted Chan's use of field and habitus to focus on what happens when the field changes and established police officers are unable to adapt their habitus to cope with this change. They are comfortable with what they know and will accept new technology only as long as they do not need to alter their behaviour. As argued by Hovarth, Meesig and Lee:

"In many fundamental respects, the police criminal investigation process has remained relatively unaffected by the significant changes that have occurred in policing, the crime problem and technology in the past 30 years (2001 p.5)"

These findings from their 2001 national survey (United States) of police policies and practices confirm that the police do not like nor do they manage change well and their way of managing this change is to adopt the technology and not change their processes. This behaviour can be seen in the data gathered for this research from the subject district and is fully explained in Chapters 4 - 7.

The next paragraphs look at the history of the police adoption of new technology, why this technology was needed and what the outcomes of these innovations were for the police and society. Technology is broken down into two groups: information technology or IT; and technology in general. IT is given its own group as it has a very specific role to play and is often seen as a management tool rather than a technology that will assist the police to investigate crime.

## **8.2 Technology**

Technology has been used in the criminal justice system since the 19<sup>th</sup> century. The introduction of fingerprinting, wireless communication, the motor car and other devices have long since become accepted practice and therefore mundane (Grabosky, 1998). Notable technological changes first began when officers moved from walking the beat



into patrol cars. This benefit of police being mobile was that officers could reach the scene of an incident quickly and have a more effective coverage of the area (Uchida, 2004). In 1929 when radios were put into police cars in the US it was believed by some that by that one simple act all crime would be eliminated (Kelling, 1978). The radio also meant better supervision of the officers by their sergeants (Uchida, 2004), which meant greater accountability to their senior officers. Personal radios were seen as a safety measure for officers as well as making them more effective (Kelling, 1978). Other innovations such as helicopters, computer-aided dispatch, radios and surveillance equipment were all seen to help the functioning of the police (Chan, 2001; Colton, 1973; Uchida, 2004). The idea that the telegraph, telephones and radios would speed up the flow of information and therefore make the police more efficient has been a long-held wish by those advocating such innovations (Benoit, 2001). Likewise the introduction of computer-aided dispatch (CAD) would improve the gathering and dissemination of information and enable the police to be more methodical in responding to calls for service (Colton, 1973).

Manning (2001), however, does not believe that the introduction of technology or even information technology has done much to enhance the effectiveness of the police. He states that in spite of all the technological innovations introduced to the police in the US, they have spent most money on just two technologies: weapons and transport. Manning (2001) posits that it is a combination of technology and techniques such as crime mapping and crime analysis that are greater innovations in policing rather than pure technology. He argues that the police cannot hope to control crime and reduce the fear of crime while being almost entirely responsive and demand-driven (Manning, 2001, p.101). Manning's arguments are based on six years of observational studies on three US police departments and two British constabularies. His findings were that despite the many sophisticated technologies employed by the police to be more precise when combating crime, the results were not as impressive as they should have been. Police practices did not appear to change with the introduction of new technology but instead seemed to reproduce already entrenched behaviour.

It is understandable that the police would wish to be innovative and try to compete with criminals on more even terms (Kelling, 1978; Nunn, 2001b), hence the continual introduction of technology. All these innovations were to make the police more efficient at the prevention of crime (Innes, Fielding & Cope, 2005) by the identifying, arrest and

prosecution of offenders. Although as stated above, Manning (2001) did not accept that technology had made the police any more effective. According to Chan (2001), technology has historically revolutionised police practices and certainly with the advent of cars and radios it was believed that the police were modernising. However, Kelling (1978) suggests that there was no evidence to suggest that any technological devices (cars or radios) had significantly improved the effectiveness of the police service. In fact, he suggested that these new technologies were moving the police away from the public who continued to exhibit fears about crime. He argued that the police fulfilled many functions and with the continued introduction of technology they were focusing on only one aspect of their role. The practice of putting officers in patrol cars rather than having them walking the beat was one such example (Kelling, 1978). This use of patrol cars has produced a “mutual withdrawal – the police from the citizens and the citizens from the police” (Kelling, 1978 p. 177). Further to this, the way police gather, analyse and disseminate this information is dependent on information technology. If technology were to further distance the police from the community, then the information that the police could receive from the public might be lost. However, the application of information technology was to have a completely different effect on the police.

### **8.2.1 Information Technology**

All of the above innovations were implemented in order to catch offenders or to prevent crime but police reformers in the 20th century had hoped that police work and police management would become more scientific (Manning 1992). No doubt the scientific approach would provide more tangible results, backed up with solid methodology rather than the usual anecdotal evidence to promote the success of the police. With the public having easier access to the police via the telephone and computer-aided dispatch, their expectations of the police became greater (Uchida, 2004). The police were now mobile and were able to provide more efficient coverage and quicker responses to calls for service (Uchida, 2004) which increased their workload and motivated them to look for technological solutions (Manning, 1992; Walsh, W, 2001). The idea of using computers to streamline work practices was taken up by the majority of jurisdictions to enable them to make better use of their limited resources. This introduction of new technology would have an impact on the culture of the police.

When new technology is introduced to any organisation, there will be an impact on the working culture of that group. Manning (1992) suggests that new technology is a part of

any social organisation and, although this technology can change organisations, can it also be shaped by them. Technology may be accepted in its purest form or, depending on the organisation, it may well be altered (or ignored completely) to fit in with that culture (Innes, Fielding & Cope, 2005). For example, understanding why people accept or reject computers has been one of the most challenging issues in information systems research (Smith, Caputi, & Rawstorne, 2000). The police may also have decided to introduce information technology in order to make themselves look good. It might give them the pretence of looking professional and progressive without actually making any changes to their work practices (Dixon, 1998; Willis, Mastrofski & Weisburd, 2007). The use of computer technology to report, monitor and even solve crime has been introduced for a variety of reasons. Arguably computers have been introduced purely for administration purposes and as a means of monitoring the work of the police rather than as a tool to help them be more effective (Manning, 1996). The data gathered by the police and other public agencies is also used as a way of being more accountable to the public in that it quantifies the work that is done by individual agencies (Manning, 2001).

A large part of police work has been to accumulate information, directly or indirectly through their work. Many police personnel are employed solely to collate data as a by-product of their work in strategic planning offices, media liaison, quality assurance teams and intelligence units (Sheptycki, 1998). Ericson (1994) refers to the police as "knowledge workers" or "knowledge brokers" as they collect a large amount of data that is of use to other agencies. This information can include crash data to interested parties or crime statistics and victim data to agreed government departments. The collection and dissemination of this data can be time-consuming and cause frustration among officers as they do not believe they should be collecting such data purely for outside agencies (Chan, 2003). They do not consider this to be their core business and yet they are spending more time on this work than on enforcing the law (Ericson, 1994; Haggerty & Ericson, 1999; Sheptycki, 1998). These constraints on police time are governed by legislation under which the police are legally required to provide this information (Chan, Brereton, Legosz, & Doran, 2001).

A key difference for the police between technology and information technology is their perception of their roles and therefore their acceptance of them. If the technology introduced will support their action-oriented view of policing, such as weapons, cars, radios and CCTV, these will be more readily accepted. However, if the new technology

is to monitor performance or used as a tool to measure accountability, there is less enthusiasm for such tools.

### **8.3 Intelligence-led Policing – A Case Study of IT**

Intelligence-led policing is an example of the police trying to maximise the benefits of using computers to gather and analyse information in order to direct patrols to be where they are likely to have the greatest impact.

In modern times the police have embraced new technology as a way of enhancing, legitimising and quantifying their efficiency (Manning, 1996; Walsh, 2001). It was believed that information technology would be as readily accepted by the police as other technology had been (Chan, 2001). However, information technology (e.g. computers) required a greater change to working practices and the police culture. In 1993 the Audit Commission in the UK published a report, *Helping with Enquiries*, about crime statistics in the UK. Heaton (2000) describes this report as path-breaking as it was the first time that such a report sought to influence police operational activity. The report was timely as, despite an increase in government spending on policing which augmented the number of officers employed, recorded crime had continued to rise. This suggested that the police were not able to make an impact on crime by using conventional methods such as random foot and car patrols which were of little or no value in crime deterrence (Heaton, 2000; Loader, 1997). The Audit Commission promoted the concept of intelligence-led policing to tackle and incapacitate recidivist offenders (Heaton, 2000). The report revealed that a small number of people were responsible for a large number of crimes, referred to as volume crime. It was suggested that if the police targeted this group they might have an impact on crime (Heaton, 2000). This innovation was considered important enough for the British Government to enact legislation requiring every police force to adopt the National Intelligence Model (Ratcliffe, 2003). The aim of intelligence-led policing was: 1) targeting offenders, 2) management of crime, 3) investigation of linked series of crimes, 4) application of preventative measures (Ratcliffe, 2003).

However, translation into reality has difficulties. To make good use of this information requires trained data analysts but the appropriate analytical training is often not provided and staff are not given any clear definition of what is required (Radcliffe,

2003). As a result no changes are made and the same business practices prevail – but under a new name (Ratcliffe, 2003). The effective use of intelligence-led policing requires the analysts to understand the data and disseminate it to the front line. In a study conducted by Cope (2004), staff who worked in intelligence units in an urban and a county force in England were interviewed. The staff consisted of both police officers and civilians who were in the majority. The civilian analysts felt that they did not have the legitimacy of the sworn analysts when they were passing on their information to police officers. They felt that they lacked credibility in the eyes of the officers and so their information also lacked credibility. Cope found that in-depth analysis of the data was rare as the staff lacked training and ability. Analysts were often working with only half of the data because of a lack of information. Officers questioned the quality of the data going into the computer, clearly forgetting that they were the ones supplying the bulk of this information. Front-line officers were an integral source of quality information but their reluctance to share this information meant that potentially excellent intelligence was not passed on. Information is a source of power and information technology can lead to power struggles (Chan, 2001). The front-line officers had power over the analysts and they were unable to see that their attitude had repercussions for the entire organisation. This meant that intelligence-led policing was not being utilised to achieve maximum results. Analysts were constrained by the traditional, rigid policing methods and the need- to-know culture of the police where officers share knowledge with their colleagues only if they believe it is essential (Ericson & Haggerty, 1997).

Unfortunately, intelligence-led policing has also been linked to quality assurance analysis which sometimes confuses the work of analysts and causes good intelligence to become lost in a surfeit of information (Ratcliffe, 2003). This is likely to occur when senior managers confuse the roles of intelligence analysts with performance analysts. They use intelligence gathering as performance indicators and absorb their time with managerial issues, neglecting the purpose for which they were employed. Intelligence-led policing was instigated to identify recidivist offenders and then target them as a means of reducing crime rates. But, as in any other organisation, the police can sometimes get caught up in bureaucracy and lose sight of their primary objectives (Goldstein, 1979). There can also be a disconnection between the “street cop” and the “management cop” where the street cop believes that decisions on what the police

should be doing are made by police officers who have forgotten what it is like to be on the front line (Reuss-Ianni 1983). Anecdotally, the headquarters of the New Zealand Police is referred to by front-line staff as “bullshit castle”, further supporting this claim by Reuss-Ianni

When implementing big changes in an organisation such as the police, sound strategies need to be in place to utilise technology. Strategies need to take into consideration the capacity for the police subculture to subvert change (Chan 1997; Mastrofski & Uchida, 1993). What is required is a fully thought out strategic plan that defines the expectations of the organisation and gives the staff the tools required to make the most of the technology. If this support is not there the technology can quickly become underused, redundant or even an irritant due to the amount of work it can cause. Likewise if the organisation does not manage this change well, the new technology may not be fully utilised but rather is there in name only. They may change the name and say the technology is being fully utilised but make no effort to change the processes so that the new technology does not yield any benefits. If the officers think that the organisation is changing too fast they may feel as if they no longer fit within it and they may then leave or become disgruntled with their jobs (Chan, 2007). The past experience of officers can also be a reason why new technology is treated with suspicion. Information technology and forensic technology are both required if they are to be successful. The difficulty is that the police want the technology but they do not want or may not have the ability to make the changes required to maximise the benefits. The police have a clear command structure and guidance on how new technology will be introduced comes from the executive. If it is unable to convince staff to use this technology then some of the blame must be leveled at it. If clear guidelines are in place, backed up by the correct technological support and the appropriate consultation, there is no excuse for the police not to make effective use of DNA technology to investigate crime. Combined with the effective use of DNA technology is the need for the police to be seen to be applying this technology legitimately.

#### **8.4 Organisational Legitimacy**

Authority, power and domination are relevant to organisations which in order to be effective also need legitimacy. The level of legitimacy will differ depending on the organisation.

Legitimacy is a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions (Suchman, 1995, p.574).

Suchman's definition of legitimacy, as seen above, gives a wide view of legitimacy in that it can be different things to different people, depending on their perceptions and assumptions. Legitimacy is a means of justification (Maurer, 1971) in that an organisation justifies itself to its peers or superiors, or cultural conformity (Dowling & Pfeffer, 1975; Pfeffer, 1981; Pfeffer & Selancik, 1978) rather than overt self-justification. Dowling and Pfeffer (1975) wrote that organisations wanted to be accepted by society and achieved this by aligning their values with the acceptable norms of society. This suggests that organisations legitimate themselves by conforming to accepted norms or it could be that organisations are established within existing norms and values because that is all they know. This may be why a certain type of person is attracted to a certain organisation (such as the police) as they are able to relate to the existing norms and values of that organisation. However, Suchman (1995) goes on to say that organisations seek legitimacy for a variety of reasons and the effectiveness of legitimisation efforts may depend on the goals and objectives against which these efforts are measured. Suchman (1995) argues that legitimacy enhances both the stability and the comprehensibility of organisational activities. If people understand what an organisation does and why it does it they are more inclined to support it. Likewise, if the subordinates within an organisation understand what they do and why, they are more informed about their work and are able to contextualise what they do. Legitimacy leads to persistence and people are more inclined to supply resources to an organisation that appears to be desirable, proper or appropriate (Parsons, 1960). Not only does legitimacy affect how people act towards the organisation but it also affects their understanding of it. People will perceive a legitimate organisation as more trustworthy if they know what that organisation is doing and why. This can be achieved only if that organisation is accountable in some way for illustrating what they do and why, that is to have a rationale for their actions. Suchman (1995) also refers to an organisation seeking "active support" or "merely passive acquiescence". The distinction is that if an organisation has no reliance on the public and prefers to have as little outside interference as possible, the threshold of legitimisation may be quite low. However, an organisation that is dependant or answerable to a particular audience would have a much higher threshold of legitimisation. The police would fall into the latter category.

#### **8.4.1 Police Legitimacy**

Active support from the public is of great importance to a police organisation. The police rely on the public to provide them with information in order to help them prevent crime or catch offenders so it is easier to influence people if they can see it is to their benefit. People give the police power over them by expecting and wanting the police to enforce legislation which will keep them safe. However, Weber (1968) suggests that people obey the rules voluntarily as it is in their interests to do so. They are willing to hand over this power to the police if the police are accepted as being a legitimate organisation. Being legitimate enables organisations and authorities to be more successful without the need to resort to the threat of force (Tyler, 2006a). Another reason why people obey the laws is that it is the right thing to do morally. Hinds and Murphy (2007) suggest that people defer to and obey legitimate institutions, not because of fear of sanctions, but because they respect the institution's authority. Legitimacy is one of a number of ways to validate this control of behaviour (Smith, 2007). Therefore the police need the support of the public if they are to be effective in their work (Tyler, 2004; Hinds & Murphy, 2007). This support can be as simple as obeying a traffic direction or passing vital information to the police regarding criminal activity. The work of the police is much easier if the public voluntarily defer to their position of authority and this deference is linked to the perceived legitimacy of the police. One reason for the public's deference is that they see the police as being a legitimate authority and are therefore entitled to be obeyed (Tyler, 2004; Sunshine & Tyler, 2003). This motivation to obey the law is distinct from the belief that one is likely to be caught and punished for breaking the law (Tyler, 1990).

The public judge police legitimacy by the way they exercise their authority and these assessments are separate from their perceived effectiveness in fighting crime (Tyler, 2004). Procedural-justice judgments feature heavily in the public perception of police legitimacy in the US. Smith (2007) posits that people will more readily accept the authority as legitimate if they believe that they are being treated fairly. Tyler (2006b) writes that police and courts should focus on following fair procedures in the judicial system rather than attempting to deliver outcomes such as the punishment of offenders or crime control. Research has shown that legitimacy is a social value and that people's support for the police is distinct from police performance (see Sunshine & Tyler, 2003). This indicates that police have more control over how they treat people than they do



over the crime rate (Sunshine & Tyler, 2003). By regulating their behaviour, the police can engender support and trust from the community and be seen to be more effective in their work. Smith (2007), however, makes a valid point when talking about the research completed regarding police legitimacy in the US. The research has been interpreted as showing that experience of the police behaving fairly strengthens belief in the legitimacy of their authority. He goes on to say that fair treatment has more influence than the result favouring the person concerned. The far-reaching conclusion of this research is that authorities gain cooperation not primarily by achieving outcomes that benefit the community (such as lowering crime rates or through fear of punishment) but by following procedures that are experienced as being fair. Smith (2007) adds caution to these conclusions by saying the scope of the US procedural justice is limited and it does not follow that procedural fairness is the sole or central foundation of legitimacy in all societies at all stages of development. That being so, research in the US completed by Tyler and Sunshine (2003) supported the argument that legitimacy is a social value distinct from performance evaluations. It may well have been that operating to maximise these performance measures caused greater alienation between the police and the public. In asking for more powers, the police were arguing that they could reduce crime if only they were given more technology and more powers to allow this technology to be implemented. Yet if the technology or the powers were not managed well, this could cause greater deterioration in relations between the police and the public (Ackroyd, 1993). A lot of police work requires face-to-face interaction with the public and sometimes a dependence on technology keeps the police distant from the very public that they serve.

Every new law passed that may result in less freedom for citizens is going to cause fierce debate. The legitimacy of the organisation pursuing these law changes and enacting these laws is always going to be called into question. An example of this was in England and Wales with the introduction of the national DNA databank and the ever-increasing powers being given to the police. *The Police and Criminal Evidence Act* (PACE) 1984 gives the police in England, Wales and Northern Ireland their powers and also protects the rights of the population when dealing with the police. PACE covers all aspects of arrest, detention, identification, searching and the taking of intimate and non-intimate samples. With the creation of the national DNA databank in the UK in 1995, PACE was amended to give the police powers to obtain and retain DNA samples but

with strict conditions. The existing requirements for fingerprints and photographs to be destroyed as soon as practicable after a person was acquitted or the decision not to prosecute was made would be the same for DNA samples. In addition, any information collected from these samples could not be used in evidence or for the investigation of any other offence. The premise was that the rights of the individual were protected and their DNA profile could not be used in any subsequent proceedings against them. Two high-profile cases caused this law to be changed. One case related to the rape of an elderly woman. DNA identified the offender and he was charged with the rape. At his trial his barrister successfully argued that the police retained his client's DNA sample when it should have been destroyed as he was acquitted for the offences in which his DNA was taken. This made the current DNA evidence inadmissible. The second case related to a murder and, as in the first case, the DNA was retained when it should have been destroyed. The individual had his murder conviction quashed on appeal as the DNA evidence was ruled inadmissible (Higgins & Tatham, 2009). In response to these two cases, Section 64 of PACE was amended to allow the retention of fingerprints and DNA samples of those subsequently acquitted or where proceedings had been discontinued.<sup>22</sup> The importance of this law change was that DNA taken from someone who had been in custody could be used in subsequent proceedings or investigations. However, the difficulty of this law change was that Section 64 would be at odds with Article 8(1) of the European Convention on Human Rights which provides: "Everybody has the right to respect for his private and family life, his home and his correspondence" (Council of Europe, 1950). As is the practice in the UK, when all legal recourse there has been exhausted, the fight is taken to the European Court of Human Rights (ECHR). Two such cases followed this course of action which would challenge Section 64 of PACE.

#### **8.4.2 S and Marper v. the United Kingdom**

On 19<sup>th</sup> January 2001 an 11-year-old boy was arrested and charged with attempted robbery. Due to his age he could be referred to in public only as "S" to protect his privacy. His fingerprints and a DNA sample were taken. He did not have any previous convictions, cautions or warnings. On 14<sup>th</sup> June 2001 he was cleared of the offence. On 13<sup>th</sup> March 2001, Marper was arrested and charged with harassment of his partner. His

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<sup>22</sup> The Chief Constable could agree to destroy them in exceptional circumstances.

fingerprints and a DNA sample were taken. Prior to the case coming to trial, his partner decided to withdraw her allegation as they had worked through their differences and were now reconciled. On 14<sup>th</sup> June the case was formally discontinued. Solicitors for both the accused wrote to the Chief Constable of West Yorkshire asking that the fingerprints and DNA samples be destroyed. The Chief Constable refused as the *Criminal Justice and Police Act* 2001 allows the police to take and retain indefinitely, without consent, fingerprints and DNA samples from a person of any age who has been arrested in connection with a “recordable” offence (Hepple, 2009). As a result a judicial review was requested by the solicitors of both the accused, stating that the powers under which they were retained were incompatible with Articles 8(1) and 14 of the European Convention. Article 14 provides as follows:

The enjoyment of the rights and freedoms set forth in this Convention shall be secured without discrimination on any ground such as sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status (Council of Europe, 1950).

This Article is not a free-standing right but depends on the engagement or breach of another Convention right (Higgins & Tatham, 2009). The cases went to the Divisional Court, the Court of Appeal and finally the House of Lords. The Divisional Court dismissed the applications as it felt that Article 8 had not been breached as the “interference was in accordance with law and necessary in a democratic society for the prevention of crime” (Higgins & Tatham 2009, p.210). The Court of Appeal agreed with the Divisional Court, saying that although the retention of the samples breached Article 8(1) it was justified by Article 8(2) which states:

There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others (Council of Europe, 1950).

The Court of Appeal identified “that the adverse consequences to the individual were proportionate to the benefit to the public and the successful prosecution and prevention of crime” (Higgins & Tatham, 2009, p. 211). The House of Lords also dismissed the appeal saying that merely retaining the fingerprints and DNA samples did not constitute an interference with respect for private life. Furthermore, they stated that if there was

interference under Article 8(2) it was justified on the grounds of prevention of crime. One dissenter, Baroness Richmond, felt that retaining the fingerprints and samples did constitute interference but that there were justifications in both these cases to do so.

In 2008 the Grand Chamber of the European Court of Human Rights (ECHR) unanimously held that the practice in England, Wales and Northern Ireland of indefinitely retaining fingerprints and DNA samples and profiles of unconvicted persons without their consent was a violation of the right to private life guaranteed by Article 8 of the ECHR (Hepple, 2009). Clearly the ECHR took a different view from that of the English judiciary. The English judges agree that the use of DNA technology is a legitimate way to identify or exonerate offenders. They also believe that the larger the DNA database the more effective it will be, that any minor inconvenience to people is justified and that having one's DNA on a database causes no great shame (Hepple, 2009). The judges of the ECHR took issue with the retention of samples and data from people who had not been convicted of an offence and "that the potential incompatibility with respect to the existing retention provisions within PACE was their blanket and indiscriminate nature" (Higgins & Tatham, 2009 p.215). The conflict between the English court and the European court relates to whether the end justifies the means. All the English courts summed up their decisions by saying that the retention was necessary to prevent crime, protect the wellbeing of the country or that the public need outweighed the individual's rights. The European court disagreed with this, believing that the English legislation failed to "strike a balance between the competing public and private interests" (Hepple, 2009, p.256). Foster and Steventon (2009) argue that the English Government will need to formulate a legislative response to ensure that the detection and prosecution of crime is able to balance the privacy and fair-trial rights with the public interest (as discussed in Chapter 1.5). They also suggest that "the domestic courts may need to take a less deferential and more balanced approach in such cases" (p.217). According to the English judges, the science of DNA is legitimate and the law is legitimate but the ECHR argues that it is the application of the law that is not legitimate.

The UK Government will need to be very sure that the laws governing the taking and retaining of DNA samples are justified. This justification will need to be seen in the results, successes or effectiveness of the national DNA databank. GeneWatch UK (2010) accuses the government of misleading the public about the benefits of expanding

the national DNA databank which now includes the records of about one million people who have never been convicted of a crime. GeneWatch UK (2010) states that crimes brought to court following DNA matches have not increased since 2002/03 despite the DNA database more than doubling in size. Coupled with a judgment from the ECHR that criticises the laws, it may be more difficult to continue to convince the British public of the efficacy of such all-encompassing laws. The public may be even less inclined to support laws that allow the DNA sample of an 11-year-old boy never convicted of an offence to remain on a database. It is at this level that the police need to be sure that what they are doing has the support of the majority of the citizenry. By following this course of action the police are making their work more difficult. They can be seen as negligent, irrational or unnecessary if they lack acceptable legitimate accounts of their activities (Meyer & Rowan, 1991). In this case how do you persuade the citizenry that what you are doing is good for them if you cannot prove it? Moreover, what standard can the public expect from the police if they do not know what that standard should be?

## **8.5 Discussion**

Chan's adaptation of field and habitus was chosen as a theoretical framework for this thesis to explain the behaviour of the police when confronted with new technology. This framework has limitations in that it cannot explain each and every finding of the research. The culture (habitus) and the environment (field) have a role to play but this does not remove individual personalities, limited skill sets and personal accountability at all levels within the organisation. The organisation has a responsibility to provide the staff with the tools and training to do their job. However, individuals are responsible for their own performances and likewise those in positions of responsibility should be held accountable for their performance and the performance of their staff. This would include the attendance at training and the acknowledgement and application of national policies. It is also the case that differences between individuals and differences in the organisational structure will be mitigated by the overall police culture in that people do not work in a void. All individuals work within the New Zealand Police organisation which means they are part of the structures, they assist with the design and they perpetuate this culture. Therefore, for reasons already stated above, all the findings cannot be attributed to police culture but having an understanding of the role culture

plays within the Police and the limitations it may impose can assist with understanding the results.

This chapter has reviewed how historically the police have introduced technology to their organisation and for what reasons. It has also discussed what may impede its ability to successfully adopt new technologies. For example, police culture informs how the police will be able to adapt their processes to allow for new technologies (Chan, 2001; Chan, 2003). Linked to this is the police history of introducing new technology for a variety of reasons and, depending on what those reasons are, ensuring the success or failure of the introduction (Innes, Field & Cope, 2005). Therefore if the technology relates to something that the police believe is part of their core function, this will assist in the successful implementation of the technology. It is identifying this core function that may prove to be difficult as the police has a view of what its role is within society and at times the reality is that this may be more social worker (Skolnick, 1966; Waddington, 1999; Westmarland, 2008) than avenging angel, although the police would probably prefer the latter. The police create their own field well: their own niche within the overall field or working environment that is comfortable to them and allows them to continue with the same habitus or culture that they know. When changes are made that push them outside their usual frame of reference, the struggle to cope may lead to them reverting back to what they know. Therefore, what the technology is used for is a key to the level of enthusiasm with which it will be embraced (Chan, 2001, Chan, 2003, Chan et al, 2001; Davis, 1989; Colvin & Goh, 2005; Nunn, 2001a). If the technology supports action-oriented policing (new weapons, new cars, radios) it may be more readily accepted; however, if the technology is introduced to monitor performance the enthusiasm will lessen. The advent of DNA was readily accepted by the police as a great tool to solve crime but, in order for DNA to be used effectively, processes and procedures that the police are not traditionally fond of needed to be completed. If the field changes and it impacts on the habitus, the police will struggle to cope with DNA and its full benefits will never be realised. However, the police are not beyond change and, given the right strategies for coping, these changes can be effected.

Also discussed in this chapter has been the importance of police legitimacy which is paramount in the effectiveness and success of the police as they rely heavily on

information from the public to be able to do their job. In order to keep public support, the police need to behave in a manner that is acceptable to the community and this sets the outer limits. Research has shown that the public want to be treated fairly by the police (Hough, 2007; Sunshine & Tyler, 2003) and that they are more concerned with procedural fairness than the number of people arrested or convicted (Smith, 2007; Tyler, 2006). It is important to remember that what distinguishes the police from other state services is their power to use coercive force. The community needs to be able to supervise that use of force in order to be reassured that the police are being fair in the use of their power. Herbert (2006) posits that the police are willingly given this authority by the public so they can be protected from the less-savoury members of their community. In addition, the police do not have enough resources to actively police the entire community so they rely on citizens to provide them with information so that they can catch criminals or even prevent crime.

The successful integration of new technology depends on what changes are made to the police culture. There needs to be a real understanding of the environment as well as the attitudes. The police are capable of change if they are assisted through this transformation (Chan, 2010). If the organisational framework is established and there is support from supervisors, the culture will shift to accommodate the change. Chan agrees that the police are able to change but it is important when new technology is introduced that new frameworks are implemented to manage this change. These rules need to include the reason for the technology, what it will bring to the organisation, what it will bring to society and what it will bring to the officers. Only then will the police be able to legitimately make the best use of DNA technology to investigate crime.

The following chapter will provide the summation of this research. It reiterates the research question, picking out the key points to ensure the research question has been answered. The Discussion chapter provides updates to some themes that have been mentioned in the thesis as well as making recommendations for the police to improve its use of DNA technology to investigate crime. The chapter concludes with suggestions for future research.

## **Chapter 9: Discussion**

### **9.0 Introduction**

This research has answered the question "Does Police Culture Prevent the New Zealand Police from Making the Best Use of DNA Technology to Investigate Crime?" International literature confirms that DNA is an effective means by which to identify offenders and the police should make better use of it (see Dunsmuir et al, 2008; Goulka et al, 2010; McCulloch, 1996; Roman et al 2008; Smith & Flannigan, 2000; Tilly & Ford, 1996; Williams, 2004; Wilson et al, 2011). This research has uniquely added to the international literature through a New Zealand case study and the results of this study will be reviewed in this chapter. The thesis has looked at the police use of DNA technology using four key themes: the police use of technology, the organisational framework for the use of this technology, police culture (using the theoretical construct of Chan's "field and habitus" of policing) and the outer limits placed on the police by the public – legitimacy. These four key themes and their implications are summarised in this chapter.

As a starting point to the research, the New Zealand national DNA database was reviewed to establish if the police make use of the information stored there. However, the effectiveness of the database in itself was not within scope of the study. The achievements and weaknesses of the New Zealand database have been discussed in the thesis (see Chapters 1. Sections 1.4.1 and 1.10) as a means of giving context to this study. More importantly, the creation of this database for use by the police cannot be looked at in isolation as there are many implications for the police whenever any different technology is introduced to the organisation (Manning, 1992). Moreover, DNA has proven to be a very emotional subject and as a consequence the impact on the community cannot be underestimated (Kimmelman, 2000). The introduction of DNA evidence by the police has had implications for the government, the police and the community and it is essential that the issues raised by all parties involved are addressed. It is also important to look at how the police have historically introduced new technology, why there has been a need for this technology and the impact this implementation has had on the organisation. A key component of this is the resistance of police culture (habitus) to change when new technology is introduced.



Having an understanding of the impact of previous technological advances on the police may give a better insight as to why DNA technology may not be fully appreciated or maximised by staff. Likewise, it is also beneficial to understand the effect previous law changes have had on certain sections of society and why, as a consequence, they may be reluctant to embrace such changes. In this final chapter the main threads of the research presented in previous chapters will be discussed separately and then drawn together. Due to the dynamic nature of the subject topic there will also be comment made on some of the recent changes in legislation and processes within the New Zealand Police. At the end of this chapter there are recommendations about how the New Zealand Police could make better use of DNA by the tightening of processes employed in the application of DNA evidence. Considerations for future research are also made.

### **9.1 Explanation no. 1: Police Use of Technology and the Limitations to Use of DNA because of the Field and Habitus of Policing**

In answering the research question, one of the key issues to emerge was why the police continue to struggle when trying to effect change. This cultural resistance to change is at both middle-management and front-line level. A resistance to change can prevent the implementation of sound business practices. This leads to limited buy-in from staff as they do not perceive the value of this new technology (Chan, 1997; Mastrofski & Uchida, 1993). Throughout its history there have been changes in the police organisation for a variety of reasons. These range from purely budgetary considerations to a desire to modernise and, with the advances in technology to assist, to become an effective and modern police service (Chan, 2001; Colton, 1973; Innes et al, 2005; Manning, 1992). Even though the field the police inhabit may change (and has often done so) the habitus, which is their guiding rule, struggles to change and this may impede successful change management. It has been discussed at length in Chapter 8 that police culture should not always be considered a bad thing and according to Waddington (1999a) this culture exists to enable police officers to do their work. However, in this instance the focus is on how the culture can prevent the successful application of DNA technology.

The interview participants were of the opinion that DNA was a great tool, one of many that they could use to investigate crime. They did not believe that the police were resourced or trained well enough to make full use of the technology. They believed that

the legislation was complicated, resulting in paperwork that was too arduous to support the use of DNA. Another common theme was that the officers were too busy to interview suspects and needed to get back out on the streets. Whether they really were too busy or preferred to be out on the streets is debateable but certainly police do see being on the streets as "real policing" and exactly where they should be, not inside doing paperwork. The case files illustrated that it did not matter what legislation or training were available because the police still did not make use of DNA evidence and appeared to be content to close a file (stop working on it) even when the file contained a named suspect. What should happen is that such a file should not be closed until it has been resolved in some way. This highlights the difference of attitude between the police hierarchy or policy makers and the front-line staff who have a different view as to what they should be doing (Reuss-Ianni 1983). DNA is among many other tools available to them to investigate crime but while the police do have an organisational framework to ensure practices, processes and directives are in place to make the best use of this technology, this is no guarantee that staff will abide by these processes. This was evidenced by one participant in chapter 7, section 7.1 who said she did not agree with the initial policy regarding the taking of DNA samples so she ignored it. This was only one participant's view out of 28 but it is still worthy of note and not an uncommon phenomenon as research has shown (see Grant & Rowe, 2011 and Reuss-Ianni 1983). The police say that they are using DNA technology and have exploited some high-profile cases to hail its benefits, yet recent research has shown that greater success could be achieved if it is used well to investigate volume crime (Wilson et al., 2011; Roman et al., 2008). The high-profile cases reviewed in Chapters 1 sections 1.4.1 and 1.10. refer to serious crimes which interview participants already acknowledge receive more resources and therefore achieve greater success. However, it has been articulated by the interview participants that less resources are directed to the investigation of volume crime even with DNA technology. This is in spite of successive New Zealand governments promising more DNA legislation to assist police to investigate volume crime (see Chapter 1 section 1.5)

Why and how technology has been introduced into the police has implications for either its success or failure. Early technology was seen as a way of improving the service to the public as it would enable the police to respond to calls more quickly (Uchida, 2004). At a time when the police were unable to exactly account for their work, information

technology was seen as a way of monitoring the work of the police to ensure their accountability (Manning 1996). Overall there was a belief within the police that the introduction of information technology gave them a professional veneer, albeit at a superficial level. This introduction of technology, any technology, allowed them to pretend that they were making changes to their work practices (Dixon, 1998; Willis, Mastrofski & Weisburd, 2007). The police may be willing to make changes but preferably without making any changes to their methods of policing.

The police are action oriented and will accept the introduction of technology that will enable this style of policing. A technology budget that was mostly spent on weapons and transport may support this argument (Manning, 2001). However, the police appear uninterested in technology that will keep them from being on the street. The participants in this research have expressed the view that staff do not have the time to interview suspected burglars because they need to be back out on the street. Why they have this need has not been expressed but it may be that the desire is there rather than the need. Likewise, the organisational framework for the use of DNA technology has not been set up to encourage its effective use. The inability to embed organisational processes to enable efficient use of technology results in a reluctance by staff to change their behaviours. This may cause the police to revert back to old behaviours which in turn can result in the circumvention of any loosely applied new processes. This may be a subconscious reaction to continue to police in a certain fashion but can certainly be linked with the habitus of policing. Staff are comfortable working within an environment they know. If they are not given any guidelines to cope with changes to this environment they will struggle to use the new tools (Chan, 1997).

If the police struggle to make effective use of new technology, they appear to have even less interest in information technology. As discussed in Chapter 8 section 8.2.1, the advent of information technology meant that the police became information gatherers and found themselves in the frustrating position of gathering data for use by other agencies (Chan, 2003; Ericson, 1994; Manning, 2001). This was not the original plan for information technology. What began as a means of quantifying and managing their work quickly became subverted for other purposes which in some cases increased the work load of the police (Ericson, 1994; Haggerty & Ericson, 1999; Sheptycki, 1998). The potential for the police to use computer technology to gather intelligence and make

informed patrolling decisions has never been fully realised (Ratcliffe, 2003). The police find themselves in a difficult position: they want and need technology but other factors can impede their ability to successfully utilise this. At this point police culture can play a part in the successful application of new technology. If the right support and training are given to staff and processes put in place to encourage and enhance the technology, then it can be successful (Goulielmous, 2005; Small, 2000).

## **9.2 Explanation number 2: Police Legitimacy: Setting the Outer Limits: What the Thesis Can Tell About This Effect**

The relationship between the police and the community is symbiotic in that they should derive mutual benefits from each other. Generally, society will respect and value the police because they believe that the police will protect them from the bad elements of society (Herbert, 2006). However, there is also a desire from the community to be treated fairly and with respect by the police and the police rely on the community to provide them with information (Smith, 2007; Sunshine & Tyler, 2003; Tyler, 2004). The police need this support to be effective. The support will continue only if the police do not abuse their position of trust and power. This becomes even more significant when the police request greater powers in order to be more effective in their work. If these increased police powers have an impact on anatomical privacy there may be concern voiced by the public.

DNA involves a biological sample and this usually elicits an emotional response for either cultural and/or ethical reasons. This biological sample can indicate a propensity for illness, possibly indicate the physical characteristics of a person, identify the provenance of someone and be used to link families (Kimmelman, 2000). All the above can make people very uneasy and, even if most of it can be mitigated, it is still a contentious subject. It is easy for the police and the government to make generalised statements that DNA is a great tool for identifying offenders and that it will be used only for the reason it was intended. To assuage some of this fear it is important that the police understand these concerns and establish what it is the community wants from them. If the public expect the police to be a legitimate and trustworthy entity, then the police need to be seen to use their powers fairly and effectively.

There was a belief within the police that the introduction of new technology would improve their professional standing in the community (Chan, 2001; Harper, 1991; Manning, 1992; Uchida, 2004). However, there seems to be a disconnection between the police and the community. What the police believe is important may not be what the community deems to be so. Ironically, the introduction of more technology has added to this disconnection by appearing to remove the police from the community (Kelling, 1978). As well as enhancing their professional image, technology was also meant to assist the police to identify, arrest and charge offenders. If criminals had access to the latest technology in order to commit crime, then the police should make use of the latest technology to identify them (Nunn, 2001b). Arguably this could lead to an increase in the resolution rate of crimes investigated which the police continue to use as a benchmark of their success. This is in spite of the research conducted in the US which showed that what the public most wanted from the police was procedural fairness (Smith, 2007). This might signal a widening gulf between police and community.

The public disorder in England in the early 1980s led to an inquiry which identified the frustration felt by people who believed they were being unfairly targeted by the police (Scarman, 1981). This feeling of unfair treatment brought allegations of breaches of human rights. Likewise the application of the UK legislation to obtain and retain DNA samples led to court proceedings in the European Court of Human Rights (ECHR). It was decided by this court that the UK was breaching the human rights of its people. In its findings, the ECHR stated that the UK legislation led to the blanket application of the law which did not have regard for the individual's right to privacy (Higgins & Tatham, 2009). At the heart of the decision making by the UK government regarding its DNA legislation is the belief that the bigger the DNA database the more effective it is at identifying offenders which in turn will solve crime and subsequently lead to a reduction in crime. However, the size of the database in isolation is not the true measure of its success. A combination of having the right people on the database, more crime scenes attended, more samples lifted and robust systems in place to deal with the intelligence links would be the true measure of its success. This clear-up rate of unsolved crimes is the true measure of the success of DNA technology to investigate crime. It is important to remember that law changes have an impact on people and the concept that the rights of the many outweigh the rights of the few has historically been devastating to certain sections of society (Duster, 2006; Noble, 2009; Simoncelli, 2011;

Washington, 2010). The governance and application of DNA technology are vital to the legitimacy of the police, as is the effective use of DNA to resolve and reduce crime.

### **9.3 DNA Public Understandings**

The breakthrough in the understanding of how genes work has proven to be a bonus for many reasons. Genetics have helped to identify and therefore rectify or prevent birth defects. However, history has shown that this same science has been used for nefarious purposes with Hitler's policies being one of the most repugnant examples, but it was the application of this science rather than the science itself that was questionable. This was also an issue with the discovery of the DNA fingerprint. Jeffreys believed that his discovery would be of significant importance in assisting with the identification of people and could be put to good use (Jeffreys et al, 1985). In its early phases it had some successes that made it seem an infallible tool for identifying people. However, it needed to be tested in the courts before it could be accepted as reliable evidence. There were several instances when it was not applied correctly, both procedurally and scientifically (Imwinkelrid, 1991; Lander & Budowle, 1994; Lander, 1989; Lynch & Jasanoff, 1998). Juries needed to understand that DNA is found at very few crime scenes with the figure being estimated at less than 1% (House of Commons Home Office Affairs Committee, 2010). This would add to the probative value of DNA but often jurors did not understand the minutiae of the DNA evidence and neither did the judges or barristers. For these reasons it is very important that there are robust systems in place to ensure that DNA evidence is used ethically is enacted to support the obtaining and storing of a person's DNA. There need to be informed discussion and consultation regarding the creation, maintenance and governance of DNA databases. People need to believe that this legislation is required and that it will be implemented in a fair manner. It is important to acknowledge the fears of the population especially when some sections of society have historically been marginalised by certain laws. The application of DNA evidence cannot be taken lightly and this links with the need for the police to be seen as legitimate by all sections of society, specifically those sections which have less reason to trust the police. In New Zealand this would be Maori and Pacific peoples, evidenced by one participant who indicated a preference for using racial profiling to decide from whom to take DNA samples.

The concept of function creep is an important aspect in terms of DNA legislation (Dahl & Saetnan, 2009; McCartney, 2004; Briody 2004). Any increase in police powers to obtain and retain DNA needs to be very tight and carefully implemented. The legislation needs to state clearly what the police may do and it is important that the police apply these laws in the spirit in which they were intended. This should strengthen their legitimacy in the eyes of the public. The advent of familial linking is an example of function creep as this was not what the databases were initially intended for and were not specifically legislated to include. Commentators fear that people may come under genetic surveillance by the police, the government or private companies looking to make a profit based on this information which raises concerns that the initial rationale to establish DNA databases has been expanded without proper consultation (Krimsky & Simoncelli, 2011; Hindmarsh & Prainsack, 2010). The fear is that without strict controls the information contained in these databases could be used for purposes other than those intended. This is why lengthy consultation is required when the subject of DNA is debated. It is also why it is important to be able to show the community how effective DNA has been in the identification and prosecution of offenders because if the database is not being used effectively there is little reason for laws that allow citizens' rights to privacy to be used in this way.

#### **9.4 Burglary**

The New Zealand Government and the New Zealand Police have stated that a reduction in burglaries is a priority (Controller & Auditor General, 2006). Both acknowledge that burglaries have an impact on the victims' quality of life and that burglaries are a volume crime. Burglaries in all jurisdictions have a low resolution rate and it is noted that some burglars may move on to commit more serious crimes (Zedlewski & Murphy, 2006). For these reasons there is a real desire to reduce burglaries. With the introduction of Prevention First (2011) the police are still committed to reducing the number of victims of crime and an increase in the number of burglary resolutions would be a proactive way to use DNA technology in order to assist with the reduction of victims. This increase was to be achieved by attendance at all burglaries, more crime-scene samples being sent to the ESR and a quicker turnaround time from the ESR. While the police showed improved attendance and the ESR improved their turnaround times, there is no evidence to suggest that more burglars were arrested or that there was a reduction in burglaries. The request to the government by the police for more powers to take DNA

samples was predicated on the police being able to apprehend more burglars and therefore reduce volume crime. As shown in Chapter 4, the police have failed to improve their resolution rates in relation to reported burglary offences. What has been shown is that DNA is a good tool for identifying offenders but the police have not been able to arrest those offenders. This study indicates that the police struggle to cope with the work load although not all participants accepted this and believed it was just an excuse. The police have made changes to the way in which they investigate burglary by ensuring that every scene is attended and forensically examined, where possible, and this has resulted in more crime-scene samples being sent to the ESR. However, the police are able to get only half the process right. What happens to the information received from the ESR is an important aspect of this process and it is at this point that the police appear to lose momentum. There is no evidence to suggest they are overwhelmed by the work, or at least not all the time, but rather revert to what they are most comfortable with, which is to give the appearance of making the best use of DNA technology. However, when the layers are peeled back it becomes obvious that in reality the police fail to fully make use of DNA evidence to investigate and resolve crime.

### **9.5 The Use of DNA to Investigate Serious Crime**

It has already been stated in chapter 6 section 1 that there were a limited number of serious crime files available for this research. However, as described, this number should not impact on the ability to draw useful conclusions from those files that were available. The participants in the interviews believe that DNA technology is a good method for the identification of suspects. They also state that DNA is just one tool which can assist them to investigate crime. In fact, the majority of those interviewed believed that police officers were the most useful crime-fighting tool as DNA was not a replacement for basic investigative tools. The participants were referring to interviewing people, conducting search warrants and knocking on doors in order to conduct a full and thorough investigation. The participants' responses suggest that it would be more beneficial to invest in people rather than in technology. Although the technology is of use, if staff are not there to use it, it could become redundant very quickly. While it was acknowledged that DNA is very effective in identifying offenders in serious crime, DNA evidence alone should not be relied upon to take a case to court. It was noted by the participants that DNA evidence had some excellent uses. If a case included DNA



evidence, an offender would sometimes plead guilty which meant that the victim was spared the distress of having to give evidence. The police did not have to cast such a wide net as DNA evidence narrowed the search area which resulted in a less labour-intensive enquiry. As shown in Chapter 6, DNA evidence appeared to be more effective in relation to serious crime in that it was used to successfully prosecute or in some cases eliminate suspects. Serious crime types have a higher resolution rate than volume crime and those investigating serious crime appear to have more resources and fewer budgetary constraints than those investigating volume crime (see Chapter 6 section 6.2). If this level of resource was given to volume crime the resolution rate might well be higher.

### **9.6 The Operational Use of DNA: How it Works on the Ground**

DNA evidence is very effective for identification. There have been many examples given previously on the successes of DNA in identifying offenders, including cold cases both in New Zealand and abroad. But how successful are the New Zealand Police in using DNA evidence to fight crime and what are the obstructions to this successful application? Participants like DNA technology but they all cautioned its use. They stated that once a DNA result is received is when the real investigative work begins; the police are overwhelmed with work and cannot cope with results received from the ESR and the paperwork involved in taking DNA samples is confusing and time consuming. DNA technology has the potential to be very effective in investigating crime but, like all technology, there is no guarantee that the police use of it will be successful. Paperwork, work load and expectations can all make this technology less effective.

### **9.7 The Perceived Constraints on the Use of DNA**

DNA evidence is effective at identifying suspects so should be used all the time but if not then some questions should be asked as to why not. Certainly the legislation has been amended over the years to enable the police to make better use of DNA technology. However, some of the participants interviewed felt that DNA should be taken from everyone arrested as soon as they were brought in to the police station. It was believed that by doing this their identity would be confirmed. This cannot be done as the technology does not allow the police to instantly identify a person using DNA although it can be done with fingerprints as the supporting technology is available. A

couple of the participants stated that it would be good if the police had access to the Guthrie Test database as the bigger the database the better it is for identifying offenders. The New Zealand database proves this concept to be wrong. The largest database in the world does not have the highest hit rate. New Zealand has the highest hit rate, proving that what is important is a combination of the right profiles on the database and as many crime-scene samples as can be gathered.

## **9.8 Updates: Post-field Work Developments**

The technology involved in the use of DNA evidence continues to be updated and upgraded which is equally true of the science of DNA. The DNA legislation in New Zealand has also had several iterations, giving the police more powers to obtain and store DNA profiles. As this legislation has changed the police have altered some of its processes to coincide with these changes. Some of these changes have been made at the suggestion of audits or reviews conducted by government departments such as the Auditor General (2004), as discussed in Chapter 4. Many of these changes have impacted on the way in which police deal with DNA evidence and for this reason and in order to put the research in context some of these updates are addressed in the following paragraphs.

### **Investigative Interviewing**

In 2008 the New Zealand Police implemented an investigative interviewing strategy to improve interviewing, the quality of investigations and professionalism of staff (Cunningham, 2010, p.7). The New Zealand Police used the PEACE model which was adapted from the English model of the same name. The PEACE acronym relates to the different stages of an interview:

- Plan and prepare
- Engage and explain
- Account
- Close
- Evaluate (Cunningham, 2010)

This training was implemented with the aim of having constables qualified to a level where they would be able to interview suspects, victims and witnesses using a set system. The intent was to have all district staff trained by December 2010. One of the

perceived benefits of the PEACE framework was obtaining more information from the person being interviewed. The evaluation of this training showed that there was an increase in staff confidence in their interviewing skills (Cunningham, 2010). This implementation strategy would go some way to mitigating the belief expressed by a number of participants interviewed that police officers were either incapable or lacked confidence in interviewing suspects. This implementation strategy also suggests that the organisation now has an expectation that officers will see interviewing as an integral part of their job. From this it is expected that a DNA alert would be dealt with expeditiously and a suspect would not be released until that alert was resolved satisfactorily. The researcher was told by some police officers that the belief amongst them is that the PEACE model is now outdated and no longer in use by many jurisdictions but this is anecdotal evidence and was not pursued further.

### **ESR Turnaround Times**

The New Zealand Police and the ESR had an agreed turnaround time of six to eight weeks for DNA analysis during the research timeframe. The files examined demonstrated that the ESR was very consistent with these timeframes but this did not appear to have any impact on the police's ability to apprehend or charge the identified suspects. However, if the ESR was able to speed up these timeframes, identifying and interviewing a suspect as soon as possible after the offence could allow the police to recover property and possibly prevent further offending. Therefore a pilot model was established in April 2010 in one New Zealand police district to test the feasibility of the ESR changing its turnaround time from six to eight weeks to five days. This project worked so well it was decided that the national turnaround time should be five days. This research did not cover this period and it is not known what effect the five-day turnaround has had on the work load of the police in relation to DNA intelligence links.

### **Gatekeepers**

It was noted in the files that officers sent samples to the ESR when other evidence was available and DNA was clearly superfluous to the investigation. The police tread a fine line when deciding what evidence should be presented before the court. Due to the ubiquitous TV shows that publicise the use of DNA evidence and erroneously suggest that DNA is found at all crime scenes, the expectations of jurors have been heightened. The police are required to present the best possible evidence to the court in order to

prove an extensive investigation. However, every sample that is sent to the ESR costs the New Zealand Police money and therefore careful consideration does need to be given before a sample is sent for analysis. Due to these fiscal constraints the police have discretion as to what samples are appropriate for sending to the ESR. The evidential value of the sample would be a guiding factor. The topic of budget was discussed in the interviews with participants acknowledging the need for fiscal responsibility. In order to prevent superfluous samples being sent off for analysis, the New Zealand Police has now put systems in place to ensure that this is the exception rather than the rule. The National Forensics Manager for the New Zealand Police states that designated detective senior sergeants are the gatekeepers between the police and the ESR and should be sending only relevant samples to it. As well as the financial implications, he cautioned that with the new turnaround timeframes the last thing needed is a backlog at the ESR. It is also clear that the police are not able to deal with the current work load so adding to it would only cause greater strain on the budget limitations and time pressures currently faced by officers.

### **National Intelligence Application Updates**

The police computer has been upgraded so that the details of crime scenes can now be entered onto it as well as what samples, if any, were found at the scene. This has enabled forensics to be tracked more readily than previously. The system allows for DNA samples and scene updates to be logged in the NIA. However, it is still not able to be updated with the results from the ESR. The police have many competing priorities when they are upgrading their computer. These are managed as well as they can be but there are always extra unexpected pressures placed on them, such as the Rugby World Cup being hosted by New Zealand. Upgrade work on the police computer that was earmarked for forensics had to be set aside for specific Rugby World Cup enhancements. However, this juggling of priorities is the reality for any police jurisdiction.

Some of the changes that have been discussed within this thesis were made to enable the police to make better use of DNA whilst acknowledging the many demands placed on the police for improved technology. The accepted norm (by the police) was that they (the police) were already making good use of it but these changes would enhance this use. It has already been discussed that although there may be policy and guidelines for

officers to follow, this is no guarantee that they will if the front-line do not subscribe to the philosophy (see chapter 2 section 2.0 & chapter 7 section 7.1). The investigative interviewing training now provided to all officers removes the excuse of officers not interviewing suspects with a DNA alert because they lack the skills. However, this will not necessarily change the behaviour of officers if the staff are not held to account for not following this policy. Changes in legislation and faster turnaround times by the ESR should compliment police use of DNA. But once again, if there is no accountability or a desire to improve their performance, these changes will have no obvious impact on how the police investigate crime.

## **9.9 Recommendations**

The successful application of DNA technology to the New Zealand Police depends on a number of factors. These factors, which are not specific to the New Zealand Police but are also relevant to many jurisdictions, include police culture, legislation and training. The New Zealand national DNA database is effective. It has the highest hit rate in the world, indicating that it contains the right profiles. The relationship between the ESR and the police appears to work well with agreed timeframes consistently being met. The quality of analysis is of a high standard, as noted by the ASCLD/Lab accreditation. These make for a credible database. Unlike the UK's database, it is not alleged that the database holds DNA profiles from innocent people. However, this research has identified that if a person's DNA is found at the scene of a crime that is no guarantee they will be interviewed regarding this intelligence link. The most telling data within the research was that suspects were repeatedly being arrested and brought to the police station yet they were never interviewed over the intelligence link noted on the police computer. The police understand and value the use of DNA as a good method by which to identify a suspect. This is evidenced by the financial investment made by the police in its forensic budget as well as by the requests from the police to the government for more powers to retain DNA profiles. The benefits of DNA technology have already been highlighted several times in this thesis and it is clearly appreciated by the New Zealand Police. However, there is a breakdown in the application of DNA and in the information contained within the national DNA database. The New Zealand Police have made some changes in the way they utilise DNA technology.

- The ESR has a five-day turnaround

- There are gatekeepers within each district to enforce robust policy regarding what is sent to the ESR to prevent a potential backlog of work and waste of money
- The police computer has been updated to log and track DNA samples obtained from people, to log crime-scene samples, where they were located and by whom and when the samples were sent to the ESR
- Intelligence links received from the ESR are now electronic in order to streamline delivery

Many computer updates and processes have been employed to improve the use of DNA evidence. However, dealing with the intelligence link once it has been received from the ESR still does not appear to be a priority and the National Manager of Forensics is still unable to discover the overall outcome of these intelligence links. Suspects are still entered on to the police computer as linked to a crime scene with no guarantee that they will be actively pursued or interviewed should they come to police attention. Even with the above improvements, the New Zealand Police are still unable to state how many people have been convicted due to DNA evidence or the time taken from initial police attendance at a crime to a final disposition. This would suggest that this research still remains relevant until the New Zealand Police are in a position to provide answers to the above statement. The police use of DNA technology to investigate crime is only partially effective. They will not make the best use of it until they commit to proactively responding to the intelligence links received from the ESR.

To fully realise the benefits of DNA technology, districts need to:

- Inform staff of the value of DNA evidence and its level of importance within the New Zealand Police strategic framework
- Implement a clear organisational framework for the use of DNA technology
- Fully train staff on the processes/technology/paper work and organisational expectations required to successfully use DNA technology
- Prioritise intelligence links received from the ESR using the current tasking and co-ordination framework of the New Zealand Police
- If an alert has been entered on to the NIA and that person is arrested, they cannot be released without the alert being dealt with in a significant manner

- If an alert is to be put on the NIA a full investigation file must be completed and the information entered on to the NIA so that when the person is arrested they can be interviewed
- Managers within the New Zealand Police should be fully informed as to what the police are trying to achieve by using DNA technology
- Managers within the New Zealand Police should ensure that the above actions are complied with in their district

There needs to be accountability and direction from the leadership of the New Zealand Police that DNA is a priority and that districts need to task their staff accordingly. Staff need the right support, guidance and training to maximise DNA technology and to apply it fairly without jeopardising the legitimacy of the police. Supporting staff with training and clear direction will not dramatically alter their fields and not require a change to the habitus. Therefore the culture will be supportive and there will be buy-in from front-line staff (Chan, 2001).

#### **9.10 Further Research**

The New Zealand Police would benefit from more research in the way they make use of DNA technology to investigate crime. This research should involve a larger number of files and a greater number of interview subjects including examples of metropolitan, provincial and rural stations. Incorporating these different styles of policing would ensure a comprehensive view of what the New Zealand Police actually do with DNA technology. A key aspect to the research should be extracting specific figures from the NIA which tracks the outcome for suspects who have a DNA alert against their name. It would be beneficial to the research to include stakeholders and partner agencies in the study. Interviewing people from the wider justice sector on their views of DNA use in court proceedings, including judges and barristers, would provide a viewpoint from a partner agency. Given that one officer indicated it was acceptable to practice racial profiling, it would seem that a further study should take other stakeholders into consideration. The opportunity to hear first hand from New Zealand civil liberty and minority groups about their experiences, concerns and opinions on police use of DNA to investigate crime would add an invaluable dynamic to the research.

### **9.11 Conclusion: Has the Research Question Been Answered?**

Does Police Culture Prevent the New Zealand Police from Making the Best Use of DNA Technology to Investigate Crime? The data obtained from the subject district indicates that, in at least one district, culture is one reason that may impede the police. However, the New Zealand Police is a national police service and, with the exception of certain nuances in each district, the process for applying DNA technology to the investigation of crime should be the same throughout the country. The subject district is one of the largest districts in the country and it has the highest number of reported crimes. It has a high turnover of experienced staff leading to less likelihood of entrenched behaviour. Therefore it is a fair assumption that if DNA technology is not being used well there it is not being used to good affect anywhere. For these reasons it can be concluded that the research has shown that, all rhetoric aside, the New Zealand Police fail to make the best use of DNA technology, especially to investigate volume crime.

DNA has been used in the New Zealand Police for 15 years. It is no longer new technology and yet the police still appear to struggle with its effective application. Those interviewed state that DNA is a great investigative tool but that the police make its use too complicated. However, it does need to be stated that the police are bound by legislative requirements that can add to the complication. The participants said that the paperwork was too confusing or that staff were too busy to deal with alerts. Another reason was that staff either did not know how to interview or lacked confidence in their ability to interview. This combination of issues meant that the national DNA database was not being used effectively by the New Zealand Police. This is an example of what happens when technology is introduced and processes are not put in place before the new technology is rolled out: there is an inability or reluctance by the police to introduce an organisational framework for the use of this technology. When staff are unable to manage, they find other ways to cope which, in some instances, can mean subverting the system or ignoring it completely. This is when police culture disables the effective use of this technology. Chan (2001) would state that the rules of the game had changed and the police relied on coping mechanisms to survive. However, by changing the field but not altering the habitus these coping mechanisms are a way of making sense of these changes (Chan, 2007). Likewise, if the police choose to change the habitus without altering the field, once again they are doomed to failure (Waddington,



1999a). Both the field and the habitus need to be changed, if only slightly, in order to make sense of the ongoing progress in society that will impact on the police. Advances in technology are one such example and the cause of this study. A robust organisational framework for the use of DNA technology will help staff manage the field and therefore assist them with the required changes in their habitus.

The police requested legislation from the government to support their use of DNA technology. As a result the police needed to make changes within their organisation to manage the use of DNA evidence. However, the government also imposed rules on the use of DNA evidence by the police in the form of legislative requirements. The police do not have control of these requirements which may place more pressure on the police to manage them. These changes included new legislation to support the taking and retaining of DNA samples, new paperwork to ensure the authenticity of the volunteer's permission, more data entry to track the DNA evidence and more paper work when an intelligence link was received from the ESR. This caused the policing environment to change. Without the proper support the police would struggle to cope with the work as the rules had changed. One way to cope with this new environment was to ignore the changes and continue as before or make small changes so as to appear to have embraced them. On the surface the police appear to fully use DNA evidence but, in reality, in many cases they simply store the information without making any real effort to arrest the named suspects.

This research has shown that the method by which the police capture statistics and the disparate approach to data entry have meant that the data reviewed is flawed and it has been difficult to get a clear picture on the use of DNA technology to resolve crime. Nonetheless, based on the limited data available (and acknowledging that there is a consistent application of flawed data) it can be concluded that by using DNA the police have not been able to prevent crime and, in fact, when given a named suspect have still been unable to resolve a crime. Yet they have made attempts to improve their performance. The position of crime scene attendant was created specifically to enable victims of crime to receive a better service from the police. These CSAs primarily attend burglaries and forensically examine the scene with the purpose of identifying the offender. Scenes of crimes officers and CSAs have been encouraged to send as many samples as possible to the ESR, as the more samples that are sent the greater are the

chances of identifying a possible offender. Any recovered samples are sent to the ESR which responds to the police within the agreed time lines. These turnaround times have been decreased considerably in order to make the entire process more efficient. By the time intelligence links from the ESR are returned to the police time and money have been heavily invested in identifying the possible offender in order to resolve the crime and this has been the driving force behind the police use of DNA technology.

DNA evidence is collected at less than 1% of crime scenes (House of Commons Home Office Affairs Committee, 2010). In New Zealand in 2005 the number of files notated as having DNA at the scene in the Auckland City District was 302. This number was obtained from the 53,615 reported offences for that year (Statistics New Zealand, 2010). Of 8,920 burglaries reported 84 files had DNA attached to them. Of the 302 files, only 146 were available for viewing. It was established that only 78 of these files had attached charges, meaning that the identified offenders had been arrested, charged and prosecuted. The remaining 68 files had alerts placed on them identifying them as files with named offenders whose DNA had been found at the scene of a crime. The implication was that should these people come to the attention of the police they would be interviewed regarding the DNA evidence found at the crime scene. However, 55 files had named offenders stating that DNA evidence had been linked to them and a crime scene and although they had been in police custody, some several times, they had never been interviewed or charged for that offence. Given the already low percentage of DNA found at crime scenes and the investment made by the police in DNA technology, these figures are a shocking indictment. These results question the commitment the police have made to use DNA to its fullest potential. In simple terms, a large amount of money and a great deal of time are spent in trying to identify an offender who may or may not be held to account for the offence to which they are connected. On a superficial level it appears that the police want to make the most of any technology that may assist them to solve crime. However, the police as an organisation do not like change and they certainly do not like change invoked by new legislation being imposed on them. This reluctance to fully accept new legislation may well be an unconscious reaction rather than a determined refusal to accept outside influences. A perception of being too busy due to a lack of organisational support will result in the same inability to make full use of the technology. This puts the onus back on the police executive to fully engage their staff when making changes to their work environment.

While the police are keen to introduce new technology they would prefer to use it without the need to change their processes. A desire to look professional does not automatically translate into a desire to change the style and method of policing and this impacts on the police's ability to successfully implement change within the organisation. This style of policing may prevent them from fulfilling their promises to reduce crime, catch offenders and maximise DNA technology. Included with this is a failure to be conscientious in their use of DNA technology, thereby breaching the public's trust and calling into question the need for legislative change. Although the introduction of investigative interviewing is a positive step for the police, there is still the need for a shift in mind set. The research results show that the police are willing to attend crime scenes (although for burglaries in the subject district this is carried out by non-sworn staff) and this appears to be carried out well as perhaps it is considered to be real police work. When the results are received by the police and it is time for paperwork, interviewing or locating the suspect, it is considered the more mundane side of policing at which they are less successful. Viewed from Chan's field and habitus of policing, police culture can have an impact on the successful implementation of new technology. Police culture can impede change within the organisation as they have a definite comfort zone which does not allow any great change to their practices. This research has identified that police practices have not changed with the advent of DNA technology, thereby impeding the ability of police officers to realise the full benefits of DNA in investigating crime. The interview participants comment on being busy and the need to get back out on the streets. However, this view is merely one aspect of a greater issue which is the entrenched behaviour of the police that is encouraged by the lack of an organisational framework when introducing new technology. This research has discovered that despite all the time and energy the New Zealand Police have spent on DNA technology, they have not reduced crime or in some cases even solved crime in spite of their use of DNA technology. The empirical evidence gathered from police files, interviews and other literature showed that although the New Zealand national DNA database functions as intended, the police do not make effective use of it. The New Zealand Police do not make the best use of DNA technology to investigate crime as an action-oriented police culture, combined with a lack of an enforced organisational framework for DNA use, and a lack of accountability for performance affects the desire and the ability to make the most of its potential.



## **Glossary**

ACPO	Association of Chief Police Officers
ASCLD/LAB	The American Society of Crime Laboratory Directors, Laboratory Accreditation Board
CCTV	Closed Circuit TV
CIB	Criminal Investigation Branch
CSA	Crime Scene Attendant
CSI	Crime Scene Investigation
DNA	Deoxyribonucleic Acid
ECHR	European Convention on Human Rights
ECtHR	European Court of Human Rights
ESR	Environmental Science and Research Ltd
FGC	Family Group Conference
FBI	Federal Bureau of Investigation
INCIS	Integrated National Crime Information System
LAPD	Los Angeles Police Department
LCN	Low Copy Number
LET	Law Enforcement Team
LES	Law Enforcement System
MPS	Metropolitan Police Service
MOU	Memorandum of Understanding
NIA	National Intelligence Application
NPIA	National Policing Improvement Agency
NYPD	New York Police Department
PACE	Police and Criminal Evidence Act
PNC	Police National Computer
SOCO	Scenes of Crimes Officer
STU	Strategic Traffic Unit
WTA	Wanted to Arrest
WTI	Wanted to Interview

## Appendices

### Appendix 1 – 4000 – Dishonesty Codes for National Intelligence Application (Police Law Enforcement System Code Book, 2004)

4110 - burglaries for drugs
4111 - burglaries for drugs over \$5000 by day
4112 - burglaries for drugs \$500-\$5000 by day
4113 - burglaries for drugs under \$500 by day
4114 - burglaries for drugs over \$5000 by night
4115 - burglaries for drugs \$500-\$5000 by night
4116 - burglaries for drugs under \$500 by night
4119 - burglaries for drugs – other

4120 - burglaries
4121 - burglaries over \$5000 by day
4122 - burglaries \$500-\$5000 by day
4123 - burglaries under \$500 by day
4122 - burglaries over \$5000 by night
4123 - burglaries \$500 --\$5000 by night
4124 - burglaries under \$500 by night
4127 - remained with intent
4129 - burglaries – other

4130 - burglary associated offences
4133 - possessing instruments for burglary
4134 - disguised for burglary

4136 - armed with intent to commit burglary – firearm
4137 - armed with intent to commit burglary – other weapon
4138 - possession instrument to commit burglary (SO Act)
4139 - other burglary associated offences

4150 – aggravated burglary offences
4155 - commits burglary with weapon – firearm
4156 - commits burglary with weapon – other
4157 - remained after burglary with firearm
4158- remained after burglary – other weapon
4159 - other aggravated burglary offences

## Appendix 2 – Statistics Clearance Codes for National intelligence Application

AL	Referred to LLA
C	Custody
F	Family group conference
K	Caution – child or young person
M	Mental health issues
N	No offence disclosed
O	Other
P	Prosecution
R	Diversion
U	Youth court
V	Warned – child or young person
W	Warned – adult
X	Unknown
Y	Youth Aid
Z	Not applicable



### Appendix 3 – Apprehension Codes for National intelligence Application

A	Alarm
B	Beat constable
C	Complainant's help
D	Disposal avenues
E	External publicity
F	Forensic
G	Guard of watchman
H	Computer info (not MO)
I	Interview
J	Jail interview or evidence
K	Knowledge of member
L	Local enquiries
M	Modus operandi
N	Non police
O	Other means
P	Patrol
Q	Quick response to call
R	Road block/check point
S	Search warrant
T	Turn over in the street
U	Other offender identified
V	Offender contacted voluntarily
W	Witness information
X	Unknown/unascertainable

Y	Internal publicity
Z	Not applicable

#### **Appendix 4 – indicative Questions**

1. What do you think is your most useful investigative tool?
2. What do you think about DNA?
3. In what ways do you think it aids investigation?
4. How often do you think it should be used?
5. Do you consider DNA to be all you need for a successful investigation?
6. When you receive a DNA hit are you pleased or is it just more paper work?
7. Do you take notice of DNA alerts on offenders? What action do you take if there is an alert?
8. Are current laws adequate for obtaining DNA samples? What changes would you like to see?
9. What training if any have you had in relation to DNA? Was it adequate?

## Appendix 5 – Interview Codes

A	Detective Inspector
B	Detective Senior Sergeant
C	Detective Senior Sergeant
D	Detective Senior Sergeant
E	Detective Sergeant
F	Detective Constable
G	Detective Constable
H	General Duties Constable
I	Detective Senior Sergeant
J	Detective Senior Sergeant
K	Enquiry Sergeant
L	Detective Inspector
M	General Duties Constable
N	Detective Constable – burglary
O	Constable – burglary
P	CSA Sergeant
Q	General Duties Constable
R	SOCO
S	CSA
T	O/C Station (Senior Sergeant)
U	CSA
V	General Duties Constable
W	Enquiry Sergeant
X	Enquiry Constable

Y	Senior Sergeant – custody
Z	Sergeant – CAT
AA	Section Sergeant
AB	Scientist - ESR

**Appendix 6: Do you take notice of DNA alerts on offenders? What action do you take if there is an alert?**

Interviewee	Answer
A	Loss of knowledge due to perfering. Younger staff don't know what to do or they will say that it is not our area, not our file or they can't find the file.
B	People need to know the process. Tendency to deal with their own case quickly to get out and answer more calls. Need to deal with all crimes. Get away from "too busy". Be preventative.
C	Absolute failing in our system. It shouldn't be happening. Poor supervision/lack of commonsense. BUT who deals with the files?
D	An expectation that staff would deal with DNA hit on NIA if staff can find the file.
E	Contact O/C of file. Junior staff are scared of alerts as they don't know what to do. Don't leave watch-house until WTI/WTB/DNA cleared. Linked to poor interviewing skills and lack of staff training
F	Mind set that they need to deal with lock up and get back out on the street. Different mentality for street cop – big rush. Part of the stage of their career.
G	Nil
H	Find file and do research before interviewing. If can't then tell the O/C details of the person.
I	Should deal with files. At very least alert O/C but shouldn't go to court without dealing in some way. Comms are pressurising officers to get back on the streets. Lack of interviewing skills. Old DNA hit, assumed that it was already dealt with.
J	Police process issues. Too much work, staff think that they are too busy. Comms pushing staff to get back out on the street. Can't find the file. Wide range of reasons but NOT good. It is a big problem.
K	Will prefer to deal but might not if not our area. Workload or the file might be poor or can't find the file.
L	Structure of work groups – can't locate the file. Lack of supervision – lack of competence in interviewing. Pressure to get back out on the

	<b>street.</b> Need seniors in the watch-house who can ensure the work is done before the offender leaves custody.
<b>M</b>	Never seen a DNA alert but seen heaps for F/P. Would try to deal with the file but TP need to get back out of the street. Op demand meant someone could come in and help. If see that the person has been in custody loads of times it is assumed that the alert has been dealt with. One occasion person had alert but had already been dealt with but the alert had not been cleared. Think people may ignore the alerts as they are lazy or <b>North Comms insisting they go back out and answer calls</b> – want to help your colleagues. <b>Not confident interviewing someone.</b> <b>Have enough of your own work, don't want to take on extra files.</b>
<b>N</b>	Alerts are ignored. Can't be bothered <b>or too busy or lack of resources for front-line</b> staff. <b>Lack of support</b> and a belief that someone else will do it.
<b>O</b>	Try to deal with alert. At the very least let the O/C know. If <b>can't get the file</b> then it is pointless to interview. <b>Time/pressure/adding to workload.</b>
<b>P</b>	Minimal amount done. Rely on the alert. <b>Don't know what to do.</b> Can get the file but then don't know how to write up the summary of facts. Too scared to try.
<b>Q</b>	Deal with alerts like all over WTI. Get the file and interview the person. If it is an old alert it is often thought that it must have been dealt with. <b>Unsure what to do, can't find the file, too busy</b> or uninterested.
<b>R</b>	Anecdotally believe that the officers <b>do not have the time to deal with the alerts.</b>
<b>S</b>	Not surprised as know that alerts can be ignored. Believed that they take the easiest road and believe that someone else will deal.
<b>T</b>	Would deal if I could. <b>If I can get the file.</b> If not then let the O/C know. GDB are not investigators. <b>They have pressure to get back on the road.</b> <b>Also they do not have the experience to investigate the more serious crimes.</b>
<b>U</b>	Don't know why they aren't dealt with. Perhaps laziness but am not sure.
<b>V</b>	<b>The person who has the file should deal.</b> Can't interview properly when you don't know the full case. Interviewing blind. I car staff <b>are also too busy</b> and <b>there is a lot of pressure on them.</b> Tonight there are 2 I cars for the area and 1 Q car. Their interviewing skills are fine.
<b>W</b>	<b>Poor management.</b> Don't think the seniors want to piss off the cops by making them deal with DNA files. <b>Poor interviewing because of lack of</b>

	<a href="#">practice</a> . Should interview everyone. No excuse.
<b>X</b>	<b>If you don't have the file</b> then it is too difficult to interview. <a href="#">Lack of experience</a> leads to poor-quality files which become very time consuming to deal with.
<b>Y</b>	<a href="#">North Comms pushing for guys to get back out on the street</a> . <a href="#">Not experienced interviewers</a> . Need to ask myself whether it is appropriate <a href="#">to take a car off the road</a> to deal with a DNA hit.
<b>Z</b>	<a href="#">Internal processes</a> . Too busy is crap. You are only as busy as the job you are dealing with.
<b>AA</b>	Depend on what I am doing. If a Friday night on crime squad then there wouldn't be a hope. <a href="#">Depends on resources</a> . Can be laziness that stops some people. <a href="#">Lack of knowledge</a> or <a href="#">pushed back out on to the streets</a> . Young staff can't interview.



**Appendix 7: When you receive a DNA hit are you pleased or is it just more paperwork?**

Interviewee	Answer
A	<b>I am pleased.</b> Let's get it to intel and see what else he has done. Many of our offenders live in CM and we don't have the time to keep knocking on doors in CM. More files coming in all the time.
B	<b>Pleased.</b> Receive hit which has a 10-day turnaround for it to be actioned. Give to Intel and then give to volume crime squad and get straight on to it.
C	<b>Wrong samples being sent for volume crimes.</b> Small return from trace samples.
D	<b>This unit gets loads of DNA hits so not too exciting.</b> Timeliness important as can reduce crime by locking up offenders – recidivist offenders prevalent in volume crime.
E	<b>Rapt</b> to receive DNA hit.
F	<b>Hugely pleased.</b> More sex offenders on the database.
G	Can understand that they would be low priority if getting many hits. <b>Great for their line of work – sex assaults.</b>
H	<b>Great.</b> Hadn't wasted their time. Will be linked to other crimes.
I	<b>Welcomed when received.</b> More evidence or will identify a suspect.
J	<b>Oh pleased,</b> it's excellent.
K	<b>Pleased,</b> pretty straightforward. Named suspect now go and find him but this can be hard to do as they are active offenders. Sometimes have to inactivate but don't like doing that.
L	<b>It's good news, great news.</b> It is to be celebrated. Allows one to focus on the enquiry.
M	<b>I've only ever had fingerprints. I mean I've never really been in an investigation in my career. I mean I've had a section and then TP so I've never really had to deal with a DNA hit.</b>
N	<b>Always happy</b> as it shows that the system works. Good to charge the offenders repeatedly – recidivists. Priority to deal with DNA hits.

<b>O</b>	<b>Just another file amongst many.</b> Good in that I can clear this one and get on with the more complicated ones. Too much work.
<b>P</b>	<b>Thrilled</b> as it means that the team <u>is</u> sampling correctly.
<b>Q</b>	Never had one but would love to get one.
<b>R</b>	Don't receive hits as it is not my job.
<b>S</b>	Don't receive them.
<b>T</b>	Don't see it as more paperwork but <b>rather as another witness.</b>
<b>U</b>	Don't receive them.
<b>V</b>	It <b>would be good</b> , seeing a result for the work.
<b>W</b>	That's a tough one as I have trays of files. Forensic file is treated like any other file, managed and auctioned asap. However, I am frustrated by the types of samples sent off for sampling. A toothbrush found in the back of a car. Good DNA files are great but poor ones add more work for no outcomes.
<b>X</b>	No. <b>Easy to resolve.</b> If get too many at once it can drain resources.
<b>Y</b>	<b>Don't have the staff to deal.</b> Can't find the files – front-line staff often inexperienced.
<b>Z</b>	<b>Huge shot in the arm for an investigation</b> as it focuses you but doesn't prove the case.
<b>AA</b>	<b>It would be a giddy up</b> especially if a big result.

## Appendix 8: How often do you think DNA should be used?

Interviewee	Answer
A	<b>Should be using it for all.</b> Another investigative tool just as the media is. DNA actually identifies someone or eliminates them from the enquiry. Very important.
B	<b>One of the tools.</b> Not be all and end all. However, with sexual assault it is a significant tool.
C	Best evidence rule. Incumbent on the police to provide the best evidence. Burglary can be overkill but what would you drop? Could be criticised if didn't present all evidence.
D	Serious crime 100% of the time. Less serious and had other evidence and person declines to volunteer suspect sample then maybe not as important. It will always be a case by case.
E	<b>All the time.</b>
F	Becoming more part and parcel of what we do. Can become a bigger part than it is currently.
G	<b>All the time</b> (side tracked).
H	If the sample is located and identified to a person then <b>every time</b> . Covering all bases.
I	Considered in <b>every investigation</b> . How might DNA advance the investigation? Whenever have the opportunity to exploit DNA technology then do it.
J	Needs to be used so that processes can be developed and improved. Police bosses just manage risk rather than challenge for continuous improvement.
K	Whenever it can. Including volume crime as these guys progress to more serious crimes. If going to the bother of taking swabs then may as well use it for all crimes.
L	<b>Every time</b> or as often as possible. Good evidence so why not use it as. (Good comment about allegations of interviews conducted under duress in the 70s and 80s).
M	If applicable, <b>every time</b> that it can be. DNA unique. Can trust DNA, it doesn't lie.
N	Everyone arrested should have their DNA taken as it would make the police's

	job easier. Every crime scene one should think forensically. Don't lose anything.
O	<b>All the time if available.</b> How big is our database and how well do we process crimes. (DNA pretty cut and dried.)
Q	<b>Always looking</b> for it as part of your evidence base.
R	<b>Collected always</b> and used when necessary.
S	Not covered in the interview.
T	Should be able to use for any crime but never going to have the staff to investigate minor crimes. (Good talk about volume crime.)
U	Tight budget. Some times of the year can't send anything off (burglary squad).
V	As often as possible. DNA saves time. Narrows down suspect list. Narrows it down to one person, one target.
W	<b>All scenes, all offenders</b> to go through the watch-house. Databank wider.
X	As often as possible.
Y	Cost effectiveness. Can't use it all the time. If could then that would be fantastic. Like idea of getting DNA off everyone who is arrested. Increase pool size.
Z	<b>Should be used on all cases</b> like F/P. Should include it whether ultimately use it at court is another issue. Don't exclude – can't go back once it is gone.
AA	<b>All the time.</b> Lost opportunities if only targeting specific groups. DNA all scenes – public would be surprised if we didn't. Not enough resources – poor excuse for not doing something.
AB	When it will assist. Factor in the cost compared in relation to the offence. Needs to be relative to the offence.

**Appendix 9: Are current laws adequate for obtaining DNA samples? What changes would you like to see?**

Interviewee	Answer
A	Don't think wide ranging enough. Anybody arrested should give DNA and if acquitted then it should be destroyed.
B	Should be able to compel anybody who is a suspect. If arrested and charged then DNA should be taken. If acquitted then DNA is destroyed.
C	No. Everyone who is arrested should have DNA taken (arrested, not charged). Everyone through the watch-house should have their DNA taken (good comments about filtering).
D	If could take everyone's DNA through the watch-house that would be good for the police. Would need more staff in the watch-house and the ESR would need more staff to deal with the extra workload. Police would need more staff to deal with the results from the ESR.
E	Absolutely not. DNA should be taken from every person that goes through the watch-house. Compulsion order weighted in favour of suspect.
F	No, not really. Administration and powers. DNA upon arrest is fantastic. Part and parcel of arrest. Not fussed if DNA not destroyed. Haven't done anything wrong then nothing to worry about.
G	No. Don't make sense to me.
H	No. DNA should be a process taken at the watch-house with everything else (F/P and photo). If not convicted could be a fair reason to destroy.
I	Everyone through the watch-house should have DNA taken just as with F/P – method of ID. Compulsion orders are convoluted and time consuming.
J	No. DNA should be taken on arrest. DNA new-millennium fingerprint. Overarching issue of fairness – should be fair but should also be efficient. Destroy if acquitted.

K	Expensive because we have to keep taking samples each time. Take sample at arrest – in fact at birth. Solve a heck of a lot of crime – human rights – but what is the big deal?
L	No, I think that they are nonsense. Everyone in the watch-house – DNA identifies them. DNA on arrest and destroy if acquitted. Already have that process.
M	Too hard. Everyone in custody – DNA taken. Acquitted – destroyed.
N	No. Compulsion orders are too time consuming, too expensive and too hard. In the watch-house – DNA. Acquitted – destroyed.
O	Law out of date. DNA on arrest. Destroy if acquitted.
P	Yeah, I do actually. Tricky question. Potential to be set up. People feel strongly about DNA.
Q	No. Everyone through the watch-house – DNA. Acquitted – destroyed.
R	No knowledge of the law.
S	Don't know a lot about it.
T	Yeah, adequate. Couldn't cope with any more. Still have to have strict rules.
U	No knowledge. Like the idea of having everyone's DNA once arrested but privacy issues. Can't see it happening.
V	No. Immigrants should give DNA samples and newborns. Should all be on database. Help DVI and people who turn up dead. Guthrie Test on database – comprehensive library. People out there who have committed heinous crimes – never caught – never given DNA sample.
W	No, take DNA on arrest.
X	Not particularly. Cumbersome process. Jump through too many hoops. DNA on arrest. Should be destroyed if acquitted (comments about acquittal and file destruction).
Y	No. Anyone arrested. (good comment about more work involved but if it clears up one more rape, the better).
Z	There's weaknesses that are being addressed but spirit of intentions yes, it does adequately cover – but flaws. Consensual road (voluntary) biggest flaw. If people decide to withdraw we would lose a lot. Not

	convicted (more discussion about new Bill).
AA	I want access to the database that the hospitals have (Guthrie Test). Utopia for the police but privacy issues. Retract permission – everyone on arrest. (more discussion here).
AB	Initially the laws were good. New technology – crime has changed – then laws amended. Voluntary coming to an end – time for a review. Law inadequate for U17yrs. Two things inadequate but otherwise they are good.

**Appendix 10: Do you consider DNA to be all you need for a successful investigation?**

Interviewee	Answer
A	Some cases yes – but in other cases you don't have it the jury might expect it.
B	No – one of the parts – not whole case.
C	You'd have to access it probably – not sole evidence.
D	No, no – depends where DNA is found – explanation available – corroborative evidence.
E	Sometimes yes – good victim plus DNA.
F	Definitely not all but maybe some cases. By and large no.
G	No I don't – has to be corroborated.
H	Have solely convicted – more helpful to have more links.
I	Emphatically no – dangerous.
J	No – sometimes not black and white. Similar fact evidence.
K	No – ideally more corroborating evidence.
L	No – reconstruct the scene. Interviews – circumstantial – don't want to rely on it.
M	Probably not – always an explanation. Not black and white – enough in some cases – but not all.
N	No. Good interview as well.
O	Yeah – pretty cut and dried. Pretty irrefutable -- no questions over where it came from then yes.
P	Need to make up the full picture.
Q	No – need other stuff. It's just not solo.
R	No, the more you have the better. Not be all and end all.
S	No. Talking about securing a conviction you'd definitely need more than just DNA – loopholes.
T	Don't know if would say all you need. DNA plus interview. Need interview – can be excuse for DNA.
U	No – need more than that. Might be legitimate reason for DNA.



V	<b>No.</b> Prove how DNA was at scene – interviews.
W	<b>No</b> – confession – push for it. Biggest thing I push for. Enough experience no? Enough training, no. * Good answer*
X	<b>Not at all</b> , all forms part of it. Key part – prove it was suspect.
Y	<b>No</b> (interview) yes.
Z	<b>No</b> – tool box – can't hang hat on it.
AA	<b>No</b> – other corroboration.
AB	<b>That would be interesting – but stats don't stack up.</b>

### Appendix 11: In what ways do you think it aids investigations?

Interviewee	Answer
A	DNA found, immediately gives us a focus.
B	Actually puts someone at the scene – pretty good line of enquiry. NB working out how DNA at the scene.
C	Gives you a starting point but don't maintain tunnel vision. Gives you focus but be careful.
D	Identifies suspects – identifies particular person who was at scene when offence committed.
E	Especially aids in stranger type scenarios – sexual assaults etc – can confirm penetration etc.
F	ID and speeds up ID of people.
G	Strengthens a case – rule out person – speed – certainty.
H	Increases thought processes of people going to scenes – being more creative at what test. Good way of identifying offender – pretty hard to cancel out that you were there for a lawful purpose.
I	Ability to identify a single person from item found at the scene. Speed up process but would never hang hat on DNA.
J	Able to use scientists to give evidence not employed by the police. Net narrow.
K	Very hard for offender to justify why DNA found in stolen car.
L	Now have decent-sized database – can focus.
M	Can prove person was at scene.
N	Stronger word at prosecution time.
O	Most effective way in identifying someone.
P	Got the person at the scene – hard for them to explain at interview.

Q	The obvious one is <b>finding possible offenders</b> – DNA is another good tool not just solely by itself.
R	<b>When there is no other option</b> – no line of enquiry – it aids it – another tool.
S	<b>Have solid questions to ask at interview.</b>
T	<b>Lines of enquiry</b> when might not have any. Might not catch them now – but down the road.
U	<b>Effective at identifying offender.</b> Doesn't mean offender will be charged and convicted.
V	<b>Can confirm that someone was at the scene</b> when they try to deny it.
W	<b>Places people at scenes.</b>
X	<b>Clearly identifies the individual.</b> Problems with identical twins.
Y	<b>DNA says person was there</b> but still have to prove that person committed the offence.
Z	You can just prove or disprove. It allows you to be <b>more focused</b> perhaps once you get back to the bare basics.
AA	Target suspects and eliminate suspects. <b>Narrows the net.</b>

## Appendix 12: What do you think about DNA?

Interviewee	Answer
A	Not our bread and butter – next best thing. <b>Need DNA.</b>
B	<b>Yes – key parts – need to be fiscally responsible.</b>
C	<b>Fantastic investigative aid</b> – but be circumspect – analyse – what does it mean?
D	<b>Great tool</b> – growing too big – almost as if DNA hits greater than staff we have available.
E	<b>Fantastic crime-fighting tool.</b> Crucial element – every investigation – brilliant – great.
F	<b>Immediately highlighted the difficulties with the paper work.</b>
G	<b>Because of its certainty</b> – because that is what a jury is looking for in its own mind's eye.
H	<b>Well, I think it is good.</b> It helps resolve crimes in a faster fashion.
I	I think it has made our <b>job easier in some respects and more difficult in others – it is very much a double-edged sword.</b>
J	<b>It is a vital tool in our investigation,</b> detection of offences, investigation of offences and the prosecution of offenders.
K	<b>I think it is great.</b> I think it is very worthwhile – advancement – as far as policing in general – everyone should have to give DNA.
L	I think DNA is a <b>very useful investigative</b> and prosecutorial tool for sheeting home criminal responsibility.
M	Limited understanding of it. It seems like a <b>good tool to me</b> – obviously I mean if you have nothing to hide every single person should be DNAd.
N	<b>DNA is a great tool</b> – can be made complicated by procedures in the police.
O	<b>It is really good</b> because it is so specific.
P	<b>Love it</b> – because it is so conclusive.
Q	I think it is <b>another good tool</b> not just solely by itself.
R	<b>Oh, it does wonders.</b> I think it is definitely something that we are going to progress from a forensic, from crime point of view, certainty from a

	science point of view as well – finding cures.
S	It has been good to know that it is there for us to use. It is taken seriously. <b>It is great to have.</b>
T	I think it has become <b>a great tool</b> for us to obtain or to help us investigate crimes and solve crimes.
U	That it is <b>useful</b> .
V	I think it is good if it is <b>collected in a sensible manner</b> rather than going by numbers to actually choose the people who you are going to get DNA from.
W	Something you <b>cannot live without</b> . As a crime investigation tool it is very good.
X	<b>A fantastic tool</b> . I think everyone should be on the database.
Y	<b>Fantastic, fantastic tool</b> .
Z	<b>It is great</b> . It is a great tool in the tool box as I say when they do the training and as a lot of other people actually realise it ain't the be all and end all – it gives us some assurance as to where we should be focusing or excluding.
AA	<b>I love it</b> . It is a huge tool – possibly under-utilised.
AB	<b>It is a very clever science</b> .

### Appendix 13: What do you think Is your most useful investigative tool?

Interviewee	Answer
A	<b>DNA</b> is definitely in terms of the technology these days a great assistance for investigations as long as it doesn't usurp the actual investigators, doing proper investigations and just relying solely on DNA.
B	What's that, the investigation process? There's <b>forensic</b> evidence which is obviously significant for us but the best part, the most important part of that investigation process is the ability of qualified or skilled interviewers really to solicit information.
C	<b>My staff.</b>
D	<b>The skill of your staff.</b> You know your training of your staff and ability to analyse files, digest information and go out, follow up enquiries to come to a good conclusion.
E	Probably, most definitely my useful investigative tool is <b>staff</b> .
F	I'd have to say <b>DNA</b> would probably be one of the top ones.
G	Which I answered was <b>interviewing</b> .
H	Knocking on doors and <b>talking to people</b> .
I	<b>Good detectives.</b>
J	The most useful investigative tools are <b>witnesses</b> .
K	The <b>telephone</b> .
L	<b>DNA</b> .
M	<b>Communication</b> .
N	In the burglary squad, I'd say <b>DNA would be one of them along with fingerprints obviously, positively identifying offenders that way and also CCTV footage is very important and admission from the offenders obviously very important when you get the offenders as well.</b>
O	<b>My experience.</b>
P	<b>CCTV and DNA.</b> DNA would be the most conclusive.
Q	Okay, obviously our <b>equipment</b> that we use.
R	Probably <b>staff</b> .
S	I'd say it's actually the <b>guys on the ground</b> .

T	I'd say actually people to start with, witnesses, but then probably the most important thing is <b>forensics</b> .
U	A <b>combination of tools</b> , yeah I'm just trying to think off hand.
V	<b>Forensics</b> .
W	Motivated <b>investigator</b> .
X	I guess you'd have to say some sort of forensic evidence or certainly forensic and CCTV or surveillance footage would probably <b>be the two main</b> ones that we deal with, that would be of most significant benefit.
Y	<b>Staff</b> .
Z	A <b>detective</b> and his ability to interview because there are two parts to that.
AA	Common sense.
AB	I think it's extremely important it is <b>not the only crime-fighting tool</b> , so it is one of a choice so it's not just about DNA but if you are looking to use DNA then it is very useful.

**Appendix 14: What training have you had in relation to DNA? Was it adequate or would you like to see more?**

Interviewee	Answer
A	<b>There was training.</b> It was a huge booklet – training in the field – probably why some people were put off.
B	<b>Training received on detective course</b> – once a year – co-ordinator – but bigger picture not explained.
C	<b>Self taught.</b> DNA legislation yes, never taken a DNA sample – not had any training
D	<b>May have attended training</b> when it first came out. No training for taking crime scene samples. No refresher
E	<b>Minimal training at scene capture.</b> Attended several ESR training sessions.
F	<b>More training required</b> at DC level – contamination issues.
G	No specific training in DNA – general forensics training – <b>taking DNA samples from people.</b>
H	<b>Sure, had training</b> but couldn't remember the specifics.
I	<b>Almost zero.</b> A reminder once a year would be nice.
J	<b>District training</b> – re legislation etc – <b>CIB seminars</b> – adequate.
K	<b>CIB routinely</b> trained crime scene investigation.
L	<b>Had training</b> – wouldn't hurt to have refresher now and then.
M	<b>Been taught about DNA</b> in Police/ESR/CIB courses – yeah adequate training.
N	<b>College only.</b> No training at district – paperwork too confusing.
O	<b>CIB induction course</b> – mock crime scenes with ESR – good enough but everyone should do it.
P	<b>Various informational things</b> – not a detective.
Q	<b>Received no training because don't do it.</b> Have had training but never use it because have staff who do it.
R	<b>Had DNA squad come and do DNA package.</b> Training from sgt re buccal. Need more training on paperwork.
S	<b>Collecting of DNA</b> yes. <b>Not too much</b> – prefer to learn on the job.
T	<b>Training on the job</b> – SOCO course.
U	<b>Initial training,</b> then refreshers. Yeah, training adequate and good.



V	<b>One-day course at ESR.</b> Quite good. Not adequate. CSA course but not SOCO.10-minute training. Need more for taking sample and paperwork. Need more training. Staff flounder.
W	<b>No training.</b> Missed the training. Shown by someone else. Paperwork is bad, cases lost?
X	<b>Very little.</b> District training. Would like more training.
Y	<b>Several practical training sessions.</b> Training adequate.
Z	None. <b>Trained myself.</b> Learnt as went along – bleeding. Interested in something you follow it up.
AA	<b>District line up.</b> Self taught – really keen on the subject.

**Appendix 15: Views on officer's interviewing skills if mentioned by the participants**

Interviewee	Answer
A	PEACE model.
B	Skills being lost – not being taught.
C	Not mentioned.
D	Not mentioned.
E	Abysmal.
F	Not mentioned.
G	Not mentioned.
H	Not mentioned.
I	No time to spend on interviewing therefore they can't.
J	Small mention (possibly).
K	Shouldn't – be quite simple.
L	Not mentioned.
M	Not mentioned.
N	Not mentioned.
O	Not mentioned.
P	Not mentioned.
Q	Not mentioned.
R	Not mentioned.
S	Not mentioned.
T	Not mentioned.
U	Not mentioned.
V	Believes police are good at interviewing.
W	Not enough training or enough experience. Encourages his staff to have

	another person monitor the interview so that it gives the interviewer time to think of questions. As a supervisor he tries to look at interviews and give his staff feedback. He is looking for confessions. No, I think overall there's a lack of experience in front line.
<b>X</b>	No, I think overall there's a lack of experience in front line.
<b>Y</b>	No, they're bringing in this peace training which I understand is pretty good but they target the NCO level to start with and I mean I think that was a waste of time because realistically the NCOs aren't going to be conducting interviews and I think that was ridiculous.
<b>Z</b>	Believes that interviewing is one of the most important investigative tools the police have – did not delve as to whether the police were any good at interviewing – not sure why I didn't.
<b>AA</b>	Doesn't believe the officers can talk to their colleagues let alone interview offenders. Officers think that they ask one question, get an answer and that is the end of it.
<b>AB</b>	Not mentioned (not police).

## Appendix 16: Australian New Zealand Standardised Offence Categories

Homicide and related offences
Acts intended to cause injury
Sexual assaults and related offences
Dangerous or negligent acts endangering persons
Abduction, harassment and other related offences against the person
Robbery, extortion and related offences
Unlawful entry with intent, burglary, break and enter
Theft and related offences
Fraud, deception and related offences
Illicit drug offences
Prohibited and regulated weapons and explosive offences
Property damage and environmental pollution
Public order offences
Offences against justice procedures, government security and government operations
Miscellaneous offences

### Appendix 17 Roles of Interviewees

Role of Interviewee	Number Interviewed	Serious Crime	Volume Crime	Responsible for Budget	Responsible for Deployment	Reactive	Frontline Policing
Detective Inspector	2	✓		✓	✓	✓	
Detective Senior Sergeant	5	✓		✓	✓	✓	
Detective Sergeant	2	✓		✓	✓	✓	
Senior Sergeant	2		✓	✓	✓		✓
Sergeant – Inquiry	1		✓	✓	✓	✓	
Sergeant – CSA	1		✓	✓	✓	✓	
Sergeant – BIU	1		✓	✓	✓	✓	
Sergeant – Section	1		✓	✓	✓		✓
Detective Constable	2	✓				✓	
Detective Constable – Burglary	1		✓			✓	
Police Constable	6		✓				✓
SOCO	1		✓			✓	
CSA	2		✓			✓	
ESR – Scientist	1						

### Appendix 18 Heuristic of Files Reviewed

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
7/598	7/06/2005	26/06/2007	17/08/2007	No charge in relation to this file.	N/A	No. Has not been charged since this offence, but will a 30/7/08.
1/249	29/03/2003	21/06/2005	20/07/2005	No charge in relation to this file. File states that suspect could not be located.	N/A	Yes. Although file states suspect could not be found. Sus custody twice during the interim.
8/692	7/04/2003	1/06/2005	11/07/2005	12/07/2005	1 day	No. Offender charged immediately after DNA hit received.
4/859	2/06/2005	9/02/2000	28/6/05 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
0/173	2/11/2005	10/5/06 & 25/5/05	22/12/2005	30/11/2006	6 months	Yes. Has various other charges within six-month interim. until after second DNA sample taken.
5/561	23/02/2005	8/03/2001	18/7/05 (this not specified on NIA)	7/06/2006	11 months	Yes. Arrested once during interim.
9/923	29/03/2005	9/5/2000 & 15/11/5	6/7/05 (received after 2nd DNA sample)	9/06/2006	11 months	Yes. Was arrested numerous times during interim.
0/289	30/05/2005	30/7/01 & 2/10/03	30/06/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
3/994	12/03/2003	8/06/2005	5/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
9/153	9/03/2005	11/09/2002	6/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
0/565	8/05/2005	3/04/2005	5/07/2005	7/10/2005	3 month	Yes. Only 1 other charge during interim.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
8/105	27/07/2000	8/06/2005	5/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
6/376	26/11/2002	7/02/2005	9/06/2006	Not charged in relation to this file.	N/A	No. Has not been in police custody since DNA hit.
8/370	18/7/5/	5/02/2004	14/9/05 (this not specified on NIA)	4/04/2007	3 years, 2 months	No.
3/328	19/04/2002	19/07/2005	17/08/2005	11/11/2005	3 months	No.
5/916	10/08/2005	11/06/2002	27/09/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/820	24/07/2005	7/11/2005	16/12/2005	27/07/2006	7 months	No.
0/336	4/09/2004	28/06/2005	8/11/2005	Not charged in relation to this file.	N/A	No. Has not been in police custody since DNA hit.
7/843	24/06/2005	16/05/2004	3/08/2005	13/06/2006	10 months	Yes. Was arrested numerous times during interim.
8/616	8/07/2005	30/08/2005	16/08/2005	13/03/2006	7 months	Yes. Was arrested numerous times during interim.
3/821	21/08/2005	9/09/2005	DNA hit not received	14/08/2007	2 years	Yes. Although DNA hit never received, offender arrested since offence date.
2/086	1/9/97 & 7/12/02	14/06/2005	30/08/2005	Not charged in relation to this file.	N/A	Yes. Has been in police custody three times since DNA hit.
3/848	12/06/2002	14/07/2005	9/08/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
1/779	21/01/2002	13/07/2005	15/08/2005	2/06/2006	10 months	Yes. Arrested once during interim.
0/998	18/07/2005	19/08/2005	27/09/2005	Not charged in relation to this file.	N/A	Yes. Arrested on same date as DNA hit for unrelated offence. Has been in police custody since.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
5/605	4/07/2005	6/3/5 (offender 1) 30/1/3 (offender 2) 16/7/5 (offender 3)	13/10/05 (offender 1) 14/10/05 (offender 2) 13/10/05 (offender 3)	None of the offenders charged in relation to this file.	N/A	Yes. All three offenders have been arrested numerous times during interim.
0/537	9/08/2005	14/01/2001	4/10/2005	9/11/2005	1 month	No.
4/918	24/07/2005	15/08/2005	30/11/2005	31/01/2006	2 months	No.
9/099 & 9/058	14/08/2005	7/07/2003	27/09/2005	15/02/2007	1 year, 5 months	Yes. Was arrested numerous times during interim.
7/418	13/10/2005	27/04/2005	7/12/2005	12/10/2006	10 months	Yes. Was arrested numerous times during interim.
1/740	30/10/2005	8/04/2005	13/12/2005	12/07/2006	7 months	No.
4/264	4/06/2005	7/06/2002	13/12/2005	17/11/2006	11 months	No.
6/246	2/08/2005	31/12/2002	4/10/2005	5/09/2006	11 months	Yes. Only one other charge during interim.
3/940	16/06/2001	19/09/2005	8/11/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
8/220	18/09/2002	19/05/2005	4/10/2005	Not charged in relation to this file.	N/A	Yes. Has been in police custody once since DNA hit.
3/387	10/11/2005	13/07/2002	13/12/2005	25/06/2007	1 Year, 6 months	Yes. Only one other charge during interim.
5/669	22/10/2005	19/09/2005	15/11/2005	Not charged in	n/A	Yes. Has been in police custody once since DNA hit.



	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
	4	5		relation to this file.		
5/977	14/78/5	3/10/2004	8/11/2005	Not charged in relation to this file.	N/A	Yes. Has been in police custody twice since DNA hit.
5/110	3/09/2004	28/10/2005	30/11/2005	14/08/2007	1 year, 9 months	Yes. Was arrested twice during interim.
5/308	22/04/2004	3/11/2005	13/12/2005	Not charged in relation to this file.	N/A	Yes. Has been in police custody twice since DNA hit.
3/128	10/12/2004	13/08/1999	8/02/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
1/034	31/12/2004	Unknown	8/02/2005	31/03/2005	1 month	No.
4/523	10/11/2005	15/08/2002	21/03/2006	7/11/2006	8 months	No.
7/383	2/09/2005	11/12/2004	18/10/5 (this not specified on NIA)	6/07/2006	9 months	Yes. Only one other charge during interim.
9/479	Various	29/03/2000	23/11/2004	3/05/2007	2 years, 6 months	No.
3/662	21/12/2004	30/01/2003	8/02/2005	4/05/2005	3 months	Yes. Only one other charge during interim.
0/844	24/07/2003	26/10/2005	9/12/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
8/405	28/07/2003	18/01/2006	7/02/2006	Not charged in relation to this file.	N/A	No. Has not been in police custody since DNA hit.
5/087	3/01/2005	24/10/2001	8/02/2005	20/07/2005	5	Yes. Was arrested numerous times during interim.
1/649	31/10/2005	8/07/2004	13/12/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
1/556	4/01/2005	28/02/2001	2/03/2005	15/06/2005	3 months	No.
2/270	21/05/2004	19/01/2005	1/03/2005	20/06/2005	3 months	No.
9/355	9/08/2004	27/07/2004	8/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
4/301	24/06/2002	23/12/2004	15/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
4/646	4/03/2003	23/03/2005	3/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
0/320	20/12/2003	26/12/2004	15/02/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
9/523	19/04/2003	10/01/2005	1/03/2005	18/04/2005	1 month	No.
9/009	17/10/2004	1/12/2004	15/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
6/339	6/02/2004	4/05/2006	24/05/2006	Not charged in relation to this file.	N/A	No. Has not been in police custody since DNA hit.
2/551	10/12/2004	26/07/2004	25/1/05 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
9/722	14/12/2001	7/01/2005	1/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
4/218	23/10/2004	Unknown	22/02/2005	31/03/2005	1 month	No.
4/525	13/12/2004	4/02/2003	20/1/05 (this not specified on NIA)	31/05/2005	4 months	Yes. Has been in police custody twice since DNA hit.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
0/397	28/05/2003	8/2/05 (offender 1)	Unknown	7/06/2005	Unknown	Yes. Only one other charge during interim between conviction.
2/661	10/12/2004	30/08/2002	25/01/2005	14/02/2006	1 year, 1 month	Yes. Was arrested numerous times during interim.
2/863	11/11/2004	11/12/2004	18/1/05 (this not specified in NIA)	5/05/2005	4 months	Yes. Only one other charge during interim.
7/894	25/11/2004	17/03/2004	11/01/2005	21/12/2005	11 months	Yes. Was arrested three times during interim.
4/553	24/11/2004	28/02/2005	18/01/2005	16/06/2005	5 months	No.
0/361	27/01/2005	13/02/2001	22/03/2005	9/05/2007	2 years, 2 months	Yes. Was arrested numerous times during interim.
6/407	16/02/2005	11/05/2000	2/9/3/5	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
6/270	6/10/2004	27/12/1999	11/01/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
5/200	25/11/2004	21/10/2004	18/01/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
5/043	5/10/2004	7/08/2000	25/01/2005	23/02/2007	2 years, 1 month	Yes. Was arrested numerous times during interim.
9/931	8/02/2000	17/12/1999	18/06/2003	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
0/129	18/10/2005	8/09/2004	15/11/2005	20/11/2007	2 years	Yes. Was arrested numerous times during interim.
4/265	27/06/2005	27/08/2004	23/08/2005	15/06/2006	10 months	Yes. Only one other charge during interim.
8/344	3/08/2005	23/09/1999	24/05/2006	19/09/2006	4 months	No.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
		7				
4/240	1/07/2005	9/10/2000	16/08/2005	14/02/2006	6 months	No.
3/996	22/09/2004	24/09/2004	17/01/2005	27/01/2005	0 months	No.
9/663	19/07/1998	22/10/2002	30/6/05 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
9/705	18/02/2005	25/12/1999	27/04/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/830	27/06/2004	19/09/2005	8/11/2005	Not charged in relation to this file.	N/A	No. Has not been in police custody since this offence.
1/556	10/01/2005	28/02/2001	2/03/2005	15/06/2005	3 months	No.
4/611 & 8/300	13/9/1997 & 5/11/2005	17/06/2002	13/12/2005	8/03/2006	3 months	No.
5/572	24/02/2005	8/10/2004	6/04/2005	2/05/2007	2 years, 1 month	Yes. Was arrested numerous times during interim.
8/745 & 2/127	28/04/2004	19/12/2006	21/7/5 (this not specified on NIA)	27/10/2005	3 months	No.
2/211	12/11/2004	30/06/2005	4/10/2005	2/08/2005	Offender charged 2 months before DNA result	No.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
5/519	15/04/2005	31/08/2005	11/10/2005	2/02/2006	4 months	No.
3/780	30/01/1998	19/02/2005	13/04/2005	Not charged in relation to this file.	N/A	No. Has not been in police custody since this offence.
0/235	30/07/2004	25/02/2005	12/04/2005	8/07/2005	3 months	Yes. Was arrested numerous times during interim.
4/504	13/12/1999	7/03/2005	19/04/2005	23/06/2005	2 months	Yes. Only one other charge during interim.
2/436	11/03/2005	2/05/2005	12/04/2005	18/05/2006	1 year, 1 month	Yes. Was arrested numerous times during interim.
1/482	28/12/2003	2/02/2005	19/04/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/095 & 5/209	26/01/2005	16/11/2001	12/04/2005	5/10/2005	6 months	Yes. Only one other charge during interim.
9/033	29/03/2005	26/05/2006	20/06/2006	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
9/779	2/01/2005	12/05/2006	4/5/5 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been in police custody four times since DNA hit.
6/694	16/10/2003	21/03/2008	4/5/5 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
1/782	24/03/2005	15/06/2005	12/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/779	6/10/2004	15/06/2005	12/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
1/351 & 1/674	31/10/04 & 19/12/04	29/03/2005	3/05/2005	15/08/2005	3 months	Yes. Only one other charge during interim.
0/352	10/03/2005	1/08/2003	17/05/2005	9/08/2005	3 months	No.
1/193	10/12/2003	20/12/2004	18/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
6/647	6/04/2005	27/12/1999	17/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/795	7/04/2005	3/5/02 & 19/9/02	17/05/2005	13/04/2007	1 year, 11 months	Yes. Was arrested numerous times during interim.
9/432	29/01/2002	7/03/2005	9/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
3/599	23/04/2005	20/12/2004	24/05/2005	23/01/2006	8 months	Yes. Was arrested numerous times during interim.
3/092	10/05/2005	4/04/2005	31/05/2005	19/10/2005	5 months	Yes. Only one other charge during interim.
3/741	23/03/2005	6/04/2005 & 21/6/5	17/05/2005	27/09/2005	4 months	Yes. Was arrested numerous times during interim.
1/676	24/03/2005	23/04/2004	1/06/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
1/026 & 7/094	31/03/2005	26/07/2004	31/05/2005	22/12/2005	7 months	Yes. Was arrested numerous times during interim.
3/907	13/05/2005	26/07/2005	13/09/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
9/695	8/10/2004	Unknown	31/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
6/442	20/1/05 & 11/5/05	30/07/1999	23/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
8/430	17/04/2005	2/04/2004	7/06/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
5/990	24/05/2005	4/03/2004	21/06/2005	9/02/2006	8 months	Yes. Was arrested numerous times during interim.
1/708	21/07/2002	19/05/2005	7/06/2005	14/02/2006	8 months	Yes. Was arrested numerous times during interim.
2/463	16/11/2002	16/05/2005	8/06/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
7/919	17/07/2001	29/04/2005	28/06/2005	Not charged in relation to this file.	N/A	No. Has not been in police custody since this offence.
4/419	14/05/2005	1/08/2003	21/06/2005	30/09/2005	3 months	Yes. Was arrested numerous times during interim.
7/622	11/07/2003	17/05/2005	16/6/04 (this not specified on NIA)	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA result.
1/092	11/06/2005	3/09/2001	5/07/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
4/270	3/06/2005	20/04/2005	30/6/05 (this not specified on NIA)	30/09/2005	3 months	Yes. Only one other charge during interim.
9/983	physical file not found					
0/231	Large POI file			Convicted and sentenced		

	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
				24/03/04		
6/442	Large POI file					
4/556	13/04/2001	11/01/2005	24/02/2005	Not charged in relation to this file.	N/A	Several attempts made to contact offender. However, he was not spoken to.
2/049	1/05/2005	Unknown	27/05/2005	13/06/2008	1 month	No.
3/326	Large POI file		15/06/2001	Offender charged.		
6/774	24/03/2005	2/03/2005	3/05/2005	Not charged in relation to this file.	N/A	Offender was already being held in Auckland Remand Prison for this offence and, due to the time factor, it was advised that the offender was not prosecuted for this offence.
5/563	24/08/2004	14/04/2005	13/05/2005	Not charged in relation to this file but requested to pay reparation.	N/A	Yes. Has been arrested numerous times since DNA hit.
2/654	22/06/2005	8/07/2004	26/07/2005	5/12/05 and 20/12/05	5 months	Yes. Was arrested several times during the interim.
6/600	8/11/2003	25/01/2005	8/11/2003	Not charged in relation to this file but requested to pay reparation.	N/A	Yes. Has been arrested numerous times since DNA hit.
8/370	18/07/2005	5/02/2004	14/09/2005	3/10/2005	1 month	No.
1/912	22/12/2004	Several offenders	22/03/2005	Not charged in relation to this file.	N/A	Yes/ Has been arrested several times since DNA hit.
2/125	Nil offenders listed in					



	Offence date	Date DNA taken	Date DNA hit received	Date charged	Time lapse between DNA hit and charge	In police custody during interim?
	file					
5/521	Nil offenders listed in file					
6/388	4/01/2005	18/02/2002	8/02/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
4/534	21/01/2005	22/03/2005	15/03/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
1/198	28/02/2005	8/11/2004	3/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested numerous times since DNA hit.
8/516	28/03/2005	6/06/2002	3/05/2005	Not charged in relation to this file.	N/A	Yes. Has been arrested several times since DNA hit.
6/298	16/04/2004	26/10/2004	21/06/2004	4/10/2004	4 months	No.
5/217	25/11/2004	Nil offenders on file				
0/465	20/01/2002	2/02/2005	2/04/2005	20/08/2002	3 years prior to DNA hit	No.
6/778	6/08/2005		18/05/2005	30/08/2005		

## **Appendix 19: Participant Information Sheet**

### **Participant Information Sheet**

**Date information sheet produced: 17/07/08**

#### **Project title**

The DNA Database as a Crime-Fighting Tool – An Analysis of the Functioning and Effectiveness of the New Zealand Model

#### **An invitation**

I invite you to take part in an analysis of the functioning and effectiveness of the New Zealand National DNA database. This research is being conducted by Catherine Gardner, O/C of the File Management Centre at Auckland Central Police Station. The research is for my PhD which I am studying part time at Auckland University of Technology (AUT). Your participation is entirely voluntary and you may withdraw at any stage prior to the completion of data collection.

#### **What is the purpose of this research?**

To analyse the functioning and effectiveness of the national DNA database.

To establish what effect, if any, DNA evidence has on the investigation of volume crime.

To establish what are the views of the practitioners in relation to the use of DNA in crime investigation.

This research is part of a PhD and presentations will be written for publication in academic and law-enforcement journals or forums so that what is learned will benefit the New Zealand Police as a whole. It will not be possible to identify you in any reports, presentations or articles written on the project.

#### **How was I chosen for this invitation?**

You have been chosen for this research because DNA features in some aspect of your work.

## **What will happen in this research?**

You will be interviewed on audio tape with your permission and notes will also be taken by me. The interview will be semi-structured which means some questions will be asked but they will mainly be to provoke discussion.

## **What are the discomforts and risks?**

There may be some risk or embarrassment should you express a view that is not in accordance with current Police policies. There may be a possibility of discomfort should talking about DNA bring back unpleasant memories of cases.

## **How will these discomforts and risks be alleviated? If you take part in this research, you have the right to:**

Ask any questions about the project at any time.

Provide information on the understanding that it is completely confidential and your information will be seen only by the researchers.

Refuse to answer any questions asked in the interview.

Postpone or discontinue the interview at any time.

Withdraw from the project at any time without penalty.

Have your information removed from the project up until the data collection has been completed.

If you experience any discomfort after the interview you will be referred back to the Police Welfare Officer or an independent counselling service at AUT.

## **What are the benefits?**

You will be taking part in a project that should give the police a better understanding of the effectiveness of DNA in the investigation of crime. This type of research has never been done before and will be of benefit to the New Zealand Police.

## **How will my privacy be protected?**

All participants will be given a numerical designation so that your name is never used at any stage during the research, nor will it ever be published in any of the findings. The audio tapes will be transcribed by a professional audio typist who will sign a confidentiality agreement. Material on computers will be protected by a password that only the researcher and transcriber will know. After this it will be stored in a secure place at the Auckland Central Police Station. At the end of the project all tapes and transcripts will be offered back to you. If you don't want them they will be destroyed. You will be given a consent form to sign confirming your willingness to be interviewed.

## **What are the costs of participating in this research?**

There will be no financial costs. There will be half an hour to one hour of your time taken for the interview. It is anticipated that the interviews will take place in work time.

## **What opportunity do I have to consider this invitation?**

Whilst there is a fairly tight time frame for these interviews you will have several weeks to consider the invitation.

## **How do I agree to participate in this research?**

You need to sign the consent form which has been given to you with this information sheet and return it to Catherine Gardner.

## **Will I receive feedback on the results of this research?**

Yes, you will. On the consent form there is a space for you to indicate whether you would like be sent a summary of the research findings.

## **What do I do if I have concerns about this research?**

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr John Buttle, *john.buttle@aut.ac.nz* or phone 921 9999 extn 8964.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, ATEC, Madeline Banda, *madeline.banda@aut.ac.nz* or phone 921 9999 ext 8044.

## **Who do I contact for further information about this research?**

### **Researcher contact details:**

Catherine Gardner

*catherine.gardner@police.govt.nz*

(09) 302 6530

### **Project supervisor contact details:**

Dr John Buttle

*john.buttle@aut.ac.nz*

(09) 921 9999 extn 8964

**Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, ATEC Reference number *type the reference number*.**

## Appendix 20: Consent form



### Consent Form

*Project title: **The DNA Database as a Crime9Fighting Tool - An Analysis of the Functioning and Effectiveness of the New Zealand Model***

*Project Supervisor: **Dr John Buttle***

*Researcher: **Catherine Gardner***

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated dd mmmm yyyy.
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that my identity and my responses in the interview are confidential.
- ☐ I understand that the interview will be audio taped and transcribed and that the researcher may take notes.
- ☐ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection without being disadvantaged in any way.
- ☐ At the end of this project, or If I withdraw, I understand that the relevant information about myself will not be used and tapes or transcripts, or parts thereof, will be returned to me or destroyed,
- ☐ I agree to take part in this research and understand that the data may be used in future publications and presentations in a professional or academic context in such a way that I cannot be identified.
- ☐ I wish to be sent a summary of the research findings (please tick one): Yes ☐ No ☐

Participant's signature: .....

Participant's name: .....

Participant's Contact Details:

.....

.....

.....  
.....  
Date:

***Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTEK Reference number type the AUTEK reference number***

*Note: The participant should retain a copy of this form.*

## Appendix 21 Confidentiality Agreement

<b>Confidentiality agreement</b>	<input type="checkbox"/>
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*Project title:*                      ***The DNA Database as a Crime-Fighting Tool - An analysis of the Functioning and Effectiveness of the New Zealand Model***

*Project Supervisor:*        ***Dr John Buttle***

*Researcher:*                      ***Catherine Gardner***

---

- ☐ I understand that all the material I will be asked to transcribe is confidential.
- ☐ I understand that the contents of the tapes or recordings can be discussed only with the researchers.
- ☐ I will not keep any copies of the transcripts or allow third parties access to them while the work is in progress.

Transcriber's signature: .....

Transcriber's name: .....

Transcriber's contact details (if appropriate):

.....  
.....  
.....  
.....

Date:

Project supervisor's contact details (if appropriate):

.....

.....  
.....  
.....

Approved by the Auckland University of Technology Ethics Committee on 13/10/08.  
AUTEC Reference number 08/184



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